Forged Steel Fittings from India and Korea

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

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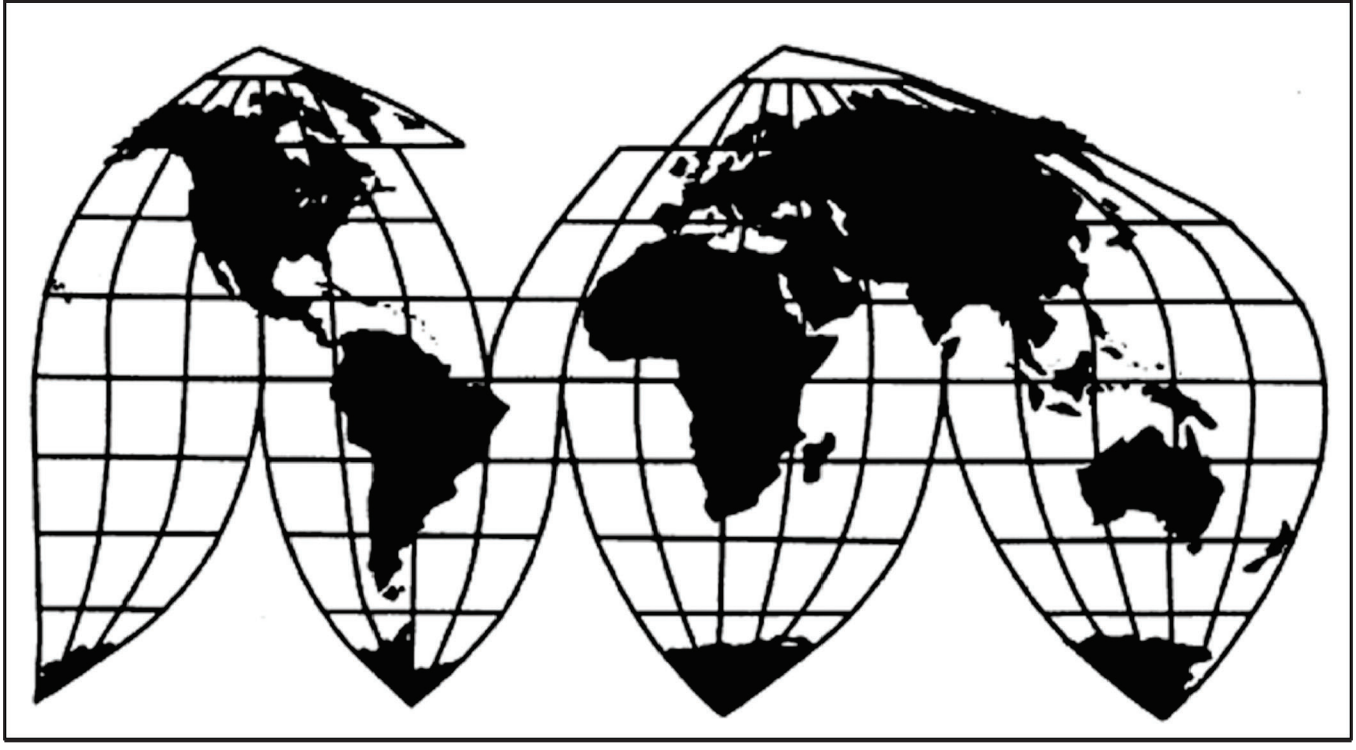
U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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David Goldfine, Attorney
Douglas Corkran, Supervisory Investigator

Address all communications to
Secretary to the Commission
United States International Trade Commission
Washington, DC 20436

U.S. International Trade Commission

Washington, DC 20436
www.usitc.gov

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

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

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 there is a reasonable indication that an industry in the United States is threatened with material injury 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 are alleged to be sold in the United States at less than fair value ("LTFV") and to be subsidized by the government of India.[2] [3]

COMMENCEMENT OF FINAL PHASE INVESTIGATIONS

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

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

[2] 84 FR 64265, November 21, 2019, and 84 FR 64270, November 21, 2019.

[3] Commissioner Randolph J. Stayin is recused from this proceeding.

BACKGROUND

On October 23, 2019, 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") filed petitions with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of subsidized imports of forged steel fittings from India and and LTFV imports of forged steel fittings from India and Korea. Accordingly, effective October 23, 2019, the Commission, pursuant to sections 703(a) and 733(a) of the Act (19 U.S.C. 1671b(a) and 1673b(a)), instituted countervailing duty investigation No. 701-TA-631 (Preliminary) and antidumping duty investigation Nos. 731-TA-1463-1464 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on October 29, 2019 (84 FR 57881). The conference was held in Washington, DC, on November 13, 2019, and all persons who requested the opportunity were permitted to appear in person or by counsel.

Views of the Commission

Based on the record in the preliminary phase of these investigations, we determine that there is a reasonable indication that an industry in the United States is threatened with material injury by reason of imports of forged steel fittings ("FSF") from India and Korea that are allegedly sold in the United States at less than fair value ("LTFV") and imports of FSF that are allegedly subsidized by the Government of India.[1]

I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determinations, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.[2] In applying this standard, the Commission weighs the evidence before it and determines whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation."[3]

II. Background

Parties to the Investigation. Bonney Forge Corporation ("Bonney Forge"), a U.S. producer of FSF, and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial, and Service Workers International Union ("USW"), which represents U.S. production workers (jointly "Petitioners"), filed the petitions in these investigations on October 23, 2019. Petitioners appeared at the conference accompanied by counsel and submitted a postconference brief. No other parties participated in the conference or filed briefs.

Data Coverage. U.S. industry data are based on the questionnaire responses of four producers estimated to account for the vast majority of U.S. production of FSF in 2018.[4] U.S. import data are based on data submitted in response to the Commission's importer

[1] Commissioner Stayin did not participate in these investigations.

[2] 19 U.S.C. §§ 1671b(a), 1673b(a) (2000); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States, 2*0 CIT 353, 354-55 (1996).

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

[4] Confidential Report ("CR") and Public Report ("PR") at I-4 and III-1.

questionnaires.[5] The Commission received useable responses to its questionnaires from seven producers of subject merchandise: five producers/exporters in India,[6] and two producers/exporters in Korea, accounting for approximately *** percent of U.S. imports of subject merchandise from Korea in 2018.[7]

III. Domestic Like Product

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[8] 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."[9] 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."[10]

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.[11] No single factor is

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[5] CR/PR at I-4, IV-1, and Table IV-2. The Commission received questionnaire responses from 27 importers, representing the majority of subject imports from India and Korea in 2018. CR/PR at IV-1 and Table IV-1. Nevertheless, our coverage for subject imports from Korea is incomplete. For example, a major U.S. importer of subject merchandise from Korea, ***, did not submit a questionnaire response in the preliminary phase of these investigations. CR at I-4 n.8. In any final phase of these investigations, we will attempt to obtain additional importer questionnaire responses for subject imports from Korea.

[6] CR/PR at VII-3. These five firms' reported exports to the United States exceeded reported subject imports of FSF from India in 2018. *Id*. These firms were unable to estimate their respective shares of total FSF production in India during 2018. *Id*.

[7] CR/PR at VII-8. According to the responding Korean producers/exporters, their production of FSF accounts for approximately *** percent of overall production in Korea in 2018. CR/PR at VII-8; Samyoung Fitting Co., Ltd. Foreign Producer Questionnaire at II-6; Valuechain Foreign Producer Questionnaire at II-6.

[8] 19 U.S.C. § 1677(4)(A).

[9] 19 U.S.C. § 1677(4)(A).

[10] 19 U.S.C. § 1677(10).

[11] *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

dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[12] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[13] Although the Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at LTFV,[14] the Commission determines what domestic product is like the imported articles Commerce has identified.[15] The Commission may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.[16]

A. Scope Definition

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

> 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,

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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).

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

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

[14] *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).

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

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

reducers, caps, plugs, bushings, 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 castings. 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 AS35411;
- 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.

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.[17]

FSF are used in piping systems in the end use markets of oil and gas, and 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. Fittings connect high pressure pipes that are used in such systems and the fittings must also be able to withstand such high pressures.[18] FSF are typically produced from steel made to American Society for Testing Materials ("ASTM") A105 or similar standards.[19] They are connected to pipe (or couplings) either by being threaded or by welding.[20] Socket weld fittings are recommended for connections that require strength and duration.[21] 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.[22] They are available in sizes up to 4 inches and in pressure ratings from class 3000 to 6000 and 9000.[23]

[17] *Forged Steel Fittings From India and Korea: Initiation of Less-Than-Fair-Value Investigations*, 84 Fed. Reg. 64265, 64269-70 (Nov. 21, 2019); *Forged Steel Fittings From India: Initiation of Countervailing Duty Investigation*, 84 Fed. Reg. 64270, 64273 (Nov. 21, 2019).

[18] CR/PR at I-10.

[19] CR/PR at I-10.

[20] CR/PR at I-10.

[21] CR/PR at I-10.

[22] CR/PR at I-10.

[23] CR/PR at I-10.

Threaded FSF, which are included in the scope of these investigations, are common for pipeworks such as water distribution, fire protection, and cooling systems (low-pressure applications, or installations that are not subject to vibration, elongation, and bending forces).[24] Threaded FSF are not used when the temperature of the fluid is subject to repeated variations, as sudden temperature changes would crack the threaded connection between the fitting and the pipe.[25] Threaded FSF are available in sizes up to 4 inches and in pressure ratings from class 2000 to 3000 and 6000.[26]

Integrally reinforced forged branch outlet FSF ("branch outlet FSF") are also included in the scope of these investigations and are used to connect a branch pipe to a header pipe, primarily in oil and gas applications.[27] They may be attached to the pipes through a threaded connection or may have butt-welded connections.[28] They are typically available in pressure ratings from class 3000 to 6000 and 9000.[29]

Petitioners argue that the Commission should find a single domestic like product, coextensive with the scope of Commerce's investigations.[30] They maintain that all FSF products within the scope, including branch outlet FSF, have similar physical characteristics and uses, channels of distribution, common manufacturing facilities, processes, and employees, and customer and producer perceptions.[31]

B. Analysis

Based on the current record, we define a single domestic like product consisting of all FSF coextensive within the scope. There are no arguments that the Commission should find multiple domestic like products corresponding to articles within the scope, and as discussed

[24] CR/PR at I-11.

[25] CR/PR at I-11.

[26] CR/PR at I-11.

[27] CR/PR at I-12 and n.17.

[28] CR/PR at I-12. Branch outlet FSF may be butt-welded on one end and connected through threading on the other end or they may be butt-welded on both ends. CR/PR at I-12. In recent investigations involving FSF from China, Italy, and Taiwan, Commerce excluded branch outlet FSF with butt-welded connections from the scope. *See, e.g.*, Petitioners' Postconference Brief, Answer to Staff Question 3 at 4; Conference Transcript at 13 (Almer), 32 (Drake). In these investigations, however, FSF with butt-welded connections are included in the scope. *See, e.g.*, Petition at 9-10 and 12-14; Answer to Staff Question 3 at 4-5; Conference Transcript at 32 (Drake), 32-33 (Schagrin).

[29] CR/PR at I-12.

[30] Petitioners' Postconference Brief at 2 and Answer to Staff Question 3 at 3-11.

[31] Petitioners' Postconference Brief, Answer to Staff Question 3 at 5-8.

below in this section, there do not appear to be any clear dividing lines distinguishing in-scope articles.[32]

Physical Characteristics and Uses. All FSF products within the scope, including branch outlet FSF, are produced largely from the same basic raw materials (*i.e.*, carbon and alloy hot-rolled steel bar).[33] They are typically produced according to Manufacturers Standardization Society ("MSS"), ASTM, or similar standards.[34] According to Petitioners, the maximum size of FSF within the scope is generally four inches, although branch outlet FSF may be six inches or larger.[35] All FSF within the scope have a variety of end connections, including socket-welded, threaded, and butt-welded connections.[36] All FSF within the scope are connection components for pipes used in the oil and gas industries, and also in chemical plants, petrochemical plants, power plants, and industrial piping systems.[37]

Manufacturing Facilities, Production Processes, and Employees. The production processes for all FSF products within the scope share fundamental similarities. This process normally begins with impression-die forging, also called closed-die forging, where a hammer is raised and then "dropped" onto a heated steel bar work piece to form it according to the shape of a die.[38] FSF may also be produced by the open-die forging process where the dies used to form the fitting do not completely enclose the workpiece.[39] The forging process produces steel pieces that are stronger than an equivalent cast or machined part.[40] After the rough forgings are complete, they are then "finished."[41] In the finishing process, the rough forging is machined (which may include turning, boring, milling, drilling, grinding, polishing, and welding) before

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[32] Petitioners also argue that the domestic like product should not be defined to encompass products excluded from the scope such as butt-weld pipe fittings and carbon steel flanges. Petitioners' Postconference Brief, Answer to Staff Question 3 at 8-11. Petitioners assert that these other products have different physical characteristics and uses than FSF, are made by different producers using different processes, and have limited interchangeability with FSF. *Id*. at 8-11. In light of the above, and the lack of any party argument to the contrary, we do not define the domestic like product more broadly than the scope to include out-of-scope pipe fittings.

[33] Petitioners' Postconference Brief, Answer to Staff Question 3 at 5; Conference Transcript at 13-14 (Almer).

[34] CR/PR at II-1.

[35] *See, e.g.*, Petition at 8-9; Conference Transcript at 64-65 (Drake).

[36] Petitioners' Postconference Brief, Answer to Staff Question 3 at 5.

[37] CR/PR at I-10.

[38] CR/PR at I-13.

[39] CR/PR at I-13 n.18.

[40] CR/PR at I-14.

[41] CR/PR at I-14.

being assembled into complete FSF.[42] Finished FSF are subjected to rigorous quality and functionality tests before being washed, labeled, packed, and shipped for delivery.[43] The record indicates that domestic producers of FSF generally use the same production lines, equipment, and employees for producing the different types of FSF within the scope.[44]

Channels of Distribution. During the January 2016 through September 2019 period of investigation ("POI"), U.S.-produced FSF within the scope were sold exclusively to distributors.[45]

Interchangeability. Petitioners maintain that there is limited interchangeability among all FSF within the scope due to differences in sizes and/or shapes of the various in-scope products.[46] They acknowledge that FSF of a particular size and shape cannot be substituted with FSF of different shapes and sizes for any given use.[47]

Producer and Customer Perceptions. Petitioners assert that producers and customers perceive all FSF within the scope as similar products with the same basic physical properties and function, *i.e.*, to connect pipes in oil and gas, chemical, and industrial piping systems.[48] They observe that various producers and customers advertise and sell branch outlet FSF and other types of in-scope FSF as part of the same product category.[49]

Price. The record on this factor indicates that prices for domestically produced FSF within the scope can vary widely, depending on such factors as size and product features.[50]

Conclusion. Evidence on the record of the preliminary phase of these investigations indicates that all domestically produced FSF products within the scope are produced from the same raw materials and share similar physical characteristics. Information available also indicates that all of these products generally are produced through the same production

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[42] CR/PR at I-14-15. "Integrated producers" perform both the forging and the finishing operations; "finishers" acquire the rough forgings and perform the machining and other finishing operations such as turning, boring, milling, drilling, grinding, polishing, and welding. CR/PR at I-15-16.

[43] CR/PR at I-15.

[44] Petitioners' Postconference Brief, Answer to Staff Question 3 at 7; Conference Transcript at 35 (Almer). At the conference, one of the witnesses for Petitioners stated that, although branch outlet FSF and other FSF are produced using the same equipment, the settings for the equipment may be different. Conference Transcript at 35 (Almer).

[45] CR/PR at Table II-1; Petitioners' Postconference Brief, Answer to Staff Question 3 at 6. According to Petitioners, domestically produced branch outlet FSF also were sold exclusively to distributors during the POI. *See, e.g.*, Conference Transcript at 24 (O'Connell).

[46] Petitioners' Postconference Brief, Answer to Staff Question 3 at 5-6.

[47] Petitioners' Postconference Brief, Answer to Staff Question 3 at 5-6.

[48] Petitioners' Postconference Brief, Answer to Staff Question 3 at 6-7.

[49] Petitioners' Postconference Brief, Answer to Staff Question 3 at 6-7.

[50] Petitioners' Postconference Brief, Answer to Staff Question 3 at 8; *see also* CR/PR at Tables V-4-7 (indicating substantial variations in prices among the four domestically produced pricing products).

processes at the same facilities and by the same employees, are used primarily to connect pipes in oil and gas and other industrial applications, and are sold overwhelmingly to distributors. The record does not indicate that there are clear dividing lines among FSF within the scope in terms of producer and customer perceptions. In light of the above and the lack of any contrary argument, we define a single domestic like product consisting of all FSF, coextensive with the scope, for purposes of these preliminary determinations.

IV. Domestic Industry and Related Parties

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[51] 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 Anvil International ("Anvil"), a firm that produces FSF 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 Anvil, should we find it to be a domestic producer, from the domestic industry pursuant to the related parties provision.

At the conference, counsel for Petitioners indicated that they did not dispute that Anvil's finishing operations were sufficient production-related activity to be considered domestic production.[52] Petitioners argue that the Commission should find that appropriate circumstances exist to exclude *** from the domestic industry definition pursuant to the related parties provision.[53]

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,

[51] 19 U.S.C. § 1677(4)(A).

[52] Conference Transcript at 42 (Schagrin). Petitioners did not specifically address this issue in their postconference brief.

[53] Petitioners' Postconference Brief, Answer to Staff Question 4 at 12-14.

polishing, and welding) constitutes sufficient production-related activity to be considered domestic production. Anvil is the sole U.S. firm engaged in finishing-only operations for FSF.[54]

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.[55]

Source and Extent of Firm's Capital Investment. Anvil had appreciable capital expenditures during the POI, ranging from $*** to $*** annually, which were comparable to ***, but were much smaller than those of ***.[56] Anvil's total net assets, which ranged from $*** to $*** annually from 2016 to 2018, were considerably smaller than *** integrated producer, each of which had annual assets of at least $***.[57]

Technical Expertise. Finishing FSF involves using a line of metal removal equipment that can turn, bore, mill, drill, grind, polish, and weld the rough forgings to the tolerances and specifications required.[58] The products may be coated to enhance their performance; they may be assembled and adjusted by trained personnel.[59] The finished parts are carefully labeled and tested before being shipped.[60] Anvil states that ***.[61] *** rated the finishing process as

[54] CR/PR at III-4 and Table III-4.

[55] *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).

[56] CR/PR at Table VI-4.

[57] CR/PR at Table VI-5.

[58] CR/PR at I-14.

[59] CR/PR at I-14-15.

[60] CR/PR at I-15.

[61] CR/PR at Table III-4; Anvil's U.S. Producer Questionnaire at II-3f.

complex.[62] *** also rated the finishing process as complex.[63] Bonney Forge states that the finishing process ***.[64]

Value Added. The value added by Anvil's operations in finishing rough forgings ranged from *** to *** percent during the POI.[65] Although there is no information on the record pertaining to the value added by the integrated producers' finishing-only operations, the value added for integrated operations ranged from *** to *** percent during the POI.[66] Consequently, it would appear that finishing adds the predominant portion of value during the production process.

Employment Levels. Anvil employed *** production and related workers ("PRWs") annually in its finishing operations over the POI.[67] By comparison, petitioner Bonney Forge employed *** PRWs annually during the POI.[68]

Quantity and Type of Parts Sourced in United States. The raw material for finishing FSF is rough forgings or unfinished FSF. Anvil *** from domestic suppliers,[69] and instead ***.[70]

Conclusion. The record in the preliminary phase of these investigations indicates that further manufacturing rough steel forgings into finished FSF qualifies as domestic production under the factors the Commission generally considers. The information available on the current record indicates that substantial technical expertise is required to perform finishing operations for FSF and that finishing the product adds significant value to it. Although Anvil did not source rough forgings from domestic suppliers, the record also indicates that Anvil has made substantial capital investments and employs a number of personnel in its finishing operations during the POI. In light of these considerations, and the lack of any party argument to the contrary, we conclude that Anvil, the sole U.S. firm engaged in finishing-only operations, engages in sufficient production-related activities in the United States to qualify as a domestic producer of FSF.

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[62] CR/PR at Table III-4. ***. *Id*.

[63] ***. CR/PR at Table III-4.

[64] Bonney Forge's U.S. Producer Questionnaire at II-3g.

[65] CR/PR at VI-11, n.9.

[66] *Derived from* *** U.S. Producers' Questionnaires at III-9a.

[67] Anvil U.S. Producer Questionnaire at II-11.

[68] Bonney Forge U.S. Producer Questionnaire at II-11.

[69] According to Petitioners, there is no reason that Anvil has to rely on imports of rough forgings for its finishing operations rather than source them domestically. *See, e.g.*, Petitioners' Postconference Brief at 9 & Exh. 4. *But cf*. CR/PR at II-1 (three domestic producers state that they do not desire to sell unfinished fittings to a competitor).

[70] CR/PR at Table III-4 & VI-11; Anvil U.S. Producer Questionnaire at III-9c.

B. Related Parties

We next address whether appropriate circumstances exist to exclude any domestic producer from the domestic industry pursuant to the related party provision. Section 771(4)(B) of the Tariff Act allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of the subject merchandise, or which themselves are importers.[71] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[72] The record indicates that Anvil falls within the related party provision because it imported subject merchandise from *** during the POI, and by virtue of its affiliation with an importer of subject merchandise from ***.[73] Anvil also falls within the related party provision based on its purchases of subject imports during the POI.[74]

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[71] 19 U.S.C. § 1677(4)(B). *See Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd mem*., 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)

[72] The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following: (1) the percentage of domestic production attributable to the importing producer; (2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the less than fair value 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*, 790 F. Supp. at 1168.

[73] CR/PR at III-2 & Tables III-2 and II-10; *** U.S. Importer Questionnaire Response at II-5a. *** is related to ***, which imported subject merchandise from Korea during the period of investigation. CR/PR at III-2; *** U.S. Importer Questionnaire at II-5a & II-6a. Both ***. CR/PR at Table III-2.

[74] The Commission has concluded that a domestic producer that does not itself import subject merchandise or does not share a corporate affiliation with an importer may nonetheless be excluded pursuant to the related party provision if it controls large volumes of imports. *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); *Chlorinated Isocyanurates from China and Spain*, Inv. Nos. 731-TA-1082-1083 (Second Review), USITC Pub. 4646 at 12 (Nov. 2016). The Commission has found such control to exist where the domestic producer was responsible for a predominant proportion of an importer's purchases and the importer's imports were substantial. *Id.* ***s purchases of subject imports from importer *** were *** short tons in 2016, *** short tons in 2017, *** short tons in 2018, *** short tons in January-September 2018 ("interim 2018"), and *** short tons in January-September 2019 ("interim 2019"). CR/PR at Table III-10. During the POI, *** was the only purchaser of subject merchandise from ***. CR/PR at Table IV-4. Furthermore, *** subject imports were substantial, accounting for *** percent of reported subject imports from India and *** percent of reported total subject imports in 2018. CR/PR at

Anvil was responsible for *** percent of U.S. production of FSF in 2018.[75] As such, it was the *** domestic producer.[76] Anvil *** the petitions.[77] As discussed above, Anvil primarily used rough forgings *** and *** as inputs for the finished FSF it produced domestically. As a ratio to its U.S. production, the ratio of combined imports of subject merchandise of Anvil and its affiliated importer Smith Cooper to Anvil's domestic production was *** percent in 2016 and 2017, *** percent in 2018, *** percent in January-September (interim) 2018, and *** percent in interim 2019.[78] As a ratio to its U.S. production, Anvil's purchases of subject imports were *** percent in 2016, *** percent in 2017, *** percent in 2018, *** percent in interim 2018, and *** percent in interim 2019.[79] Anvil's operating income margin was *** than the average for the three integrated producers of FSF for most of the POI, ***.[80]

Based on the current record, we find that, on balance, appropriate circumstances do not exist to exclude *** from the domestic industry as a related party. In our view, the ratios discussed above do not indicate that Anvil's principal interest is in importation rather than domestic production,[81] and it used subject merchandise it imported or purchased as inputs in its production of the domestic like product.[82] Accordingly, we define the domestic industry to include all U.S. producers of FSF, namely Anvil and the three integrated producers of FSF (*i.e.*, Bonney Forge, Capitol Manufacturing, and PMW).

Table IV-1. Accordingly, based on the current record in the preliminary phase of these investigations, we find that *** also may be excluded pursuant to the related party provision because the volume of its subject import purchases were substantial.

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

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

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

[78] *Derived from* CR/PR at Table III-10 & Smith Cooper U.S. Importer Questionnaire at II-6a. *** only imported subject merchandise in ***; therefore, the ratios noted above largely reflect imports by ***. CR/PR at Table III-10.

[79] *Derived from* CR/PR at Table III-10. These ratios are based upon Anvil's reported purchases of subject imports. We note, however, U.S. importer *** reported in its questionnaire that *** purchased ***. CR/PR at Table III-10. We intend to examine this apparent discrepancy further in any final phase of these investigations.

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

[81] The record indicates, however, that most of *** imported inputs were from nonsubject sources. *See* CR/PR at Table III-10.

[82] *See, e.g.*, CR/PR at Table III-10.

V. Cumulation[83]

Because our determinations are based on threat of material injury by reason of subject imports, we must consider whether to cumulate subject imports from India and Korea for purposes of our threat analysis. In contrast to cumulation for material injury, cumulation for a threat analysis is discretionary. Under section 771(7)(H) of the Tariff Act, the Commission may "to the extent practicable" cumulatively assess the volume and price effects of 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 and the statutory exceptions to cumulation do not apply.[84]

Petitioners argue that the Commission should cumulate subject imports from India with subject imports from Korea for its analysis of threat of material injury.[85] It argues that there is a reasonable overlap of competition between subject imports and among the domestic like product and subject imports from India and subject imports from Korea.[86]

In these investigations, the threshold criterion is satisfied because Petitioners filed the antidumping and countervailing duty petitions with respect to both subject countries on the same day, October 23, 2019.[87] None of the statutory cumulation exceptions apply.[88] Subject imports from India and Korea are therefore eligible for cumulation. We consequently examine whether there is a reasonable overlap of competition between subject imports from each country, as well as between subject imports and the domestic like product. We then discuss whether it is appropriate to exercise our discretion to cumulate subject imports for purposes of our threat analysis.

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[83] Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product shall be deemed negligible if they account for less than three percent (or four percent in the case of a developing country in a countervailing duty investigation) of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition. *See* 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)).

The record indicates that subject imports of FSF from India and Korea exceeded the requisite statutory threshold. Specifically, data from the Commission's questionnaires indicate that from October 2018 to September 2019, the 12-month period preceding the filing of the petitions, imports from India accounted for *** percent of total imports of FSF by quantity, and imports from Korea accounted for *** percent. CR/PR at Table IV-3. Because these percentages exceed the applicable statutory threshold, we find that imports from each of the subject countries are not negligible.

[84] 19 U.S.C. § 1677(7)(H); s*ee also* 19 U.S.C. §§ 1677(7)(G)(ii).

[85] Petitioners' Postconference Br. at 17.

[86] Petitioners' Postconference Br. at 18.

[87] CR/PR at I-1.

[88] *See* 19 U.S.C. §§ 1677(7)(G)(ii) and 1677(7)(H).

A. Reasonable Overlap of Competition

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.[89]

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.[90] Only a "reasonable overlap" of competition is required.[91]

Fungibility. All responding domestic producers reported that imports from both subject countries are "always" interchangeable with each other and the domestic like product.[92] Importers' perceptions were less uniform, but large majorities of importers reported that imports from both subject countries are "always" or "frequently" interchangeable with the

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[89] *See Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-80 (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).

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

[91] The Statement of Administrative Action (SAA) to the Uruguay Round Agreements Act (URAA), 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*, 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.").

[92] CR/PR at Table II-5.

domestic like product while a narrow majority of importers reported that imports from both subject countries were "always" or "frequently" interchangeable with each other.[93]

In our view, the record indicates that there is sufficient fungibility between and among subject imports from India, subject imports from Korea, and the domestic like product. As stated above, market participants generally perceive products from different sources to be interchangeable. Information on the record also indicates substantial overlap between the domestic like product and subject imports from India and Korea since most domestically produced FSF and subject imports from both subject countries are finished FSF.[94]

Channels of Distribution. Domestic producers sold FSF *** to distributors throughout the POI.[95] Subject imports from Korea were sold *** to distributors in 2018, interim 2018, and interim 2019, although they were sold *** to end users in 2016 and 2017.[96] Subject imports from India were sold *** to finishers during the POI, but were also sold in appreciable quantities to end users and distributors.[97]

Geographic Overlap. U.S. producers reported selling FSF to all regions of the United States.[98] Subject imports from India and Korea also were sold in all regions of the United States during the POI.[99]

Simultaneous Presence in Market. The domestic like product was present in the U.S. market throughout the POI.[100] Subject imports from India were present in the U.S. market in 37 of 44 months from January 2016 through August 2019.[101] Subject imports from Korea were present in the U.S. market in 22 of 44 months from January 2016 through August 2019, including every month since March 2018.[102]

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[93] CR/PR at Table II-5. Ten of 13 responding U.S. importers reported that subject imports from India were "always" or "frequently" interchangeable with the domestic like product, and three of 13 importers reported that they were only "sometimes" interchangeable. *Id*. Seven of 10 responding U.S. importers reported that subject imports from Korea were "always" or "frequently" interchangeable with the domestic like product, and three of 10 importers reported that they were only "sometimes" interchangeable. *Id*. Four of seven responding U.S. importers reported that subject imports from India and Korea were "always" or "frequently" interchangeable, and three of seven importers reported that they were only "sometimes" interchangeable. *Id*.

[94] CR/PR at Tables III-7 and IV-4.

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

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

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

[98] CR/PR at Table II-2.

[99] CR/PR at Table II-2.

[100] *See* CR/PR at Tables V-4-7.

[101] CR/PR at Table IV-6.

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

In sum, the record in the preliminary phase of these investigations indicates that subject imports from each subject country are fungible with the domestic like product and each other, that subject imports from each subject country and the domestic like product are sold in similar channels of distribution and in similar geographic markets, and have been simultaneously present in the U.S. market. In light of the foregoing, and the lack of contrary argument, 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.

B. Other Cumulation for Threat Considerations

As discussed above, there is a reasonable overlap of competition between subject imports from India and Korea and between imports from both subject countries and the domestic like product. There is no information on the record to suggest that the reasonable overlap of competition between and among subject imports and the domestic like product that now exists will not continue into the imminent future. The current record does not indicate nor has any party argued that subject imports from India and Korea are not likely to compete in the U.S. market under similar conditions of competition in the imminent future. Indeed, the volume of subject imports from both subject countries increased from 2016 to 2018.[103] Given these considerations,[104] we exercise our discretion to cumulate subject imports from India and Korea for our analysis of whether there is a reasonable indication of a threat of material injury to the domestic industry.

[103] CR/PR at Table IV-2. We note, however, that the volume and market share of subject imports from India was higher in interim 2019 than in interim 2018 while the volume and market share of subject imports from Korea was lower in interim 2019 than in interim 2018. CR/PR at Tables IV-2, IV-8, and C-1. There is also information on the record indicating that on a volume basis, there was mostly underselling by subject imports from India while there was pervasive overselling by subject imports from Korea. CR/PR at Table V-9. As explained above, however, there is not complete coverage with respect to imports of FSF from Korea.

[104] We also note that the data reported in questionnaire responses by subject producers/exporters in both India and Korea indicate that their capacity to produce FSF and their export-orientation increased during the POI. CR/PR at Tables VII-3 and VII-8.

VI. Reasonable Indication of Threat of Material Injury by Reason of Cumulated Subject Imports

A. Legal Standards

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[105] 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.[106] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[107] In assessing whether there is a reasonable indication that the domestic industry is materially injured or threatened with material injury by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[108] 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."[109]

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,[110] 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.[111] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports

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[105] 19 U.S.C. §§ 1671b(a), 1673b(a).

[106] 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 ... {a}nd explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[107] 19 U.S.C. § 1677(7)(A).

[108] 19 U.S.C. § 1677(7)(C)(iii).

[109] 19 U.S.C. § 1677(7)(C)(iii).

[110] 19 U.S.C. §§ 1671d(b), 1673d(b).

[111] *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).

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.[112]

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.[113] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[114] Nor does

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[112] 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).

[113] SAA 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.

[114] SAA at 851–52 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports."); *Taiwan Semiconductor Industry Ass'n,* 266 F.3d at 1345 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports … . Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports." (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int'l Trade 2002) ("{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury" or make "bright-line distinctions" between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100–01 (Dec. 2003) (Commission recognized that "{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e.*, it is not an 'other causal factor,' then there is nothing to

the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[115] It is clear that the existence of injury caused by other factors does not compel a negative determination.[116]

Assessment of whether material injury or threat thereof 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."[117] 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." [118] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[119]

The question of whether the material injury or threat thereof threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review

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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.").

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

[116] *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.").

[117] *Mittal Steel*, 542 F.3d at 876, 878; *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*.

[118] *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.

[119] *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.").

under the substantial evidence standard.[120] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[121]

The statute explicitly sets forth the relevant volume, price, and impact factors to be considered in the Commission's analysis. 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."[122]

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.[123]

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."[124] 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

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[120] We provide in our discussion below an analysis of other known factors that may have caused any material injury or threat thereof experienced by the domestic industry.

[121] *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.").

[122] 19 U.S.C. § 1677(7)(C)(i).

[123] 19 U.S.C. § 1677(7)(C)(ii).

[124] 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.").

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."[125]

Section 771(7)(F) of the Tariff Act directs the Commission to determine whether the U.S. industry is threatened with material injury by reason of the subject imports by analyzing 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."[126] The Commission may not make such a determination "on the basis of mere conjecture or supposition," and considers the threat factors "as a whole" in making its determination whether dumped or subsidized imports are imminent and whether material injury by reason of subject imports would occur unless an order is issued.[127] In making our determination, we consider all statutory threat factors that are relevant to this investigation.[128]

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[125] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[126] 19 U.S.C. § 1677(7)(F)(ii).

[127] 19 U.S.C. § 1677(7)(F)(ii).

[128] These factors are as follows:

(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,

(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,

…

(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).

19 U.S.C. § 1677(7)(F)(i). To organize our analysis, we discuss the applicable statutory threat factors using the same volume/price/impact framework that applies to our material injury analysis. Statutory threat factors (I), (II), (III), (V), and (VI) are discussed in the analysis of subject import volume.

B. Conditions of Competition and the Business Cycle

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

1. Demand Conditions

FSF are connection components for pipes used primarily in the oil and gas industry, and in chemical, petrochemical, and power plants.[129] Consequently, demand for FSF depends on demand for piping systems in these industries.[130] Four of five producers and 15 of 21 importers reported that overall U.S. demand for FSF had not changed or declined during the POI while four importers reported that demand fluctuated, and one producer and two importers reported that demand increased.[131]

Demand, as measured by apparent U.S. consumption, increased steadily from 2016 to 2018, but was lower in interim 2019 than in interim 2018.[132] Apparent U.S. consumption of FSF rose by *** percent from 2016 to 2018, increasing from *** short tons in 2016 to *** short tons in 2017, and to *** short tons in 2018.[133] It was *** short tons in interim 2018 and lower, at *** short tons, in interim 2019.[134] Record evidence suggests that demand for oil and gas is

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Statutory threat factor (IV) is discussed in the analysis of subject import price effects. Statutory factors (VIII) and (IX) are discussed in the analysis of impact. Statutory factor (VII) concerning agricultural products is inapplicable to these investigations.

[129] CR/PR at II-1.

[130] CR/PR at II-6.

[131] CR/PR at Table II-4.

[132] CR/PR at Tables IV-8, C-1.

[133] CR/PR at Tables IV-8, C-1.

[134] CR/PR at Tables IV-8, C-1.

not likely to increase substantially in the imminent future,[135] which in turn will likely result in stagnant demand for FSF.[136]

2. Supply Conditions

The domestic industry was the largest source of supply over the POI.[137] Its share of apparent U.S. consumption increased from *** percent in 2016 to *** percent in 2017 and *** percent in 2018;[138] it was *** percentage points lower in interim 2019, at *** percent, than in interim 2018, at *** percent.[139] The domestic industry's capacity declined irregularly from *** short tons in 2016 to *** short tons in 2018, and was higher in interim 2019, at *** short tons, than in interim 2018, at *** short tons.[140]

Cumulated subject imports were the smallest source of supply to the U.S. market during the POI. Their share of apparent U.S. consumption increased *** percentage points from 2016 to 2018, from *** percent in 2016 to *** percent in 2017, and *** percent in 2018; it was *** percentage points higher in interim 2019, at *** percent, than in interim 2018, at *** percent.[141]

Nonsubject imports were the second largest source of supply during the POI. Their share of apparent U.S consumption declined from *** percent in 2016 to *** percent in 2017 and *** percent in 2018;[142] it was *** percentage points lower in interim 2019, at *** percent, than in interim 2018, at *** percent.[143] Nonsubject imports include imports of FSF from China,

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[135] CR/PR at II-7-8; CR/PR at Figures II-I, II-2. The oil and gas rig counts, which are indicators of demand for oil and gas, both moved downward in interim 2019. CR/PR at II-8, Figure II-2. There is no information in the current record indicating that oil rig activity is likely to return to the more robust levels witnessed earlier in the POI or that gas rig activity is likely to increase in the imminent future. Oil and natural gas prices, which are other indicators of demand, also do not indicate likely increases in demand for FSF used in the oil and gas industries in the imminent future. Crude oil prices are projected to remain relatively stable, declining by 2 percent between October 2019 and December 2020. CR/PR at Figure II-1 & II-7. Natural gas prices are projected to increase by 12 percent between October 2019 and December 2020, but are not projected to rebound to the substantially higher levels they reached earlier in the POI. *Id*.

[136] CR/PR at II-6-7.

[137] CR/PR at Tables IV-8, C-1.

[138] CR/PR at Tables IV-8, C-1.

[139] CR/PR at Tables IV-8, C-1.

[140] CR/PR at Tables III-5, C-1.

[141] CR/PR at Tables IV-8, C-1.

[142] CR/PR at Tables IV-8, C-1.

[143] CR/PR at Tables IV-8, C-1.

Italy, and Taiwan, which became subject to countervailing and/or antidumping duty orders in 2018.[144]

3. Substitutability and Other Conditions

We find that there is a high degree of substitutability between cumulated subject imports and the domestic like product.[145] As discussed above, FSF are typically produced according to MSS and ASTM specifications, as well as ASME design standards.[146] As previously stated, all responding domestic producers and the majority of responding importers reported that imports from both subject countries are "always" or "frequently" interchangeable with each other and the domestic like product.[147]

Price is an important consideration for purchasers of FSF. Most U.S. producers reported that differences other than price were "never" important in purchasing decisions.[148] Although there is some perception among importers that factors other than price have some importance in purchasing decisions, a majority of importers reported that such factors are "sometimes" or "never" important in all comparisons between imports from a particular subject source and the domestic like product.[149]

The record indicates that domestically produced FSF are sold primarily from inventory while subject imports are primarily produced to order with smaller amounts sold from inventory.[150]

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[144] *Forged Steel Fittings from Italy and the People's Republic of China: Antidumping Duty Orders,* 83 Fed. Reg. 60397 (Nov. 26, 2018); *Forged Steel Fittings from the People's Republic of China: Countervailing Duty* Order, 83 Fed. Reg. 60396 (Nov. 26, 2018); *Forged Steel Fittings from Taiwan: Antidumping Duty Order*, 83 Fed. Reg. 48280 (Sept. 24, 2018). Several importers reported that the antidumping duty orders on imports of FSF from China, Italy, and Taiwan caused supply constraints. CR/PR at II-6.

[145] CR/PR at II-9.

[146] CR/PR at II-1.

[147] As noted earlier, ten of 13 responding U.S. importers reported that subject imports from India were "always" or "frequently" interchangeable with the domestic like product, while seven of 10 reported that subject imports from Korea were "always" or "frequently," and four of seven reported that subject imports from India and Korea were "always" or "frequently" interchangeable. CR/PR at II-5.

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

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

[150] CR/PR at II-9. U.S. producers reported that *** percent of their commercial shipments were from inventories, while subject importers reported that *** percent of their commercial shipments were produced to order. *Id.*

The primary raw material used in making FSF is special bar quality ("SBQ") hot-rolled steel bar.[151] SBQ hot-rolled steel bar prices were relatively stable in 2016, increased in 2017 and 2018, and declined in interim 2019.[152] Overall, the prices of carbon SBQ bar and alloy SBQ bar increased between January 2016 and September 2019 by *** percent and *** percent, respectively.[153] Raw materials as a share of the cost of goods sold ("COGS") for domestically produced FSF decreased from *** percent in 2016 to *** percent in 2017 before increasing to *** percent in 2018; this ratio was *** percent in interim 2018 and *** percent in interim 2019.[154] Imported SBQ carbon and alloy hot-rolled steel bar has been subject to additional 25 percent *ad valorem* duties under section 232 of the Trade Expansion Act of 1962[155] ("section 232 tariffs") since March 2018.[156] Petitioners acknowledge that section 232 tariffs on SBQ carbon and alloy hot-rolled steel bar contributed to increasing raw material costs for the domestic industry producing FSF.[157]

U.S. producers mostly sold FSF on the spot market although they sold an appreciable share via annual contracts.[158] By contrast, importers sold virtually all FSF using annual contracts, with the remainder sold mainly using spot sales, and very small amounts using short-term or long-term contracts.[159]

C. Likely Volume of Cumulated Subject Imports

Cumulated subject import volume rose throughout the POI. The volume of cumulated subject imports increased from *** short tons in 2016 to *** short tons in 2017 and *** short

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[151] CR/PR at V-1. A small share of FSF is produced from seamless pipe, and independent finishers, including Anvil, use unfinished forgings as their primary raw material. *Id.*

[152] CR/PR at V-1.

[153] CR/PR at V-1.

[154] CR/PR at Table VI-1.

[155] 19 U.S.C. § 1862.

[156] CR/PR at I-9. FSF are not subject to section 232 tariffs. *Id*.

[157] Petitioners' Postconference Br. at 8. In their questionnaire responses, 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 FSF prices to increase. Among importers, twelve firms reported no change in their raw material prices as a result of Section 232 tariffs and sixteen reported no resultant change in FSF prices, while nine firms reported an increase in raw material prices and four reported an increase in FSF prices as a result of Section 232 tariffs. CR/PR at Table V-1.

[158] CR/PR at Table V-3. In 2018, *** percent of U.S. producers' U.S. commercial shipments were sold via spot sales and *** percent were sold using annual contracts. *Id*.

[159] CR/PR at Table V-3. In 2018, *** percent of U.S. importers' U.S. commercial shipments were sold by annual contracts, *** percent by spot sales, *** percent by short-term contracts, and *** percent by long-term contracts. *Id*.

tons in 2018;[160] they were higher in interim 2019, at *** short tons, than in interim 2018, at *** short tons.[161] In other words, the volume of cumulated subject imports was *** percent higher in interim 2019 than in interim 2018, notwithstanding that demand was *** percent lower.[162] Thus, cumulated subject import volume increased rapidly during the latter portion of the POI enabling cumulated subject imports to obtain a fairly secure foothold in the U.S. market even when demand, as measured by apparent U.S. consumption, was declining.

Cumulated subject imports' share of apparent U.S. consumption also increased throughout the POI. Their market share increased from *** percent in 2016 to *** percent in 2017, and was *** percent in 2018;[163] it was higher in interim 2019, at *** percent, than in interim 2018, at *** percent.[164]

We find that the increases in cumulated subject import volume and market penetration observed during the latter portion of the POI will likely continue in the imminent future. Monthly import data indicate that cumulated subject imports' quantity, during most months of 2019 for which data were available, were considerably higher than the same months in 2016, 2017, and 2018.[165]

Moreover, the subject FSF industries, when considered on a cumulated basis, are large and growing. Data reported in questionnaire responses by subject producers/exporters in India and Korea indicate that their combined capacity to produce FSF increased from *** short tons in 2016 to *** short tons in 2017 and *** short tons in 2018, and was higher in interim 2019, at *** short tons, than in interim 2018, at *** short tons.[166] Combined capacity for both subject countries is projected to increase further in the imminent future.[167] While production also increased during the POI and is anticipated to increase further in the imminent future,[168] the

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

[161] CR/PR at Table IV-2. Moreover, in interim 2019, the volume of cumulated subject imports, at *** short tons, was larger than the volume of nonsubject imports, at *** short tons. *Id*.

[162] CR/PR at Tables IV-2, IV-8, C-1.

[163] CR/PR at Tables IV-8, C-1. Cumulated subject imports' U.S. shipments increased from *** short tons in 2016 to *** short tons in 2017 and *** short tons in 2018. CR/PR at Tables IV-7, C-1.

[164] CR/PR at Tables IV-8, C-1. Cumulated subject imports' U.S. shipments were higher in interim 2019, at *** short tons, than in interim 2018, at *** short tons. CR/PR at Tables IV-7, C-1.

[165] CR/PR at Table IV-6.

[166] CR/PR at Table VII-11.

[167] Combined capacity for both subject countries is projected to be *** short tons in 2019 and *** short tons in 2020. CR/PR at Table VII-11.

[168] Production of subject producers in China and India increased from *** short tons in 2016 to *** short tons in 2017 and *** short tons in 2018, and was higher in interim 2019, at *** short tons, than in interim 2018, at *** short tons. CR/PR at Table VII-11. Combined production for both subject countries is projected to be *** short tons in 2019 and *** short tons in 2020. *Id.* CR/PR at Table VII-11.

subject producers reported substantial combined unused capacity throughout the POI. The combined capacity utilization of subject producers in both subject countries declined from *** percent in 2016 to *** percent in 2017 and *** percent in 2018;it was lower in interim 2019, at *** percent, than in interim 2018, at *** percent.[169] The combined excess capacity for the industries in the subject countries amounted to *** short tons in interim 2019.[170] This figure exceeds cumulated subject import volume in interim 2019 and is equivalent to *** percent of apparent U.S. consumption during that period.[171] Combined excess capacity for the cumulated subject industries in the imminent future is projected to continue to be at least comparable to current levels.[172]

The record also indicates that subject producers in India and Korea have sharply increased their export orientation and focus on supplying the U.S. market.[173] Cumulated total export shipments reported by subject producers, as a share of their total shipments, increased from *** percent in 2016 to *** percent in 2017 and *** percent in 2018; they were higher in interim 2019 at *** percent, than in interim 2018, at *** percent.[174] Cumulated total export shipments to the United States reported by subject producers, as a share of their total shipments, rose even more sharply, increasing from *** percent in 2016 to *** percent in 2017 and *** percent in 2018; they were also higher in interim 2019, at *** percent, than in interim 2018, at *** percent.[175] Cumulated total export shipments to the U.S. market are projected to increase in the imminent future.[176]

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[169] CR/PR at Table VII-11. The combined capacity utilization of subject producers in both subject countries is projected to be *** percent in 2019 and *** percent in 2020. *Id*.

[170] *Derived from* CR/PR at Table VII-11.

[171] *Derived from* CR/PR at Tables IV-8, VII-11, C-1.

[172] The combined excess capacity for the industries in the subject countries is projected to be *** short tons in 2019 and *** short tons in 2020. CR/PR at Table VII-11.

Additionally, all reporting producers in India reported the ability to shift production between other products and FSF, and produced substantial quantities of out-of-scope products on the same equipment they used to produce FSF. CR/PR at Tables III-2, VII-4. Production of out-of-scope products by subject FSF producers in Korea appears to be much more limited. CR/PR at Table VII-9.

[173] CR/PR at Table VII-11.

[174] CR/PR at Table VII-11. Cumulated total export shipments reported by subject producers increased from *** short tons in 2016 to *** short tons in 2017 and *** short tons in 2018; they were *** short tons in interim 2018 and *** short tons in interim 2019. *Id*.

[175] CR/PR at Table VII-11. Cumulated total export shipments to the United States reported by subject producers increased from *** short tons in 2016 to *** short tons in 2017 and *** short tons in 2018; they were *** short tons in interim 2018 and *** short tons in interim 2019. *Id*.

[176] Cumulated total export shipments to the United States reported by subject producers are projected to be *** short tons in 2019 and *** short tons in 2020. CR/PR at Table VII-11. Cumulated

Further, in April 2019, the European Union continued an order imposing antidumping duties with respect to certain pipe and tube fittings from Korea, including FSF covered by the scope of these investigations, thereby restricting Korean exports to a major export market and providing further incentive to increase exports to the U.S. market.[177]

Cumulated subject producers maintained sizeable end-of-period inventories during the POI, which are projected to remain at near-period high levels in the imminent future.[178] U.S. importers' combined inventories of subject imports increased throughout the POI, especially in interim 2019.[179]

In light of the rapid increases in cumulated subject import volume and market penetration observed during the latter portion of the POI, the substantial cumulated capacity and excess capacity of the subject industries, the subject industries' demonstrated ability to increasingly supply to export markets generally and the United States in particular, and growing inventories of the subject merchandise both in the United States and in the subject countries, we conclude that there is a likelihood of substantially increased subject imports in the imminent future.[180]

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total export shipments to the United States reported by subject producers, as a share of their total shipments, are projected to be *** percent in 2019 and *** percent in 2020. *Id*.

[177] CR/PR at VII-16. There are no other known trade remedy actions on FSF from India or Korea in third country markets. *Id*.

[178] The responding subject producers in China and India reported that their combined end-of-period inventories of subject merchandise increased from *** short tons in 2016 to *** short tons in 2017 and *** short tons in 2018; they were lower in interim 2019, at *** short tons, than in interim 2018, at *** short tons. CR/PR at Table VII-11. Cumulated subject producers' end-of-period inventories are projected to be *** short tons in 2019 and *** short tons in 2020. *Id*. The ratio of end-of-period inventories to production for the cumulated subject industries increased from *** percent in 2016 to *** percent in 2017 and then declined to *** percent in 2018. *Id*. It is projected to be lower at *** percent in 2019 and *** percent in 2020. *Id*. The ratio of U.S. importers' end-of-period inventories of subject imports to U.S. shipments of imports increased from *** percent in 2016 to *** percent in 2017 and then declined to *** percent in 2018; it is projected to increase in the imminent future, at *** percent in 2019 and *** percent in 2020. *Id.*

[179] U.S. importers' inventories of cumulated subject imports increased from *** short tons in 2016 to *** short tons in 2017 and *** short tons in 2018; they were higher in interim 2019, at *** short tons, than in interim 2018, at *** short tons. CR/PR at Table VII-12. The ratio of U.S. importers' end-of-period inventories of subject imports to U.S. shipments of imports declined from *** percent in 2016 to *** percent in 2017 and *** percent in 2018. *Id*. This ratio was *** percent in interim 2018 and higher, at *** percent, in interim 2019. *Id.*

[180] We have also considered other factors in our analysis of likely volume. Commerce initiated countervailing duty investigations on 36 alleged subsidy programs in India, including 16 programs of the national government and 20 state government programs. CR/PR at I-5 to I-7; November 12, 2019 Department of Commerce Initiation Checklist, C-533-892, at 7-33. Several of the alleged national

D. Likely Price Effects of the Cumulated Subject Imports

As explained above in Section VII.B.3, the record indicates that there is a high degree of substitutability between domestically produced FSF and FSF imported from India and Korea, and that price is an important factor in purchasing decisions.

The Commission collected quarterly pricing data on four FSF products shipped to unrelated U.S. customers between January 2016 and September 2019.[181] Three U.S. producers and 10 importers submitted usable pricing data on sales of the requested products,[182] although not all firms reported pricing for all products for all quarters.[183] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. commercial shipments of FSF, *** percent of U.S. commercial shipments of subject merchandise from India, and *** percent of U.S. commercial shipments of subject merchandise from Korea in 2018.[184]

Although the pricing data indicate predominant overselling by cumulated subject imports over the course of the entire POI,[185] they show predominant underselling by cumulated subject imports during the latter portion of the POI. Specifically, on a volume basis, a majority

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subsidy programs appear to be directed specifically towards exports. These include five subsidy programs for export oriented companies, a subsidy program for export promotion of capital goods, and a subsidy program for export incentives. CR/PR at I-5 to I-6; November 12, 2019 Department of Commerce Initiation Checklist, C-533-892, at 7-18. With respect to the potential for product shifting, all five responding Indian producers and 1 of 2 responding Korean producers reported that they could switch production from other products to FSF, indicating an ability to shift production to FSF. CR/PR at Table II-3.

[181] CR/PR at V-5. The pricing products are: (1) ASME B16.11, ¼" 3000 Tee (threaded), finished; (2) ASME B16.11, 1" 2000 90 Elbow (threaded), finished; (3) ASME B16.11, ¾" Union (threaded), finished; and (4) ASME B16.11, 2" Coupling (threaded), finished. *Id*.

[182] CR/PR at V-5.

[183] CR/PR at V-5.

[184] CR/PR at V-6.

[185] During the full POI, cumulated subject imports undersold the domestic like product in *** of *** monthly comparisons for a total volume of *** short tons (*** percent of cumulated subject import volumes in pricing comparisons). CR/PR at Table V-9. The margins of underselling ranged from *** percent to *** percent, with an average underselling margin of *** percent. *Id*. Cumulated subject imports oversold the domestic like product in *** of *** monthly comparisons for a total volume of *** short tons (*** percent of cumulated subject import volumes in pricing comparisons). The margins of overselling ranged from *** percent to *** percent, with an average overselling margin of *** percent. *Id*.

of the cumulated subject import shipments (*** short tons or *** percent) were involved in quarters of underselling in interim 2019.[186] [187]

We have also considered price trends for the domestic like product and cumulated subject imports. During the POI, prices for each of the four domestically produced pricing products increased from the first quarter of 2016 to the third quarter of 2019.[188] During the same period, prices for subject imports from India increased for three of four pricing products whereas prices for subject imports from Korea increased for all four pricing products.[189]

The domestic industry's ratio of COGS to net sales declined from *** percent in 2016 to *** percent in 2017 and *** percent in 2018.[190] The domestic industry's COGS to net sales ratio was higher in interim 2019, at *** percent, than in interim 2018, at *** percent.[191]

Based on the current record, we find that there is a reasonable indication that the predominant underselling by cumulated subject imports observed in interim 2019 will likely intensify in the imminent future. Additionally, likely stagnant demand conditions in the imminent future will likely further intensify price-based competition in the U.S. market between the domestic like product and cumulated subject imports. In light of the high degree of substitutability between the domestic like product and cumulated subject imports and the importance of price in purchasing decisions, there is a reasonable indication that in the imminent future substantially increased volumes of cumulated subject imports will likely displace sales of the domestic like product by engaging in significant underselling. The likely low prices of the cumulated subject imports, in turn, are likely to increase demand for cumulated subject imports, displace sales of the domestic like product, and reduce the domestic industry's market share in the imminent future. Accordingly, we find that there is a

[186] *Derived from* CR/PR at Table V-9. On a volume basis, *** percent of cumulated subject imports (*** short tons) were involved in overselling comparisons during the POI. *Id*. During interim 2019, cumulated subject imports undersold the domestic like product in nine of 24 quarterly comparisons. CR/PR at Tables V-4-7.

[187] Petitioner did not identify specific purchasers in the petition to which it lost sales and/or revenues due to subject import competition. We note this deficiency and emphasize that our regulations require such information, as reasonably available, to be in the petition as it facilitates our price effects analysis. *See* 19 C.F.R. § 207.11(b)(2)(v). In any final phase investigations, we will issue purchaser questionnaires and examine carefully the data concerning changes in purchasing patterns.

[188] CR/PR at Tables V-4-8.

[189] Over the course of the POI, prices of subject imports from India generally declined for Product 3 and generally increased for Products 1, 2, and 4. CR/PR at Tables V-4-8.

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

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

reasonable indication that cumulated subject imports are likely in the imminent future to enter the U.S. market at prices that are likely to increase demand for further subject imports.

E. Likely Impact of the Cumulated Subject Imports[192]

The domestic industry's output indicia generally increased from 2016 to 2018, but were lower in interim 2019 than interim 2018. Indeed, the domestic industry's production, U.S. shipments, and capacity utilization each followed this pattern.[193] Similarly, as discussed above, the domestic industry's market share increased from 2016 to 2018, but was lower in interim 2019 than in interim 2018.[194] The domestic industry's end-of-period inventories increased irregularly from 2016 to 2018, and were higher in interim 2019 than in interim 2018.[195]

Virtually all of the domestic industry's employment related indicators increased overall from 2016 to 2018, but were lower in interim 2019 than in interim 2018, including PRWs, total

[192] In its notice initiating antidumping duty investigations, Commerce reported estimated antidumping duty margins of 52.48 to 293.40 percent for subject imports from India, and 45.31 to 198.48 percent for subject imports from Korea. *Forged Steel Fittings From India and Korea: Initiation of Less-Than-Fair- Value Investigations*, 84 Fed. Reg. 64265, 64268 (November 21, 2019).

[193] The domestic industry's production increased from *** short tons in 2016 to *** short tons in 2017, and *** short tons in 2018. CR/PR at Tables III-5, C-1. Its production was lower in interim 2019, at *** short tons, than in interim 2018, at *** short tons. *Id*.

The domestic industry's U.S. shipments increased from *** short tons in 2016 to *** short tons in 2017, and *** short tons in 2018. CR/PR at Tables III-7, C-1. Its U.S. shipments were lower in interim 2019, at *** short tons, than in interim 2018, at *** short tons. *Id*.

The domestic industry's capacity utilization increased from *** percent in 2016 to *** percent in 2017 and *** percent in 2018. CR/PR at Tables III-5, C-1. Its capacity utilization was lower in interim 2019, at *** percent, than in interim 2018, at *** percent. *Id*.

By contrast, the domestic industry's capacity declined irregularly from 2016 to 2018, but was higher in interim 2019 than in interim 2018. CR/PR at Tables III-5, C-1. Capacity declined from *** short tons in 2016 to *** short tons in 2017, but then increased slightly to *** short tons in 2018; it was *** short tons in interim 2018 and *** short tons in interim 2019. *Id*.

[194] The domestic industry's market share increased from *** percent in 2016 to *** percent in 2017 and *** percent in 2018. CR/PR at Tables IV-8, C-1. Its market share was lower in interim 2019, at *** percent, than in interim 2018, at *** percent. *Id*.

[195] U.S. producers' end-of-period inventories were *** short tons in 2016, *** short tons in 2017, *** short tons in 2018, *** short tons in interim 2018, and *** short tons in interim 2019. CR/PR at Tables III-9 & C-1. As a ratio to total shipments, the domestic industry's end-of-period inventories declined from *** percent in 2016 to *** percent in 2017 and *** percent in 2018; it was *** percent in interim 2018 and *** percent in interim 2019. *Id*.

hours worked, hours worked per PRW, wages paid, and productivity.[196] Hourly wages increased from 2016 to 2018, and were higher in interim 2019 than in interim 2018.[197]

The domestic industry's financial indicators also generally improved from 2016 to 2018, but were lower in interim 2019 than interim 2018. Indicators following this pattern included revenues,[198] gross profit,[199] operating income,[200] operating income ratio,[201] and net income.[202]

The domestic industry's capital expenditures also increased from 2016 to 2018, and were higher in interim 2019 than in interim 2018.[203] By contrast, its research and development expenditures steadily declined throughout the POI.[204] The domestic industry's assets and return on assets increased overall from 2016 to 2018.[205] Finally, the domestic industry reported a substantial number of negative effects on investment and on growth and development due to subject imports during the POI.[206]

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[196] The domestic industry's number of PRWs increased from *** in 2016 to *** in 2017 and to *** in 2018; it was *** in interim 2018 and *** in interim 2019. CR/PR at Tables III-11, C-1. Total hours worked increased from *** in 2016 and 2017 to *** in 2018; they were *** in interim 2018 and *** in interim 2019. *Id.* Hours worked per PRW declined from *** hours in 2016 to *** hours in 2017, and then increased to *** hours in 2018; they were *** hours in interim 2018 and *** hours in interim 2019. Wages paid increased from $*** in 2016 to $*** in 2017, and $*** in 2018; they were $*** in interim 2018 and $*** in interim 2019. *Id*. Productivity in short tons per hour increased from *** in 2016 to *** in 2017 and *** in 2018; it was *** in interim 2018 and *** in interim 2019. *Id*.

[197] The domestic industry's hourly wages increased from $*** in 2016 to $*** in 2017 and to $*** in 2018; they were $*** in interim 2018 and $*** in interim 2019. CR/PR at Tables III-11, C-1. Unit labor costs declined from $*** per short ton in 2016 to $*** per short ton in 2017 and $*** per short ton in 2018; they were higher in interim 2019, at $*** per short tons, than in interim 2018, at $*** per short ton. *Id*.

[198] The domestic industry's net sales revenues increased from $*** in 2016 to $*** in 2017 and to $*** in 2018; they were $*** in interim 2018 and $*** in interim 2019. CR/PR at Tables VI-3, C-1.

[199] The domestic industry's gross profit increased from $*** in 2016 to $*** in 2017 and $*** in 2018; it was $*** in interim 2018 and $*** in interim 2019. CR/PR at Tables VI-3, C-1.

[200] The domestic industry's operating income was *** in 2016, $*** in 2017, and $*** in 2018; it was $*** in interim 2018, and $*** in interim 2019. CR/PR at Tables VI-3, C-1.

[201] The domestic industry's ratio of operating income to net sales was *** percent in 2016, *** percent in 2017, and *** percent in 2018; it was *** percent in interim 2018 and *** percent in interim 2019. CR/PR at Tables VI-3, C-1.

[202] The domestic industry's net income was *** in 2016, $*** in 2017, and $*** in 2018; it was $*** in interim 2018, and $*** in interim 2019. CR/PR at Tables VI-3, C-1.

[203] Capital expenditures were $*** in 2016, $*** in 2017, $*** in 2018, $*** in interim 2018, and $*** in interim 2019. CR/PR at Tables VI-4, C-1.

[204] Research and development expenses declined from $*** in 2016 to $*** in 2017 and $*** in 2018; they were $*** in interim 2018 and $*** in interim 2019. CR/PR at Table VI-4.

[205] Total net assets were $*** in 2016, $*** in 2017, and $*** in 2018. CR/PR at Table VI-5. Operating return on assets were *** percent in 2016, *** percent in 2017, and *** percent in 2018. *Id*.

[206] CR/PR at Tables VI-6.

We found above that there is a reasonable indication that cumulated subject imports are likely to continue both to enter the U.S. market in substantially increasing volumes and to engage in significant underselling of the domestic like product in the imminent future. For purposes of the preliminary phase of these investigations, we conclude that the likely substantially increasing volumes of low priced cumulated subject imports will likely displace sales of the domestic like product and cause the domestic industry to lose market share, which will likely lead to adverse effects on the domestic industry's revenues and financial performance in the imminent future.

We have also considered factors other than cumulated subject imports to ensure that we are not attributing any threat of material injury from other such factors to the cumulated subject imports. We recognize that nonsubject imports were the second largest source of supply throughout the POI. However, nonsubject imports' market share declined in interim 2019, while cumulated subject imports increased and gained market share and the domestic industry lost market share.[207] During the latter portion of the POI, nonsubject imports from China, Italy, and Taiwan were under the discipline of orders as discussed above. Given these considerations, we find the likely imminent adverse effects of cumulated subject imports due to likely increases in subject import volume and market share are distinct from any effects attributable to the nonsubject imports. Moreover, the likely stagnant demand in the imminent future in the U.S. market for FSF will likely intensify price-based competition in the U.S. market between the domestic like product and cumulated subject imports, and it will not explain the domestic industry's likely loss of sales and market share to the likely substantially increasing volumes of low-priced cumulated subject imports in the imminent future.

VII. Conclusion

For the reasons stated above, we determine that there is a reasonable indication that an industry in the United States is threatened with material injury by reason of cumulated subject imports of FSF from India and Korea that are allegedly sold in the United States at LTFV and allegedly subsidized by the Government of India.

[207] CR/PR at Tables IV-8, C-1.

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] [3]

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)
November 13, 2019	Commission's conference
December 6, 2019	Commission's vote
December 9, 2019	Commission's determinations
December 16, 2019	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).

[3] Appendix B presents the witnesses who appeared at the Commission's staff conference.

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--[4]

> *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.*

[4] 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—[5]

(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, alleged subsidy and 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 Company ("Capitol Manufacturing"), while leading producers of FS fittings outside the United States include Pan International ("Pan"), Nikoo Forge Pvt. Ltd. ("Nikoo Forge"), and Shakti Forge Industries Pvt Ltd. ("Shakti Forge") of India and Samyoung Fitting Co., Ltd ("Samyoung") and Valuechain Co., Ltd. ("Valuechain") of Korea. The leading U.S. importers of FS fittings from India are *** and ***, while the leading importers of FS fittings from Korea are *** and ***. Leading importers of FS fittings from nonsubject sources (primarily China, France, Italy, Japan, Mexico, Taiwan, and Thailand) include ***. U.S. purchasers of FS fittings are principally distribution firms, such as MRC, DNOW, and Ferguson.[6]

[5] Ibid.

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

Apparent U.S. consumption of FS fittings totaled approximately *** short tons and $*** in 2018. Currently, six firms are known to produce FS fittings in the United States (four of which provided complete data). U.S. producers' U.S. shipments of FS fittings totaled *** short tons and $*** in 2018, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled *** short tons and $*** in 2018 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled *** short tons and $*** in 2018 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, tables C-1 and C-2. 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 2018. U.S. imports are based on questionnaire data obtained from 27 firms that staff believe account for a substantial share of U.S. imports overall.[7] On balance, staff believes that reported import data by responding firms account for the majority of imports from India and Korea, and the large majority of imports from nonsubject sources.[8] Reported exports from India (based on five responding firms) exceeded U.S. imports from India by approximately *** percent, while reported exports from Korea (based on two responding firms) were equivalent to *** percent of U.S. imports from Korea during 2018.

[7] 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).

[8] Exports to the United States from India exceed reported imports, but responding importers include six of eight firms identified by Indian exporters as the importers of FS fittings. With respect to imports from Korea, data do not include one sizeable firm identified by the principal Korean exporter as an importer (***).

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.[9] 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.[10]

Nature and extent of alleged subsidies and sales at LTFV

Alleged subsidies

On November 21, 2019, Commerce published a notice in the *Federal Register* of the initiation of its countervailing duty investigation on FS fittings from India.[11] Commerce identified the following government programs in India:

- **GOI Subsidy Programs**
  - Duty Exemption/Remission Schemes
    - Advance Authorization Scheme (AAS)
    - Duty Free Import Authorization Scheme (DFIA Scheme)
    - Duty Drawback Scheme (DDB)
  - Subsidies for Export Oriented Units (EOUs)
    - Duty-Free Import of Goods, Including Capital Goods and Raw Materials
    - Reimbursements of Central Sales Tax (CST) Paid on Goods Manufactured in India
    - Reimbursements of Central Sales Tax (CST) Paid on Goods Manufactured in India
    - Duty Drawback on Fuel Procured from Domestic Oil Companies

[9] 83 FR 47640, September 20, 2018.
[10] 83 FR 60445, November 26, 2018.
[11] 84 FR 64270, November 21, 2019.

        - Exemption from Payment of Central Excise Duty on Goods Manufactured in India and Procured from a Domestic Tariff Area (DTA)
    - Export Promotion of Capital Goods Scheme (EPCGS)
    - Market Development Assistance (MDA) Scheme
    - Market Access Initiative (MAI)
    - Focus Product Scheme (FPS)
    - Status Certificate Program (SCP)
    - Steel Development Fund Loans (SDF)
    - Provision of Steel for LTAR
    - Incremental Exports Incentivization Scheme

- **<u>State Government of Andhra Pradesh (SGAP) Subsidy Programs</u>**
    - Subsidies Under the Industrial Investment Promotion Policy (IIPP)
        - Grant under the IIPP: 25 Percent Reimbursement of the Cost of Land in Industrial Estates and Development Areas
        - Grant under the IIPP: Reimbursement of Power at the Rate of Rs. 0.75 per Unit
        - Grant under the IIPP: 50 Percent Subsidy for Expenses Incurred for Quality Certification
        - Grant under the IIPP: 50 Percent Subsidy on Expenses Incurred in Patent Registration
        - Grant under the IIPP: 25 Percent Subsidy on Cleaner Production Measures
        - Tax Incentives under the IIPP: 100 Percent Reimbursement of stamp Duty and Transfer Duty Paid for the Purchase of Land and Buildings and the Obtaining of Financial Deeds and Mortgages
        - Tax Incentives under the IIPP: 25 Percent Reimbursement on Value Added Tax (VAT), CST, and State Goods and Services Tax
        - Tax Incentives under the IIPP: Exemption from the SGAP Nonagricultural Land Assessment
        - Provision of Goods and Services for Less than Adequate Remuneration (LTAR) under the IIPP: Provision of Infrastructure for Industries Located More than 10 Kilometers from Existing Industrial Estates or Development Areas
        - Provision of Goods and Services for LTAR under the IIPP: Guaranteed Stable Prices and Reservation of Municipal Water
    - Subsidies provided by the Andhra Pradesh Industrial Investment Corporation (APIIC)
        - APIIC's Allotment of Land for LTAR

- **State Government of Gujarat (SGOG) Subsidy Program**
  - Sales Tax Incentives
  - Gujarat Industrial Development Corporation Subsidized Financing

- **State Government of Maharashtra (SGOM) Subsidy Programs**
  - State Government of Maharashtra Sales Tax Program
  - Electricity Duty Exemptions
  - Waiving of Loan Interest by SICOM
  - Investment Subsidies
  - Infrastructure Assistance for Mega Projects Under the Maharashtra Industrial Policy of 2013 and Other SGOM Industrial Promotion Policies to Support Mega Projects
  - Subsidies for Mega Projects Under the Package Scheme of Incentives
  - Other Subsidies Under the Package Scheme of Initiatives
  - Provision of Land for LTAR

Alleged sales at LTFV

On November 21, 2019, Commerce published a notice in the *Federal Register* of the initiation of its antidumping duty investigations on FS fittings from India and Korea.[12] Commerce has initiated antidumping duty investigations based on estimated dumping margins of 52.48 to 293.40 percent for FS fittings from India and 45.31 to 198.38 percent for FS fittings from Korea.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[13]

> *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, 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.*

[12] 84 FR 64265, November 21, 2019.
[13] Ibid.

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 castings. 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 AS35411;*
- *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.*

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 ("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 2019 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. Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

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 under HTS chapter 99. However, carbon and alloy hot-rolled steel bar and seamless tubular products, both used in the production of FS fittings, are included, and thus subject to the additional 25-percent *ad valorem* section 232 duties. See U.S. note 16(b), subchapter III of chapter 99.[14]

[14] *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 bar are classified under HTS headings 7213, 7214, 7215, 7227, and 7228. Seamless tubular products are classified under HTS heading 7304.

Only products imported from China are subject to additional duties under Section 301 of the Trade Act of 1974. Therefore, Section 301 duties do not apply to subject imports in these investigations. Products of China classified in HTS subheadings 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 are subject to additional 25-percent *ad valorem* import duties under Section 301.[15]

The product

Description and applications[16]

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:

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

[15] See U.S. note 20(f), subchapter III of HTS chapter 99.

[16] Unless otherwise noted, this information is based on Petition, pp. 7-10 and *Forged Steel Fittings from Taiwan, Investigation No. 731-TA-1396 (Final)*, USITC Publication 4823, September 2018.

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 November 5, 2019.

"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

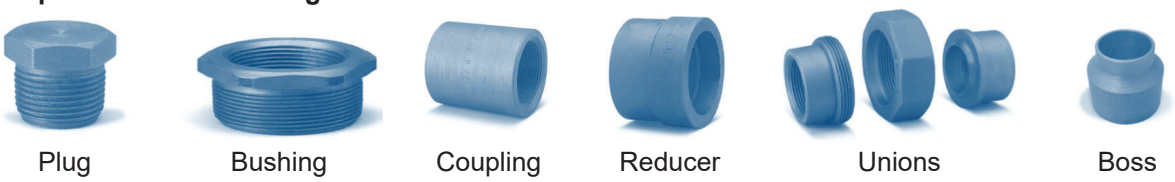
Street elbow

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

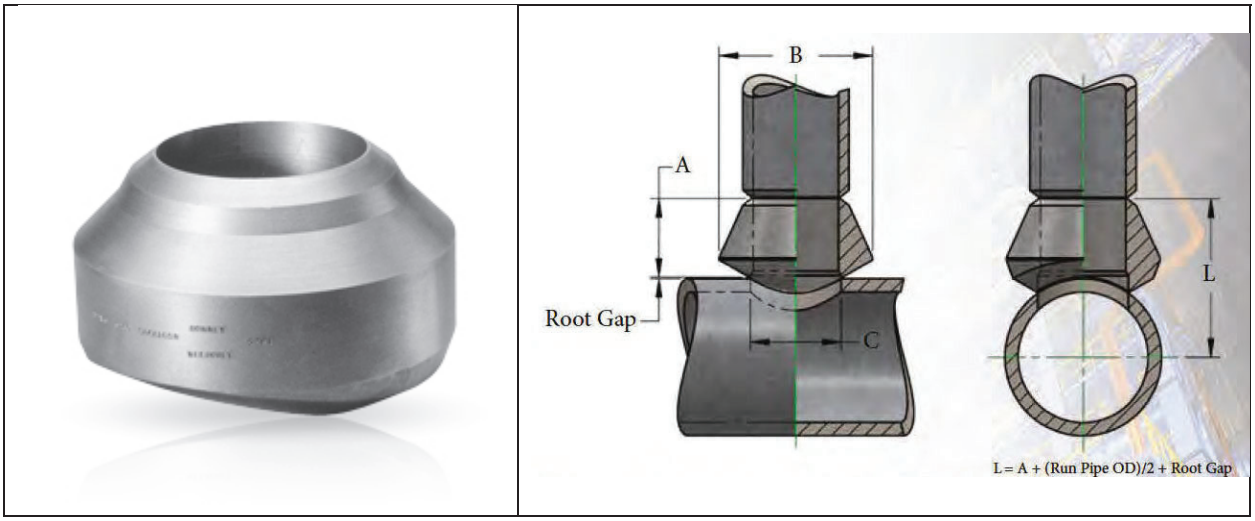


Source: Petition, Exhibit I-5 at 4-5.

"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.[17] They are typically available in pressure ratings from class 3000 to 6000 and 9000.

[17] 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 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.

Figure I-4
Integrally reinforced forged branch outlet fittings



Source: Bonny Forge, "Weldolet," http://www.bonneyforge.com/products.php?pg=branch&subpg=weldolet, retrieved November 5, 2019. Petition, Exhibit I-6 at 18.

Manufacturing processes

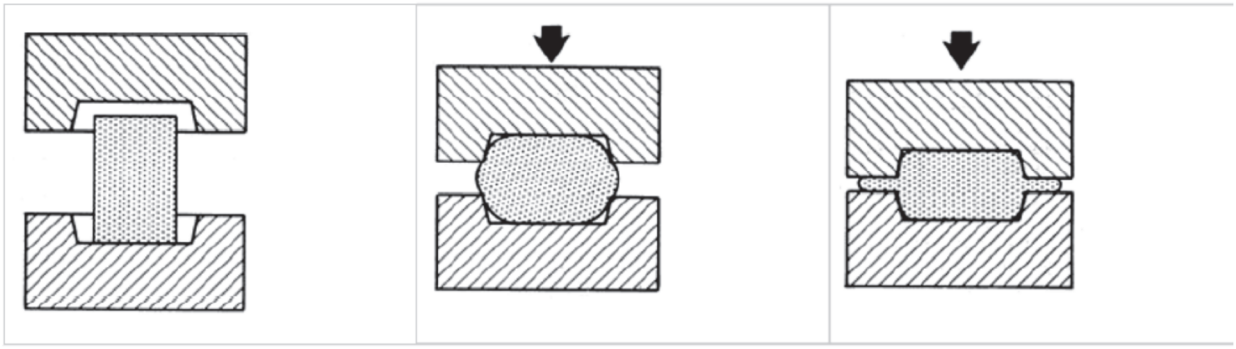
Forging operations

FS fittings manufacturing normally begins with impression-die forging, also called "closed-die forging" (figure I-5).[18] 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 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

[18] 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 October 31, 2019.

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



Source: Forging Industry Association, "Impression Die Forging Process Operations," https://www.forging.org/impression-die-forging-process-operations, retrieved November 6, 2019, 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 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).[19] A range of coatings and treatments may be applied to protect the performance properties of the products. Certain

[19] 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 product 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.[20]

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.[21]

[20] Petitioners' postconference brief, Answers to Staff Questions, pp. 1-2.
[21] 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 expanded to cover out-of-scope merchandise such as butt-weld fittings made from bent pipe and flanges.[22]

[22] Petition, pp. 12-14; Petitioners' postconference brief, p. 2.

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 18 of 20 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. Importers ***. Importer *** stated that smaller U.S. producers rely on imported forgings to manufacture FS fittings and would have to purchase forgings from their competitors without imports. Firms reported the following reasons for not selling unfinished FS fittings: no demand for unfinished forgings (2 U.S. producers and 10 importers), do not want to supply competitors (3 producers and 3 importers), and not profitable (no U.S. producers and 5 importers). ***.

Most responding firms (all U.S. producers and 21 of 23 importers) reported no changes in their product mix or marketing of FS fittings since January 1, 2016. Of the two firms that reported changes, one importer reported price increases for FS fittings and one importer reported an increase in sales of larger diameter sizes and a decline in sales of smaller diameter sizes because of natural gas demand requirements.

Apparent U.S. consumption of FS fittings increased by *** percent during 2016-18. It was *** percent lower in January-September 2019 than in January-September 2018.

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

Channels of distribution

U.S. producers reported selling *** to distributors, as shown in table II-1. Imported product from Korea was shipped mainly (*** percent) to distributors in 2018 and interim 2019. The majority of imports from India went to finishers/converters. 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.[2]

Table II-1
FS fittings: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, January 2016-September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	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 to Distributors	***	***	***	***	***
to Finishers/converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: Nonsubject 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.

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

Geographic distribution

U.S. producers and importers reported selling FS fittings to all U.S. regions (table II-2). For U.S. producers, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Subject importers sold *** percent within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and less than 1 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	4	4	6
Midwest	4	4	4	6
Southeast	4	4	4	6
Central Southwest	4	7	6	11
Mountains	4	4	4	6
Pacific Coast	4	4	4	6
Other	4	3	4	5
All regions (except Other)	4	4	4	6
Reporting firms	4	7	6	11

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	Capacity (short tons)		Capacity utilization (percent)		Inventories as a ratio to total shipments (percent)		Shipments by market in 2018 (percent)		Able to shift to alternate products
	2016	2018	2016	2018	2016	2018	Home market shipments	Exports to non-U.S. markets	No. of firms reporting "yes"
United States	***	***	***	***	***	***	***	***	2 of 4
India	***	***	***	***	***	***	***	***	5 of 5
Korea	***	***	***	***	***	***	***	***	1 of 2

Note: Responding U.S. producers accounted for the vast majority of U.S. production of FS fittings in 2018. Responding foreign producer/exporter firms accounted for the majority of U.S. imports of FS fittings from India and Korea during 2018. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Part I, "Summary Data and Data Sources."

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

Domestic production

Based on available information, U.S. producers of 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 declined slightly from 2016 to 2018, and production more than doubled, leading to much higher capacity utilization in 2018 (*** percent) compared to 2016 (*** percent). The industry's capacity utilization rate in January-September 2019 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: stainless fittings, custom forgings, flanges, striking tools, and other commercial products. 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.

Subject imports from India

Based on available information, producers of FS fittings from India have the ability to respond to changes in demand with 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 the availability of unused capacity and the ability to shift production to or from alternate products. Factors mitigating responsiveness of supply include a somewhat limited ability to shift shipments from alternate markets.

Indian producers' capacity to produce FS fittings increased from 2016 to 2018, while production increased by a larger amount, leading to higher capacity utilization in 2018. All five 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 forged and machined oil and gas equipment parts; automotive, agricultural, and mining equipment parts; flanges and valves; and electrical parts. Exports to non-U.S. markets accounted for a small share of total shipments in 2018. 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 factors mitigating responsiveness of supply is the limited ability to shift production to or from alternate products.

Korean producers' reported capacity and capacity utilization both increased from 2016 to 2018. More than *** of Korean producers' shipments went to third-county export markets in 2018. Major export markets are ***. ***.

Imports from nonsubject sources

Imports from nonsubject sources accounted for *** percent of total U.S. imports in 2018, and *** percent in January-September 2019. Importers identified a variety of nonsubject import sources including China, France, Germany, Italy, Taiwan, and Thailand.

Supply constraints

U.S. producers generally reported no supply constraints except ***. Six of 22 responding importers reported supply constraints, generally associated with the antidumping and countervailing duties on FS fittings from China, Italy, and Taiwan.

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 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. *** reported a cost share of 5 percent for piping systems. Most importers reported cost shares of 1 to 3 percent, for automotive assemblies, “closures,” pipe rack modules, and pressure vessels, although one importer reported a cost share of 25 to 30 percent for hose assemblies.

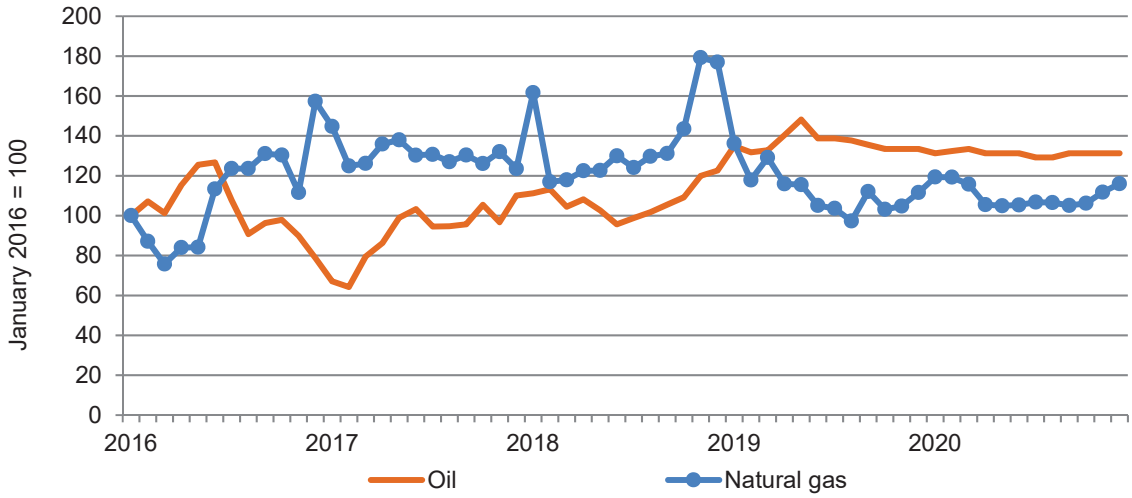
Business cycles

Most firms (3 of 4 U.S. producers and 17 of 23 importers) reported that the FS fittings market was not subject to business cycles. Most firms (3 of 4 U.S. producers and 20 of 23 importers) 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, 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. Other conditions reported by importers were supply shortages 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 2016-September 2019, crude oil and natural gas prices increased by 36 percent and 12 percent, respectively (figure II-1). Crude oil prices, after an initial increase in the first half of 2016, experienced large declines during the second half of 2016, increased through May 2019, and since then, have been relatively stable and are projected to remain stable.[3] Natural gas prices showed somewhat more volatility, generally increasing in 2016, decreasing in 2017, increasing in 2018, and then decreasing sharply in the first three quarter of 2019.[4] The U.S. Energy Information Administration projects that between October 2019 and December 2020, the price of crude oil will decrease by 2 percent and the price of natural gas will increase by 12 percent.

Figure II-1
Oil and gas prices: Price indices for crude oil and natural gas, monthly, January 2016-September 2019 (actual) and October 2019-December 2020 (projected)



Note: Crude oil price is West Texas Intermediate spot price and natural gas price is Henry Hub spot price.

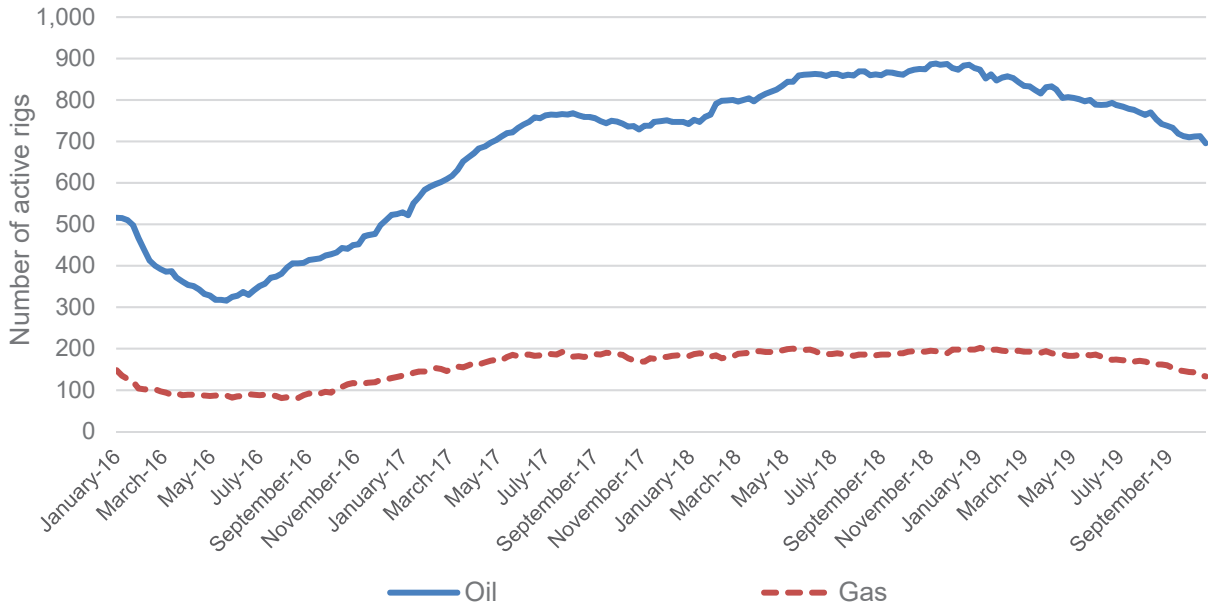
Source: U.S. Energy Information Administration, Short Term Energy Outlook, https://www.eia.gov/outlooks/steo/, retrieved October 29, 2019.

[3] Crude oil prices decreased by 21 percent from January 2016 to December 2016, increased by 40 percent from December 2016 to December 2017, increased by 11 percent from December 2017 to December 2018, and increased by 11 percent from December 2018 to September 2019.

[4] Natural gas prices increased by 57 percent from January 2016 to December 2016, decreased by 21 percent from December 2016 to December 2017, increased by 43 percent from December 2017 to December 2018, and decreased by 37 percent from December 2018 to September 2019.

Based on data published by Baker Hughes,[5] the number of oil rigs in the United States increased overall between January 2016 and September 2019 (figure II-2). In general, the number of active rigs dropped in the first half of 2016, then increased through 2018. In 2019, the number of active rigs has declined.

Figure II-2
Rotary rig count: Weekly average number of active rotary oil and gas rigs in North America, weekly, January 8, 2016-September 27, 2019



Source: Baker Hughes website, http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reportsother, retrieved October 25, 2019.

Petitioners reported that demand increased in 2017 and 2018 but has declined rapidly since the end of 2018.[6] Firms reported mixed responses regarding U.S. demand trends for FS fittings since January 1, 2016 (table II-4), with more firms reporting a decrease in demand than reported an increase in demand. U.S. producer *** reported both increased and decreased demand, explaining that demand was soft in 2016, strengthened in 2017 due to strength in the oil and gas market, but has weakened in 2019. Importers also reported that the energy market, as well as economic trends, affected demand for FS fittings.

[5] 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.

[6] Petition, p. 24.

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	2	2	---
Importers	2	6	9	4
Demand outside the United States: U.S. producers	---	2	1	---
Importers	1	6	5	---

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

Substitute products

All responding U.S. producers and nearly all responding importers 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.

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.[7]

Lead times

Domestically-produced FS fittings are primarily sold from inventory. U.S. producers reported that 97 percent of their commercial shipments were from inventories, with lead times averaging 5 days. Subject importers reported that *** percent of their commercial shipments were produced to order, with lead times averaging 90 days, and *** percent were from U.S. inventories, with lead times averaging 2 days. Although most importers reported selling mainly from U.S. inventories, three importers, ***, reported mostly produced-to-order sales.[8]

[7] 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.

[8] As noted earlier, ***.

Factors affecting purchasing decisions

The major purchasing factors identified by purchasers in the 2018 investigations were price/cost, quality, and availability of supply.[9]

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 and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-5, all responding U.S. producers reported that FS fittings from all sources could always be used interchangeably, and most responding importers reported that FS fittings from all sources were always or frequently interchangeable.

Among the three 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; and *** reported that it does not source certain parts domestically.

Table II-5
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			
	A	F	S	N	A	F	S	N
United States vs. India	4	---	---	---	5	5	3	---
United States vs. Korea	3	---	---	---	5	2	3	---
India vs. Korea	3	---	---	---	2	2	3	---
United States vs. Other	3	---	---	---	8	5	3	---
India vs. Other	3	---	---	---	3	3	3	---
Korea vs. Other	2	---	---	---	2	2	3	---

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

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

[9] *Forged Steel Fittings from Taiwan, Investigation No. 731-TA-1396 (Final)*, USITC Publication 4823, September 2018, p. II-12. As noted in Part V, lost sales lost revenue surveys were not sent to purchasers in this phase of these investigations.

In addition, U.S. producers and importers 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-6, a majority of U.S. producers reported that such differences were never significant in their sales of FS fittings. In comparing U.S. product to imports from India, a majority of importers reported that such differences were sometimes significant. In comparing U.S. product to imports from Korea, a majority of importers reported that such differences were sometimes or never significant.

Table II-6
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			
	A	F	S	N	A	F	S	N
United States vs. India	---	---	1	3	2	1	7	2
United States vs. Korea	---	---	---	3	1	---	4	4
India vs. Korea	---	---	---	3	1	---	3	2
United States vs. Other	---	---	1	2	2	3	7	3
India vs. Other	---	---	1	2	1	---	5	2
Korea vs. Other	---	---	---	2	1	---	3	2

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

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

Several importers provided additional comments. ***, which reported that differences other than price between U.S. and Indian product were always significant, stated that it has better quality than other sources.[10] *** stated that it requires the products it imports to meet the high quality standards offered by the domestic manufacturers but that some importers that will accept lower quality products to gain a price advantage. *** stated that the U.S. producers will not allow new distributors and cannot keep up with demand. *** stated that it sources from different regions based on quality, lead times, and cost.

[10] The other importer which reported that differences other than price between U.S. and Indian product were always significant did not provide an explanation. This firm did not import FS fittings from subject sources.

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/or 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 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 2018.

U.S. producers

The Commission issued a U.S. producer questionnaire to six firms based on information contained in the petition, and one firm identified through Staff research. Four firms provided usable data on their productive operations.[1] Staff believes that these responses represent the vast majority of U.S. production of FS fittings in 2018.

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

[1] U.S. producer, ***, provided a response indicating that net sales of FS fittings accounted for approximately *** percent of its total operational revenue during 2018. The firm was unable to complete a questionnaire in a timely manner.

Table III-1
FS fittings: U.S. producers of FS fittings, their positions on the petition, production locations, and shares of reported production, 2018

Firm	Position on petition	Production locations	Share of production (percent)
Anvil	***	Longview, TX Houston, 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			100.0

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

Table III-2 presents information on U.S. producers' ownership, related and/or affiliated firms of FS fittings.

Table III-2
FS fittings: U.S. producers' ownership, related and/or affiliated firms, 2016-18, January to September 2018, and January to September 2019

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, although 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 and one purchases the subject merchandise from U.S. importers.

Table III-3 presents U.S. producers' reported changes in operations since January 1, 2016.

Table III-3
FS fittings: U.S. producers' reported changes in operations, since January 1, 2016

Item / Firm	Reported changed 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-4
FS fittings: U.S. producers' rating of the complexity and importance of finishing activities, since January 1, 2016

Item	Complexity rating				
	1 Not at all complex	2	3	4	5 Very complex
Anvil	***	***	***	***	***
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
All producers	***	***	***	***	***
	Anvil's narrative responses to sufficient production activities question				
Capital investments	***				
Technical expertise	***				
Value added	***				
Employment	***				
Quantity, type and source of parts	***				
Other	***				

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

U.S. production, capacity, and capacity utilization

Table III-5 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. On balance, U.S. producers' capacity was moderately lower in 2017 and 2018 than in 2016, but was modestly higher in January to September 2019 than in January to September 2018.[2] Production of FS fittings in the United States increased in both 2017 and 2018, more than doubling between 2016 and 2018. However, production was lower in January to September 2019 than in January to September 2018.[3] Capacity utilization rose in both 2017 and 2018, and similar to production, was more than double the 2016 level by 2018. However, capacity utilization was lower in January to September 2019 than in January to September 2018, despite remaining above annual 2016 and 2017 levels.[4]

[2] Capacity decreased by *** percent between 2016 and 2018, but was *** percent higher in January-September 2019 than in January-September 2018. These trends reflect gradual increases in capacity by integrated producer *** and a reduction in capacity by ***.

[3] Production increased by *** percent between 2016 and 2018, as *** U.S. producers reported increased output. Production was *** percent lower in January to September 2019 than in January-September 2018, as *** reported lower output.

[4] Capacity utilization increased by *** percentage points between 2016 and 2018, as *** U.S. producers reported higher capacity utilization. Capacity utilization was *** percentage points lower in January to September 2019 than in January to September 2018, as *** reported lower utilization of capacity.

Table III-5
FS fittings: U.S. producers' production, capacity, and capacity utilization, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Capacity (short tons)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producers	***	***	***	***	***
All producers	***	***	***	***	***
	Production (short tons)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producers	***	***	***	***	***
All producers	***	***	***	***	***
	Capacity utilization (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producers	***	***	***	***	***
All producers	***	***	***	***	***
	Share of production (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producers	***	***	***	***	***
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, 2016-18, January to September 2018, and January to September 2019

* * * * * * *

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

Alternative products

As shown in table III-6, *** percent of the product produced during 2018 U.S. producers was in-scope merchandise, being fully finished FS fittings, whether produced from blanks or machined bar or tubing. FS fittings produced from U.S. producers "own blanks/forgings" represented the largest share of total output in each annual period, ranging from *** percent during 2016-18.

Two firms, ***, reported producing products other than FS fittings during the period for which data was collected. Such production represented *** percent of output during 2018.

Table III-6
FS fittings: U.S. producers' overall plant capacity and production on the same equipment as subject production, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
Overall capacity	***	***	***	***	***
Production:					
FS fittings: Own blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
FS fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Overall capacity utilization	***	***	***	***	***
Share of in-scope production:					
FS fittings: Own blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
FS fittings	***	***	***	***	***
Share of total production:					
FS fittings: Own blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
FS fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***

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

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

Table III-7 presents U.S. producers' U.S. shipments, export shipments, and total shipments, while table III-8 presents information concerning U.S. producers' U.S. shipments' for use in apparent consumption including the incremental value associated with finishing. U.S. producers' U.S. shipments, by quantity, increased by *** percent during 2016-18. Total shipments experienced a similar trend, increasing by *** percent during 2016-18. Total shipments were *** percent lower in January to September 2019 than in the comparable period in 2018. U.S. producers' U.S. shipments unit values decreased in each annual period during 2016-18, decreasing by *** percent over the period. U.S. producers' U.S. shipment unit values were *** percent lower in January to September 2018 compared to January to September 2019. U.S. producers' total shipment unit values exhibited a similar trend during 2016-18.

Table III-7
FS fittings: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. shipments.-- Integrated producers	***	***	***	***	***
Finisher only producers	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Value (1,000 dollars)				
U.S. shipments.-- Integrated producers	***	***	***	***	***
Finisher only producers	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. shipments.-- Integrated producers	***	***	***	***	***
Finisher only producers	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Share of quantity (percent)				
U.S. shipments.-- Integrated producers	***	***	***	***	***
Finisher only producers	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Share of value (percent)				
U.S. shipments.-- Integrated producers	***	***	***	***	***
Finisher only producers	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

Note: Finisher only producers only reported commercial U.S. shipments.

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

Table III-8
FS fittings: U.S. producers' U.S. shipments for use in apparent U.S. consumption, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. shipments	***	***	***	***	***
	Value (1,000 dollars)				
U.S. shipments.-- Fully domestic value	***	***	***	***	***
Incremental value	***	***	***	***	***
Total	***	***	***	***	***

Note: The quantity for U.S. producers' U.S. shipments reflects the quantity of FS fittings sold in the United States by integrated producers; the value for U.S. producers' U.S. shipments reflects the value of FS fittings sold in the United States by integrated producers plus the incremental value added to imported FS fittings by finisher only producers. 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-9 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' end-of-period inventories fluctuated during the period for which data was collected, decreasing from 2016 to 2017, and then increasing from 2017 to 2018. U.S. producers' end-of-period inventories were *** percent higher in January-September 2019 than the comparable period in 2018. U.S. producers' ratio of inventories to total shipments decreased by *** percentage points during 2016-18, but was *** percent higher in January to September 2019 than in January to September 2018.

Table III-9
FS fittings: U.S. producers' U.S. production, imports and purchases, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	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 FS fittings are presented in table III-10. Anvil's production increased *** during 2016-18, but declined *** from January to September 2018 to January to September 2019. Anvil's purchases of imports from India fluctuated during 2016-18, with volume reported in 2016 and 2018, but *** in 2017. Anvil both imported and purchased FS fittings from India in January to September 2019.

Table III-10
FS fittings: U.S. producers' imports and purchases, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
Anvil's U.S. production	***	***	***	***	***
Anvil's U.S. imports from.--					
Subject (***)	***	***	***	***	***
Nonsubject (***)	***	***	***	***	***
All imports sources	***	***	***	***	***
Anvil's purchases of imports from.--					
Subject (***)	***	***	***	***	***
Nonsubject (***)	***	***	***	***	***
All purchase sources	***	***	***	***	***
	Ratio (percent)				
Anvil's ratio to U.S. production of imports from.--					
Subject (***)	***	***	***	***	***
Nonsubject (***)	***	***	***	***	***
All imports sources	***	***	***	***	***
	Narrative				
Anvil's reason for importing	***				

Note: Anvil's purchases of imports from ***.

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

U.S. employment, wages, and productivity

Table III-11 presents U.S. producers' employment related data. U.S. producers' production and related workers ("PRWs") increased by *** during 2016-18.[5] Total hours worked increased by *** percent during 2016-18. However, total hours worked was *** percent lower in January to September 2019 than in January to September 2018. Wages paid increased in each annual period during 2016-18, increasing overall by *** percent. Similarly, hourly wages and productivity exhibited upward trends during 2016-18. However, productivity was *** percentage points lower in January to September 2019 compared to January to September 2018. Unit labor costs decreased in each annul period during 2016-18, decreasing by *** percent over the period. Unit labor costs were *** percent higher in January to September 2019 compared to January to September 2018.

Table III-11
FS fittings: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
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 hour)	***	***	***	***	***
Unit labor costs (dollars per short tons)	***	***	***	***	***

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

[5] U.S. producer *** production-related workers ranged between *** and *** over the period for which data were collected, *** U.S. Producer Questionnaire at II-11.

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

U.S. importers

The Commission issued importer questionnaires to 75 potential importers of FS fittings, as well as to all U.S. producers of FS fittings.[1] As discussed in greater detail in Part I, U.S. imports are based on questionnaire data obtained from 27 firms that staff believe account for a substantial share of U.S. imports overall. On balance, staff believes that reported import data by responding firms account for the majority of imports from India and Korea, and the large majority of imports from nonsubject sources. 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 2018.

[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 subheadings 7307.92.30, 7307.92.90, 7307.99.10, 7307.99.30, and 7307.99.50 in 2018.

Table IV-1
FS fittings: U.S. importers, their headquarters, and share of total imports by source, 2018

Firm	Headquarters	Share of imports by source (percent)				
		India	Korea	Subject sources	Nonsubject sources	All import sources
American Piping	Chesterfield, MO	***	***	***	***	***
Anvil	Exeter, NH	***	***	***	***	***
Bechtel	Houston, TX	***	***	***	***	***
BK Metal	Houston, TX	***	***	***	***	***
Caterpillar	Deerfield, IL	***	***	***	***	***
Dodson	Houston, TX	***	***	***	***	***
Dwyer	Houston, TX	***	***	***	***	***
Ferguson	Newport News, VA	***	***	***	***	***
IPI	Atlanta, GA	***	***	***	***	***
ITEX	Houston, TX	***	***	***	***	***
Matco-Norca	Brewster, NY	***	***	***	***	***
McDermott	Houston, TX	***	***	***	***	***
MEGA	Scanzorosciate, IT	***	***	***	***	***
Merit Brass	Cleveland, OH	***	***	***	***	***
Mitsui	New York, NY	***	***	***	***	***
Nichirin	Lewisburg, TN	***	***	***	***	***
Norca	Lake Success, NY	***	***	***	***	***
NOV	Houston, TX	***	***	***	***	***
Silbo	Montvale, NJ	***	***	***	***	***
SK Bend	Houston, TX	***	***	***	***	***
Smith Cooper	Commerce, CA	***	***	***	***	***
Texas Pipe	Houston, TX	***	***	***	***	***
TI Group	Auburn Hills, MI	***	***	***	***	***
Toyota Tsusho	Georgetown, KY	***	***	***	***	***
Triangle Metals	Bixby, OK	***	***	***	***	***
Valco	Rancho Dominguez, CA	***	***	***	***	***
Vianney	Kansas City, MO	***	***	***	***	***
Total		***	***	***	***	***

Note: Two U.S. importers, ***, did not provide the Commission with an importer questionnaire in connection with this proceeding. However, these two firms provided a questionnaire in a prior proceeding involving FS fittings from China, Italy, and Taiwan. Commission Staff incorporated information for which there was a data overlap concerning the two proceedings and provided estimates for year 2018 utilizing January to March 2018 data provided in the firms' questionnaires.

Note: The Commission received a U.S. importer questionnaire from ***.

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 and Korea and all other sources. U.S. imports from nonsubject sources accounted for the vast majority of U.S. imports of FS fittings in 2016 and 2017, when measured by quantity. This began to change in 2018, as the quantity of U.S. imports from India and Korea increased noticeably, while imports from nonsubject sources declined.[2] By January to September 2019, combined U.S. imports of FS fittings from India and Korea, by quantity, exceed those from nonsubject sources. Value trends were similar, however, the value of combined U.S. imports of FS fittings from India and Korea did not exceed the value of imports from nonsubject sources.[3]

Overall, the quantity and the value of imports from subject sources were higher in 2018 than in 2016, and in January to September 2019 relative to January to September 2018, while imports from nonsubject sources exhibited the opposite trend. With respect to average unit values, the average unit values of imports from subject sources were lower in 2018 than in 2016, and in January to September 2019 relative to January to September 2018, while imports from nonsubject sources were higher in 2018 than in 2016, and in January to September 2019 relative to January to September 2018.

[2] As discussed in Part I of this report, in the Fall of 2018, Commerce issued a countervailing duty order on FS fittings from China (October 5, 2018) and antidumping duty orders on FS fittings from Taiwan (September 24, 2018) as well as China and Italy (November 26, 2018).

[3] The difference in the value of imports reflects, in part, the greater share of unfinished fittings included in the subject imports.

Table IV-2
FS fittings: U.S. imports by source, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Value (1,000 dollars)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Share of quantity (percent)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Share of value (percent)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Ratio to U.S. production				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Figure IV-1
FS fittings: U.S. import quantity and average unit value, 2016-18, January to September 2018, and January to September 2019

* * * * * * *

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

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[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] Imports from India accounted for *** percent of total imports of FS fittings by quantity during October 2018 through

[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)).

September 2019. Imports from Korea accounted for *** percent of total imports of FS fittings by quantity during October 2018 through September 2019. Table IV-3 presents information on U.S. imports in the twelve month period preceding the petition.

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	***	***
Korea	***	***
Subject sources	***	***
Nonsubject sources	***	***
All import sources	***	***

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

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 information concerning U.S. producers' and U.S. importers' U.S. shipments by level of processing during 2018. U.S. producers' U.S. shipments of finished FS fittings accounted for *** percent of total shipments of all levels of finishing during 2018. U.S. importers' U.S. imports from India included *** shipments of FS fittings. U.S. importers' U.S. imports from Korea included primarily *** FS fittings.

Table IV-4
FS fittings: U.S. producers' U.S. shipments and U.S. importers' U.S. imports by level of processing, 2018

Item	U.S. producers	U.S. importers					U.S. producers and U.S. importers
		India	Korea	Subject sources	Nonsubject sources	All import sources	
	Quantity (short tons)						
U.S. shipments/imports.--Unfinished	***	***	***	***	***	***	***
Finished	***	***	***	***	***	***	***
All levels of finishing	***	***	***	***	***	***	***
	Share across (percent)						
U.S. shipments/imports.--Unfinished	***	***	***	***	***	***	***
Finished	***	***	***	***	***	***	***
All levels of finishing	***	***	***	***	***	***	***
	Share down (percent)						
U.S. shipments/imports.--Unfinished	***	***	***	***	***	***	***
Finished	***	***	***	***	***	***	***
All levels of finishing	***	***	***	***	***	***	***

Note: ***.

Note: ***.

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

Figure IV-2
FS fittings: U.S. producers' U.S. shipments and U.S. importers' U.S. imports by level of processing, 2018

* * * * * * *

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

Geographical markets

Table IV-5 presents information concerning U.S. imports by border of entry during 2018. U.S. imports from India were most prevalent in the Southern border, while U.S. imports from Korea were most prevalent in the *** border. U.S. subject sources were most prevalent in the Southern border of entry accounting for *** percent of total imports by quantity. U.S. imports from nonsubject sources were most prevalent in the Northern and Southern borders of entry.

Table IV-5
FS fittings: U.S. imports by border of entry, 2018

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

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 November 14, 2019.

Presence in the market

Table IV-6 presents information concerning the presence of U.S. imports by month from January 2016 through August 2019. U.S. imports from India were present in the U.S. market for *** and were consistently present in the U.S. market since ***. U.S. imports from Korea were present in the U.S. market for *** months and were consistently present in the U.S. market since ***.

Table IV-6
FS fittings: U.S. imports by month, January 2016 through August 2019

Month	India	Korea	Subject sources	Nonsubject sources	All import sources
2016.--					
January	***	***	***	***	***
February	***	***	***	***	***
March	***	***	***	***	***
April	***	***	***	***	***
May	***	***	***	***	***
June	***	***	***	***	***
July	***	***	***	***	***
August	***	***	***	***	***
September	***	***	***	***	***
October	***	***	***	***	***
November	***	***	***	***	***
December	***	***	***	***	***
2017.--					
January	***	***	***	***	***
February	***	***	***	***	***
March	***	***	***	***	***
April	***	***	***	***	***
May	***	***	***	***	***
June	***	***	***	***	***
July	***	***	***	***	***
August	***	***	***	***	***
September	***	***	***	***	***
October	***	***	***	***	***
November	***	***	***	***	***

Table continued on next page.

Table IV-6--Continued
FS fittings: U.S. imports by month, January 2016 through August 2019

Month	India	Korea	Subject sources	Nonsubject sources	All import sources
December	***	***	***	***	***
2018.-- January	***	***	***	***	***
February	***	***	***	***	***
March	***	***	***	***	***
April	***	***	***	***	***
May	***	***	***	***	***
June	***	***	***	***	***
July	***	***	***	***	***
August	***	***	***	***	***
September	***	***	***	***	***
October	***	***	***	***	***
November	***	***	***	***	***
December	***	***	***	***	***
2019.-- January	***	***	***	***	***
February	***	***	***	***	***
March	***	***	***	***	***
April	***	***	***	***	***
May	***	***	***	***	***
June	***	***	***	***	***
July	***	***	***	***	***
August	***	***	***	***	***

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

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 November 14, 2019.

Apparent U.S. consumption

Table IV-7 and figure IV-3 present data on apparent U.S. consumption for FS fittings. Apparent U.S. consumption, by quantity, increased by *** percent during 2016-18. U.S. producers' U.S. shipments increased in each annual period during 2016-18, but were *** percent lower in January to September 2019 than in January to September 2018. U.S. importers' U.S. shipments from subject sources increased in each annual period during 2016-18. Moreover, U.S. importers' U.S. shipments were *** percent higher in January to September 2019 compared to January to September 2018. U.S. importers' U.S. shipments from nonsubject sources fluctuated during the period, increasing from 2016 to 2017, then decreasing from 2017 to 2018.

Table IV-7
FS fittings: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Apparent U.S. consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments.--					
Fully domestic value	***	***	***	***	***
Incremental value	***	***	***	***	***
Total	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Apparent U.S. consumption	***	***	***	***	***

Note: The quantity for U.S. producers' U.S. shipments reflects the quantity of FS fittings sold in the United States by integrated producers; the value for U.S. producers' U.S. shipments reflects the value of FS fittings sold in the United States by integrated producers plus the incremental value added to imported FS fittings by finisher only producers. 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.

Figure IV-3
FS fittings: Apparent U.S. consumption, 2016-18, January to September 2018, and January to September 2019

* * * * * * *

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

U.S. market shares

U.S. market share data are presented in table IV-8. U.S. producers' U.S. shipments, by quantity and value, increased in each annual period during 2016-18. U.S. importers' U.S. shipments from subject sources increased as a share of quantity in each annual period during 2016-18, however, was most noticeable in 2018. U.S. importers' U.S. shipments share of quantity from subject sources was *** percentage points higher in January to September 2019 compared to the comparable period in 2018.

Table IV-8
FS fittings: U.S. consumption and market shares, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
Apparent U.S. consumption	***	***	***	***	***
	Share of quantity (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Value (1,000 dollars)				
Apparent U.S. consumption	***	***	***	***	***
	Share of value (percent)				
U.S. producers' U.S. shipments.--					
Fully domestic value	***	***	***	***	***
Incremental value	***	***	***	***	***
Total	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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 by integrated producers plus the incremental value added to either imported FS fittings by finisher only producers. 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.

Part V: Pricing data

Factors affecting prices

Raw material costs

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") decreased from *** percent in 2016 to *** percent in 2017 and then increased to *** percent in 2018, and was *** percent in interim 2019.

As shown in figure V-1, the prices of carbon SBQ bar and alloy SBQ bar both increased between January 2016 and September 2019, by *** and *** percent, respectively. These prices were relatively stable in 2016, increased in 2017 and 2018, and declined in 2019. Between November 2016 and December 2018, the prices of carbon SBQ bar and alloy SBQ bar increased by *** percent and *** percent, respectively. Between December 2018 and September 2019, 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 2016-September 2019

* * * * * * *

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

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. Among importers, twelve firms reported no change in their raw material prices as a result of Section 232 tariffs and sixteen reported no resultant change in FS fittings prices, while nine firms reported an increase in raw material prices and four reported an increase in FS fittings prices as a result of Section 232 tariffs.

[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.

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

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Impact on the cost of raw materials: U.S. producers	3	1	---	---
Importers	9	12	---	2
Impact on the prices of FS fittings: U.S. producers	2	1	---	1
Importers	4	16	1	1

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

U.S. inland transportation costs

*** U.S. producers and 13 of 16 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, while almost all responding importers reported costs of 3 percent or less.[4]

Pricing practices

Pricing methods

U.S. producers and importers reported using multiple methods to set prices (table V-2). Three U.S. producers and eight importers reported using set price lists. 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.[5] *** approximately half of responding importers (10 of 21) reported selling on a transaction-by-transaction basis. *** 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] One importer reported costs of 7 percent.

[5] 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	1	10
Contract	1	2
Set price list	3	8
Other	2	3
Responding firms	4	20

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 and importers reported selling FS fittings mainly through the spot market and through annual contracts (table V-3). *** U.S. producers reported selling only in the spot market. ***. ***. The remaining 10 subject importers reported that at least 80 percent of their sales were on a spot or short-term contract basis.

Table V-3
FS fittings: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2018

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.

Sales terms and discounts

*** 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. More than half of responding importers (11 of 20) reported having no discount policy, and the remaining nine firms reported some type of discounts including total volume discounts (reported by 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's discounts from its price list have remained relatively the same since the introduction of its new price sheet in 2019.[7]

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 finished FS fittings products shipped to unrelated U.S. customers during January 2016-September 2019.[8]

Product 1.-- ASME B16.11, ¼" 3000 Tee (threaded), finished.

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

Product 3.-- ASME B16.11, ¾" 3000 Union (threaded), finished.

Product 4.-- ASME B16.11, 2" 3000 Coupling (threaded), finished.

Three U.S. producers and 10 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[9] [10] [11]

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

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

[8] These four products are the same products from the 2018 investigations. The petition requested six pricing items. Petitioners' counsel stated that of the six products, these four products would result in the highest coverage. Email from Elizabeth Drake, counsel to petitioners, October 23, 2019.

[9] 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.

[10] ***.

[11] ***.

Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' commercial shipments of FS fittings, *** percent of U.S. commercial shipments of subject imports from India and *** percent of U.S. commercial shipments of subject imports from Korea in 2018. Importers only reported prices during January 2018-September 2019.

Price data for products 1-4 are presented in tables V-4 to V-7 and figures V-2 to V-5. Appendix E shows the prices for FS fittings from China, Italy, and Taiwan for products 1-4 for January 2016-March 2018 reported in the 2018 investigations. Appendix F shows pricing for products 1-4 excluding U.S. producer Anvil.

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 2016-September 2019

	United States		India			Korea		
Period	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2016: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

Note: Product 1: ASME B16.11, ¼" 3000 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 2016-September 2019

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)
2016: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

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 2016-September 2019

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)
2016: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

Note: Product 3: ASME B16.11, ¾" 3000 Union (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 2016-September 2019

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)
2016: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

Note: Product 4: 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 prices and quantities of domestic and imported product 1, by quarter, January 2016-September 2019

* * * * * * *

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 2016-September 2019

* * * * * * *

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 2016-September 2019

* * * * * * *

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 2016-September 2019

* * * * * * *

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

Price trends

U.S. producers' prices increased during January 2016-September 2019, with declines in 2016 and increases in 2018 and interim 2019. Subject import prices were reported only for 2018 and 2019. Table V-8 summarizes the price trends, by country and by product. As shown in the table, domestic price increases ranged from 13.4 to 15.7 percent during January 2016-September 2019. From January 2018 to September 2019, domestic prices increased by 17.3 to 20.8 percent, prices of imports from India increased by 1.6 to 10.8 percent for three pricing products and declined by 1.8 percent for one pricing product, and prices of imports from Korea increased by 9.1 to 23.4 percent. Figure V-6 shows price indices for U.S.-produced products 1-4.

Table V-8
FS fittings: Summary of weighted-average f.o.b. prices for products 1-4 from the United States, India, and Korea

Item	Number of quarters	Low price (dollars per pound)	High price (dollars per pound)	Change in price over period (percent)	Change in price over January 2018-September 2019 (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	***	***	***	***	***

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

Figure V-6
FS fittings: Indexed prices for U.S. producers, January 2016-September 2019

* * * * * * *

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

Price comparisons

As shown in table V-9, prices for subject imports were below those for U.S.-produced product in 16 of 56 instances (67,881 pounds); margins of underselling ranged from 1.1 to 19.8 percent. In the remaining 40 instances (129,287 pounds), prices for subject imports were between 0.8 and 54.2 percent above prices for the domestic product. Imports from India were priced lower than domestic product in the majority of instances and by quantity. Imports from Korea were priced higher in the majority of instances and by quantity.

Table V-9
FS fittings: Instances of underselling/overselling and the average and range of margins, by country, January 2016-September 2019

Source	Underselling				
	Number of quarters	Quantity (pounds)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Total, underselling	16	67,881	5.4	1.1	19.8
India	***	***	***	***	***
Korea	***	***	***	***	***
Total, underselling	16	67,881	5.4	1.1	19.8
Source	(Overselling)				
	Number of quarters	Quantity (pounds)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Total, overselling	40	129,287	(20.8)	(0.8)	(54.2)
India	***	***	***	***	***
Korea	***	***	***	***	***
Total, overselling	40	129,287	(20.8)	(0.8)	(54.2)

Note: These data include only quarters in which there is a comparison between the U.S. and subject product. There were no price comparisons in 2016 and 2017.

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

Lost sales and lost revenue

All four responding U.S. producers reported that they had to reduce prices, one producer reported it had to roll back announced price increases, and all four producers reported that they had lost sales since January 1, 2016. The petition contained no lost sales or lost revenue allegations, and no allegations were submitted by non-petitioning producers.[12] Since no allegations were identified in the petition, the lost sales and lost revenue survey was not sent to purchasers.

[12] ***.

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.[2] In 2018, Capitol Manufacturing accounted for *** percent of the U.S. producers' net sales by quantity, Bonney Forge accounted for *** percent, Anvil accounted for *** percent, and PMW accounted for *** percent.[3] Commercial sales account for the vast majority of reported FS fittings revenue, with transfers to related firms representing a relatively small share. Accordingly, the tables below present a combined revenue total.

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] ***, however its FS fittings financial results were provided on a calendar year basis.

[3] By value, Bonney Forge accounted for *** percent of net sales, Capitol Manufacturing accounted for *** percent, Anvil accounted for *** percent, and PMW accounted for *** percent in 2018.

Table VI-1
FS fittings: Results of operations of U.S. producers, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	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)	***	***	***	***	***
Other expenses/(income), 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)	***	***	***	***	***

Table continued on next page.

Table VI-1—Continued
FS fittings: Results of operations of U.S. producers, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	Ratio to total COGS (percent)				
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Average COGS	***	***	***	***	***
	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 fiscal years and between partial year periods

Item	Between fiscal years			Between partial year period
	2016-18	2016-17	2017-18	2018-19
	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, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	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	***	***	***	***	***

Table continued on next page.

Table VI-3—Continued
FS fittings: Select results of operations of U.S. producers, by company, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	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, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	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, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	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	***	***	***	***	***

Table continued on next page.

Table VI-3—Continued
FS fittings: Select results of operations of U.S. producers, by company, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	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 2016 to 2018 and were lower in January-September 2019 compared to the same period in 2018. As shown in table VI-3, *** U.S. producers reported increasing net sales, by quantity and value, from 2016 to 2018. *** reported lower net sales, by quantity and value, in January-September 2019 compared to January-September 2018.[4]

The U.S. producers' net sales average unit value ("AUV") declined from $*** in 2016 to $*** in 2018. U.S. producers' net sales AUV was higher in January-September 2019 ($***) than in January-September 2018 ($***). ***.[5] ***.

[4] *** accounted for the majority of the increase in net sales in 2017. The firm attributed this increase to ***. Email from ***, November 13, 2019. *** accounted for the majority of the increase in net sales in 2018. The firm attributed this increase to an affirmative determination in FS fittings cases from China, Italy, and Taiwan (Inv. Nos. 701-TA-589 and 731-TA-1394-1396) along with an increase in demand. Most of its increase in sales was due to ***. Email from ***, November 14, 2019.

[5] In response to questions from staff, ***. Email from ***, November 18, 2019.

Cost of goods sold and gross profit or (loss)

As seen in table VI-1, the average COGS to net sales ratio declined from *** percent in 2016 to *** percent in 2018 and was higher in January-September 2019 compared to January-September 2018.

Other factory costs ("OFC") were the largest component of FS fittings cost of goods sold ("COGS") throughout 2016-18 and during both interim periods. It accounted for between *** percent (January-September 2018) and *** percent (2016) 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 share of COGS in 2016, the year in which net sales quantity was lowest.[6] The average per unit OFC declined from $*** in 2016 to $*** in 2018 and were higher between the comparable interim periods.

Raw material costs were the second largest component of COGS representing between *** percent (2017) and *** percent (January-September 2018), followed by direct labor, which represented between *** percent (2016) and *** percent (2017). The average per unit raw material costs increased irregularly from $*** in 2016 to $*** in 2018 and were higher between the comparable interim periods. Finally the average per unit direct labor costs declined from $*** in 2016 to $*** in 2018 and were higher between the comparable interim periods.

[6] ***.

Raw material costs associated with integrated production generally reflect purchased steel bars and seamless steel pipe/tube. ***.[7] ***. [8] [9] [10]

Gross profit increased from $*** in 2016 to $*** in 2018. Although the FS fittings net sales AUV decreased from 2016 to 2018 (by $*** per short ton), the per-short ton COGS decreased to a greater extent ($*** per short ton), which increased the gross profit margin (gross profit as a share of sales). The increase in the gross profit margin combined with an increase in sales volume from 2016 to 2018 led to the increase in gross profit. Gross profit was lower when comparing January-September 2019 ($***) to January-September 2018 ($***), due to a higher per-short ton COGS and a lower sales volume despite a higher net sales AUV.

[7] Email from ***, November 14, 2019.

[8] ***'s U.S. Producers' response at III-9c. ***. Email from ***, November 15, 2019.

[9] 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-September 2018 to a high of *** percent in 2017 (calculated from ***'s U.S. producers' questionnaire response, question III-9a).

[10] ***. Email from ***, November 21, 2019.

SG&A expenses and operating income

Total SG&A expenses increased from $*** in 2016 to $*** in 2018, and were lower in January-September 2019 ($***) compared to January-September 2018 ($***). ***. The SG&A expenses ratio (SG&A expenses as a share of sales) decreased from *** percent in 2016 and *** percent 2018, and was higher in January-September 2019 compared to January-September 2018. Operating income increased from *** in 2016 to *** in 2018. It was lower in January-September 2019 ($***) compared to the same period in 2018 ($***).

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" decreased from 2016 to 2018 and was lower in January-September 2019 compared to January-September 2018. Net income improved from a *** in 2016 to a net income of $*** in 2018; net income was lower in January-September 2019 compared to January-September 2018.[11]

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

Capital expenditures and research and development expenses

Table VI-4 presents capital expenditures and research and development ("R&D") expenses by firm. Capital expenditures increased irregularly from 2016 to 2018, and were higher in January-September 2019 than in the same period in 2018. ***.[12] [13] R&D expenses decreased from 2016 to 2018, and were lower in January-September 2019 compared to the same period in 2018. *** to report R&D expenses.

Table VI-4
FS fittings: Capital expenditures and research and development expenses for U.S. producers, by firm, 2016-18, January to September 2018, and January to September 2019

Item	Fiscal year			January to September	
	2016	2017	2018	2018	2019
	Capital expenditures (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Research and development expenses (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***

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

[12] ***. Email from ***, November 14, 2019.
[13] ***. Email from ***, November 15, 2019.

Assets and return on assets

Table VI-5 presents data on the U.S. producers' total assets and their return on assets (operating income divided by total assets).[14] Total net assets irregularly increased from $*** in 2016 to $*** in 2018. The U.S. producers' return on assets improved from *** percent in 2016 to *** percent in 2018.

Table VI-5
FS fittings: Value of assets used in production, warehousing, and sales, and operating return on assets for U.S. producers by firm, 2016-18

Firm	Fiscal years		
	2016	2017	2018
	Total net assets (1,000 dollars)		
Bonney Forge	***	***	***
Capitol Manufacturing	***	***	***
PMW	***	***	***
Integrated producers	***	***	***
Anvil	***	***	***
Finishing only producer	***	***	***
All producers	***	***	***
	Operating return on assets (percent)		
Bonney Forge	***	***	***
Capitol Manufacturing	***	***	***
PMW	***	***	***
Integrated producers	***	***	***
Anvil	***	***	***
Finishing only producer	***	***	***
All producers	***	***	***

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

[14] 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-6 presents the number of firms reporting an impact in each category and table VI-7 provides the U.S. producers' narrative responses.

Table VI-6
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

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

Table VI-7
FS fittings: Narratives relating to actual and anticipated negative effects of imports on investment and growth and development, since January 1, 2016

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 alleged subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in *Parts IV* and *V*; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in *Part VI*. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

[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 five firms: Nikoo Forge Pvt. Ltd. ("Nikoo Forge"), Pan International ("Pan"), RN Gupta & Company Limited ("R N Gupta"), Shakti Forge Industries Pvt. Ltd. ("Shakti Forge"), and Vaibhav Fittings India Pvt. Ltd. ("Vaibhav").[4] These firms' reported exports to the United States exceeded reported U.S. imports of FS fittings from India in 2018. The five producers' were unable to estimate their firms' share of production of FS fittings in India during 2018. 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, 2018

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)
Nikoo Forge	***	***	***	***	***	***
Pan	***	***	***	***	***	***
RN Gupta	***	***	***	***	***	***
Shakti Forge	***	***	***	***	***	***
Vaibhav	***	***	***	***	***	***
Total	***	***	***	***	***	***

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, 2016.

[3] These firms were identified through a review of information submitted in the petition and contained in *** records.

[4] The Commission received *** "No" responses concerning foreign producers'/exporters' questionnaires.

Table VII-2
FS fittings: Indian producers' reported changes in operations, since January 1, 2016

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

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

Operations on FS fittings

Table VII-3 presents information on the FS fittings operations of the responding producers and exporters in India. Indian producers' allocated capacity increased by approximately *** percent during 2016-18. With respect to projections, capacity is anticipated to increase by *** percent in 2020 based on 2018 capacity levels. Capacity utilization fluctuated during 2016-18, increasing in 2017, and then decreasing in 2018. Export shipments to the United States increased in each annual period during 2016-18, increasing by approximately *** percent during 2016-18. Export shipments to the United States were *** percent higher in January to September 2019 compared to January to September 2018.

Table VII-3
FS fittings: Data for producers in India, 2016-18, January to September 2018, January to September 2019, and projection calendar years 2019 and 2020

Item	Actual experience					Projections	
	Calendar year			January to September		Calendar year	
	2016	2017	2018	2018	2019	2019	2020
	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.

Note: Staff modified foreign producer/exporter *** overall capacity levels strictly based on production of FS fittings during the period for which data was gathered. Initially, reported capacity concerning ***.

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. Production accounted for *** percent of total output during 2016-18, respectively. Production of products other than FS fittings

increased by *** percent during 2016-18. These products represent the largest share of total production, ranging from *** percent of total output during 2016-18.

Table VII-4
FS fittings: Indian producers' overall capacity and production on the same equipment as subject production, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
Overall capacity	***	***	***	***	***
Production:					
FS fittings: Owned blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
FS fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Overall capacity utilization	***	***	***	***	***
Share of in-scope production:					
FS fittings: Own blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
FS fittings	***	***	***	***	***
Share of total production:					
FS fittings: Owned blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
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 certain iron and/or steel fittings from India are the United States, followed by the United Arab Emirates, and Germany (table VII-5).[5] During 2018, the United States was the top export market for certain iron and/or steel fittings from India, accounting for 49.4 percent, followed by the United Arab Emirates, accounting for 11.2 percent.

[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 the 7307.99 subheading.

Table VII-5
Certain iron and/or steel fittings: Exports from India by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (short tons)		
United States	8,637	14,251	15,289
United Arab Emirates	2,417	2,751	3,469
Germany	1,487	1,290	1,445
Oman	510	788	933
United Kingdom	1,011	1,018	917
Qatar	266	473	888
Saudi Arabia	400	958	765
Poland	424	476	703
Kuwait	214	317	660
All other destination markets	5,816	6,075	5,889
Total exports	21,181	28,398	30,957
	Value (1,000 dollars)		
United States	23,287	35,785	46,253
United Arab Emirates	7,373	7,846	10,670
Germany	4,054	4,107	4,819
Oman	1,735	1,717	2,004
United Kingdom	2,383	9,298	2,717
Qatar	945	1,535	2,643
Saudi Arabia	1,259	2,622	3,568
Poland	743	1,060	1,647
Kuwait	1,018	1,147	2,539
All other destination markets	18,208	24,037	25,029
Total exports	61,003	89,153	101,889
	Unit value (dollars per short ton)		
United States	2,696	2,511	3,025
United Arab Emirates	3,051	2,852	3,075
Germany	2,726	3,184	3,335
Oman	3,399	2,178	2,148
United Kingdom	2,357	9,136	2,962
Qatar	3,557	3,246	2,977
Saudi Arabia	3,151	2,738	4,662
Poland	1,751	2,224	2,343
Kuwait	4,757	3,616	3,849
All other destination markets	3,131	3,957	4,250
Total exports	2,880	3,139	3,291

Table continued on next page.

Table VII-5--Continued
Certain iron and/or steel fittings: Exports from India by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Share of quantity (percent)		
United States	40.8	50.2	49.4
United Arab Emirates	11.4	9.7	11.2
Germany	7.0	4.5	4.7
Oman	2.4	2.8	3.0
United Kingdom	4.8	3.6	3.0
Qatar	1.3	1.7	2.9
Saudi Arabia	1.9	3.4	2.5
Poland	2.0	1.7	2.3
Kuwait	1.0	1.1	2.1
All other destination markets	27.5	21.4	19.0
Total exports	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2018 data.

Source: Official exports statistics under HS subheading 7307.99 as reported by Ministry of Commerce in the Global Trade Atlas database, accessed November 12, 2019.

The industry in Korea

The Commission issued foreign producer or exporter 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 two firms: Samyoung Fitting Co., Ltd ("Samyoung") and Valuechain Co., Ltd. ("Valuechain").[7] These firms' exports to the United States accounted for approximately *** percent of U.S. imports of FS fittings from Korea in 2018. According to estimates requested of the responding Korean producers, the production of FS fittings from Korea reported in questionnaires accounts for approximately *** percent of overall production of FS fittings of Korea. Table VII-6 presents information on the FS fittings operations of the responding producers and exporters in Korea.

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

[7] The Commission received *** "No" responses concerning foreign producers'/exporters' questionnaires.

Table VII-6
FS fittings: Summary data for producers in Korea, 2018

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)
Samyoung	***	***	***	***	***	***
Valuechain	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Changes in operations

Table VII-7 presents information concerning reported changes in operations by producers in Korea since January 1, 2016.

Table VII-7
FS fittings: Korean producers' reported changes in operations, since January 1, 2016

Item / Firm	Reported changed in operations
Plant openings:	
***	***
Relocations:	
***	***
Expansions:	
***	***

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 increased by *** percent during 2016-18 and is projected to increase by *** percent in 2020 based on 2018 capacity levels. Production increased by *** percent during 2016-18. Export shipments to the United States represented *** percent of total shipments in 2018 and is projected to reach *** percent by

2020. Export shipments to the United States were *** percent higher in January to September 2019 compared to the comparable period in 2018.

Table VII-8
FS fittings: Data for producers in Korea, 2016-18, January to September 2018, and January to September 2019, and projection calendar years 2019 and 2020

Item	Actual experience					Projections	
	Calendar year			January to September		Calendar year	
	2016	2017	2018	2018	2019	2019	2020
	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	***	***	***	***	***	***	***

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. FS fittings represented the *** of total production during 2016-18. Production of FS fittings was *** percent higher in January to September 2019 compared to January to September 2018. Out-of-scope production increased

in each annul period during 2016-18, increasing by *** percent. Moreover, out-of-scope production was *** percent higher in January to September 2019 compared to the comparable period in 2018.

Table VII-9
FS fittings: Korean producers' overall capacity and production on the same equipment as subject production, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
Overall capacity	***	***	***	***	***
Production:					
FS fittings: Owned blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
FS fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Overall capacity utilization	***	***	***	***	***
Share of in-scope production:					
FS fittings: Own blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
FS fittings	***	***	***	***	***
Share of total production:					
FS fittings: Owned blanks/forgings	***	***	***	***	***
FS fittings: Machined bar or tubing	***	***	***	***	***
FS fittings: Purchased blanks	***	***	***	***	***
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 data, the leading export markets for certain iron and/or steel fittings from Korea are the United States, Japan, and China (table VII-10). During 2018, the United States was the top export market for certain iron and/or steel fittings from Korea, accounting for 30.1 percent, followed by Japan, accounting for 18.0 percent.

Table VII-10
Certain iron and/or steel fittings: Exports from Korea by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (short tons)		
United States	4,550	10,044	10,339
Japan	5,328	6,113	6,178
China	1,909	2,056	3,375
Vietnam	6,010	5,186	3,014
India	643	1,110	913
Qatar	774	2,530	824
Russia	207	408	816
Canada	424	682	739
Mexico	822	617	567
All other destination markets	12,512	11,940	7,568
Total exports	33,178	40,686	34,334
	Value (1,000 dollars)		
United States	28,006	52,689	60,950
Japan	41,757	44,356	51,878
China	23,060	22,762	40,487
Vietnam	25,392	23,384	11,485
India	7,030	8,338	10,727
Qatar	2,350	7,925	2,541
Russia	505	1,319	2,175
Canada	3,065	3,736	4,664
Mexico	4,365	4,434	4,717
All other destination markets	77,032	62,900	54,093
Total exports	212,563	231,844	243,719
	Unit value (dollars per short ton)		
United States	6,155	5,246	5,895
Japan	7,837	7,256	8,397
China	12,078	11,072	11,995
Vietnam	4,225	4,509	3,811
India	10,938	7,510	11,743
Qatar	3,037	3,133	3,085
Russia	2,445	3,233	2,666
Canada	7,234	5,476	6,312
Mexico	5,314	7,189	8,317
All other destination markets	6,157	5,268	7,147
Total exports	6,407	5,698	7,099

Table continued on next page.

Table VII-10--Continued
Certain Iron and/or Steel Fittings: Exports from Korea by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Share of quantity (percent)		
United States	13.7	24.7	30.1
Japan	16.1	15.0	18.0
China	5.8	5.1	9.8
Vietnam	18.1	12.7	8.8
India	1.9	2.7	2.7
Qatar	2.3	6.2	2.4
Russia	0.6	1.0	2.4
Canada	1.3	1.7	2.2
Mexico	2.5	1.5	1.7
All other destination markets	37.7	29.3	22.0
Total exports	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2018 data.

Source: Official exports statistics under HS subheading 7307.99 as reported by Korea Customs and Trade Development Institution in the Global Trade Atlas database, accessed November 12, 2019.

Subject countries combined

Table VII-11 presents summary data on FS fittings operations of the reporting subject producers in the subject countries. Subject producers' production capacity more than doubled, rising by *** percent during 2016-18, and is projected to increase by *** percent in 2020 from 2018 capacity levels. Export shipments to the United States increased from very low levels in 2016 to *** percent of total shipments in 2018, and are projected to surpass *** percent of total shipments in 2019 and 2020. Export shipments to all other markets are projected to decrease in 2020 by *** percent compared to 2018 export volumes.

Table VII-11
FS fittings: Data on the industry in subject countries, 2016-18, January to September 2018, and January to September 2019, and projection calendar years 2019 and 2020

Item	Actual experience					Projections	
	Calendar year			January to September		Calendar year	
	2016	2017	2018	2018	2019	2019	2020
	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	***	***	***	***	***	***	***

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. Imports from subject sources inventories increased in each annual period during 2016-18. Imports from subject sources inventories was approximately *** percent higher in January to September 2019 than January to September 2018. Imports from subject sources ratio to U.S. imports, U.S. shipments of imports, and total shipments was *** percentage points higher in January to September 2019 compared to the comparable period in 2018, respectively.

Table VII-12
FS fittings: U.S. importers' inventories, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	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	***	***	***	***	***
	Inventories (short tons); Ratios (percent)				
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 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	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***

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

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of FS fittings from India or Korea post October 2019, of which is outlined in Table VII-13. Based on information obtained in Commission questionnaires, U.S. imports from subject sources and reported projected exports to the United States are ***.

Table VII-13
FS fittings: U.S. importers' inventories, 2016-18, January to September 2018, and January to September 2019

Item	Period				
	Oct-Dec 2019	Jan-Mar 2020	Apr-Jun 2020	Jul-Sept 2020	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 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.[8] There are no other known trade remedy actions on FS fittings in third-country markets.

[8] Commission Implementing Regulation (EU) 2019/566 (OJ L 99 10.4.2019, p. 9-35).

Information on nonsubject countries

FS fittings are produced and traded in substantial quantities throughout the world. Global Trade Atlas (GTA) published data on global exports of certain iron and/or steel fittings for HS subheading 7307.99.[9] As shown in table VII-14, global exports of certain iron and/or steel fittings totaled 821 thousand short tons in 2018, valued at $4.7 billion. Since 2016, global exports have risen by 16 percent, largely driven by a 20 percent increase in exports from China. In quantity and value terms, China is the world's largest exporter of certain iron and/or steel fittings, more than 293,000 short tons shipped at a value of $1 billion in 2018. Exports from China represented 36 percent of global exports, by quantity, in 2018. Other leading exporters of certain iron and/or steel fittings include Italy, Saudi Arabia, Germany, and the United States, with export shares ranging from approximately 5 percent to just over 7 percent in 2018. Subject country (India and Korea) exports totaled approximately 65,000 short tons in 2018, a 20-percent increase relative to 2016. Together, India and Korea's exports of certain iron and/or steel fittings represented approximately 8 percent of global certain iron and/or steel fitting exports in 2018.

[9] 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 the 7307.99 subheading.

Table VII-14
Certain iron and/or steel fittings: Global exports by destination market, 2016-18

Exporter	Calendar year		
	2016	2017	2018
	Quantity (short tons)		
United States	31,056	35,890	38,591
India	21,181	28,398	30,957
Korea	33,178	40,686	34,334
Subject countries	54,359	69,084	65,291
China	243,062	266,076	293,370
Italy	58,115	61,755	61,169
Taiwan	14,082	16,067	12,689
Countries under order	315,259	343,898	367,228
Saudi Arabia	62,190	67,978	57,389
Germany	43,080	45,301	49,112
Poland	18,823	22,148	28,111
Czech Republic	29,832	23,357	20,745
Australia	28,080	2,639	16,524
All other exporters	185,054	178,216	179,359
Total exports	767,732	788,511	822,351
	Value (1,000 dollars)		
United States	296,901	345,263	375,526
India	61,003	89,153	101,889
Korea	212,563	231,844	243,719
Subject countries	273,566	320,997	345,608
China	720,373	823,721	1,014,177
Italy	387,210	409,385	439,075
Taiwan	60,625	69,306	67,755
Countries under order	1,168,209	1,302,412	1,521,007
Saudi Arabia	50,862	62,212	64,089
Germany	495,026	528,704	615,522
Poland	115,772	135,216	189,402
Czech Republic	82,049	87,402	111,383
Australia	16,681	13,098	14,343
All other exporters	1,387,382	1,434,784	1,504,244
Total exports	3,886,449	4,230,089	4,741,124

Table continued on next page.

Table VII-14--Continued
Certain iron and/or steel fittings: Global exports by destination market, 2016-18

Exporter	Calendar year		
	2016	2017	2018
	Unit value (dollars per short ton)		
United States	9,560	9,620	9,731
India	2,880	3,139	3,291
Korea	6,407	5,698	7,099
Subject countries	5,033	4,646	5,293
China	2,964	3,096	3,457
Italy	6,663	6,629	7,178
Taiwan	4,305	4,314	5,340
Countries under order	3,706	3,787	4,142
Saudi Arabia	818	915	1,117
Germany	11,491	11,671	12,533
Poland	6,150	6,105	6,738
Czech Republic	2,750	3,742	5,369
Australia	594	4,963	868
All other exporters	7,497	8,051	8,387
Total exports	5,062	5,365	5,765
	Share of quantity (percent)		
United States	4.0	4.6	4.7
India	2.8	3.6	3.8
Korea	4.3	5.2	4.2
Subject countries	7.1	8.8	7.9
China	31.7	33.7	35.7
Italy	7.6	7.8	7.4
Taiwan	1.8	2.0	1.5
Countries under order	41.1	43.6	44.7
Saudi Arabia	8.1	8.6	7.0
Germany	5.6	5.7	6.0
Poland	2.5	2.8	3.4
Czech Republic	3.9	3.0	2.5
Australia	3.7	0.3	2.0
All other exporters	24.1	22.6	21.8
Total exports	100.0	100.0	100.0

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

Source: Official exports statistics under HS subheading 7307.99 reported by various national statistical authorities in the Global Trade Atlas database, accessed November 12, 2019.

China

China is the world's largest exporter of certain iron and/or steel fittings. According to GTA, China exported over 293 million short tons in 2018 with a value of just over $1 billion (table VII-15). Chinese FS fittings exports to the United States totaled nearly 98,000 short tons in 2018, valued at $335 million. This represents 33 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 Canada, Korea, Japan, Russia, India, Malaysia, Mexico, and Australia, with exports to those markets ranging from 6,000 short tons to 10,000 short tons in 2018.

Table VII-15
Certain iron and/or steel fittings: China exports by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (short tons)		
United States	65,432	80,405	97,610
Canada	5,813	8,599	10,324
Korea	6,341	6,643	8,850
Japan	7,160	8,307	8,527
Russia	7,122	6,748	6,792
India	3,377	6,213	6,703
Malaysia	13,394	11,878	6,658
Mexico	4,102	4,737	6,403
Australia	3,258	4,338	6,210
All other destination markets	127,063	128,207	135,292
Total exports	243,062	266,076	293,370
	Value (1,000 dollars)		
United States	182,657	242,193	334,513
Canada	16,864	26,997	38,505
Korea	17,645	18,083	27,835
Japan	36,042	42,402	49,141
Russia	22,104	16,934	21,046
India	10,410	15,589	16,815
Malaysia	15,291	27,680	12,887
Mexico	9,046	10,785	16,112
Australia	16,033	22,158	29,803
All other destination markets	394,281	400,901	467,521
Total exports	720,373	823,721	1,014,177

Table continued on next page.

Table VII-15--Continued
Certain iron and/or steel fittings: China exports by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Unit value (dollars per short ton)		
United States	2,792	3,012	3,427
Canada	2,901	3,140	3,730
Korea	2,783	2,722	3,145
Japan	5,034	5,104	5,763
Russia	3,103	2,509	3,099
India	3,083	2,509	2,508
Malaysia	1,142	2,330	1,935
Mexico	2,205	2,277	2,516
Australia	4,922	5,107	4,799
All other destination markets	3,103	3,127	3,456
Total exports	2,964	3,096	3,457
	Share of quantity (percent)		
United States	26.9	30.2	33.3
Canada	2.4	3.2	3.5
Korea	2.6	2.5	3.0
Japan	2.9	3.1	2.9
Russia	2.9	2.5	2.3
India	1.4	2.3	2.3
Malaysia	5.5	4.5	2.3
Mexico	1.7	1.8	2.2
Australia	1.3	1.6	2.1
All other destination markets	52.3	48.2	46.1
Total exports	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2018 data.

Source: Official exports statistics under HS subheading 7307.99 as reported by China Customs in the Global Trade Atlas database, accessed November 12, 2019.

Italy

According to GTA, Italy was the second-largest global exporter of certain iron and/or steel fittings, by volume, in 2018 and the third largest exporter in value terms (Table VII-16). Italian exports of certain iron and/or steel fittings totaled more than 61,000 short tons in 2018, valued at $439 million. The United States was the top destination market of certain iron and/or steel fittings, by volume, from Italy in 2018, surpassing Germany which was the largest destination market in the previous two years. The nearly 10,000 tons of certain iron and/or steel fittings exported to the United States represented 16 percent of Italy's certain iron and/or steel fitting exports for 2018.

Table VII-16
Certain iron and/or steel fittings: Italy exports destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (short tons)		
United States	7,444	9,120	9,734
Germany	11,283	13,067	7,851
France	4,023	3,595	4,801
United Kingdom	3,253	3,174	4,124
Poland	2,349	3,159	3,412
Czech Republic	1,833	1,777	2,129
Indonesia	218	297	1,755
United Arab Emirates	1,274	1,367	1,690
Austria	1,543	1,675	1,663
All other destination markets	24,895	24,525	23,916
Total exports	58,115	61,755	61,075
	Value (1,000 dollars)		
United States	37,301	37,516	45,355
Germany	53,303	58,978	54,882
France	36,155	33,944	37,809
United Kingdom	30,668	27,148	29,736
Poland	11,192	14,994	17,049
Czech Republic	5,087	5,650	8,820
Indonesia	1,698	2,493	8,801
United Arab Emirates	7,966	7,482	8,579
Austria	6,615	8,120	9,263
All other destination markets	197,226	213,061	218,782
Total exports	387,210	409,385	439,075
	Unit value (dollars per short ton)		
United States	5,011	4,114	4,659
Germany	4,724	4,514	6,990
France	8,987	9,443	7,875
United Kingdom	9,429	8,553	7,211
Poland	4,765	4,746	4,997
Czech Republic	2,775	3,180	4,143
Indonesia	7,771	8,383	5,014
United Arab Emirates	6,253	5,472	5,078
Austria	4,288	4,849	5,571
All other destination markets	7,922	8,687	9,148
Total exports	6,663	6,629	7,189

Table continued on next page.

Table VII-16--Continued
Certain iron and/or steel fittings: Italy exports destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Share of quantity (percent)		
United States	12.8	14.8	15.9
Germany	19.4	21.2	12.9
France	6.9	5.8	7.9
United Kingdom	5.6	5.1	6.8
Poland	4.0	5.1	5.6
Czech Republic	3.2	2.9	3.5
Indonesia	0.4	0.5	2.9
United Arab Emirates	2.2	2.2	2.8
Austria	2.7	2.7	2.7
All other destination markets	42.8	39.7	39.2
Total exports	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2018 data.

Source: Official exports statistics under HS subheading 7307.99 as reported by Eurostat in the Global Trade Atlas database, accessed November 12, 2019.

Taiwan

According to GTA, Taiwan was the 13th largest exporter of certain iron and/or steel fittings in 2018, by volume, and the 17th largest exporter in terms of value (table VII-17). Taiwan exported almost 13,000 short tons of FS fittings in 2018 with a value of $68 million. Despite a 72 percent decline in exports relative to 2017, the United States remained the largest market for certain iron and/or steel fittings from Taiwan with just over 2,000 short tons exported in 2018. The exports to the United States represented 17 percent of Taiwan's total certain iron and/or steel fitting exports, by volume. In value terms, China was the largest destination market for certain iron and/or steel fittings from Taiwan in 2018 with exports valued at $18 million.

Table VII-17
Certain iron and/or steel fittings: Taiwan exports destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (short tons)		
United States	5,019	7,400	2,089
Canada	514	1,486	1,839
China	1,058	1,166	1,325
United Arab Emirates	629	573	1,103
Vietnam	678	432	597
Germany	568	432	595
Japan	559	475	586
Saudi Arabia	694	616	485
Australia	163	363	478
All other destination markets	4,200	3,124	3,590
Total exports	14,082	16,067	12,689
	Value (1,000 dollars)		
United States	19,340	26,259	12,090
Canada	1,622	3,623	5,703
China	10,143	14,232	18,028
United Arab Emirates	2,404	2,122	3,948
Vietnam	1,967	1,654	2,409
Germany	2,018	1,941	2,284
Japan	4,074	2,529	3,243
Saudi Arabia	2,275	1,913	1,737
Australia	1,131	2,038	2,859
All other destination markets	15,651	12,996	15,452
Total exports	60,625	69,306	67,755

Table continued on next page.

Table VII-17--Continued
Certain iron and/or steel fittings: Taiwan exports destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Unit value (dollars per short ton)		
United States	3,854	3,549	5,788
Canada	3,158	2,438	3,102
China	9,585	12,203	13,606
United Arab Emirates	3,819	3,702	3,578
Vietnam	2,902	3,828	4,032
Germany	3,554	4,491	3,837
Japan	7,289	5,322	5,531
Saudi Arabia	3,277	3,104	3,581
Australia	6,931	5,619	5,976
All other destination markets	3,727	4,160	4,304
Total exports	4,305	4,314	5,340
	Share of quantity (percent)		
United States	35.6	46.1	16.5
Canada	3.6	9.2	14.5
China	7.5	7.3	10.4
United Arab Emirates	4.5	3.6	8.7
Vietnam	4.8	2.7	4.7
Germany	4.0	2.7	4.7
Japan	4.0	3.0	4.6
Saudi Arabia	4.9	3.8	3.8
Australia	1.2	2.3	3.8
All other destination markets	29.8	19.4	28.3
Total exports	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2018 data.

Source: Official exports statistics under HS subheading 7307.99 as reported by Taiwan Directorate General of Customs in the Global Trade Atlas database, accessed November 12, 2019.

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

APPENDIX B

LIST OF STAFF CONFERENCE WITNESSES

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below appeared as witnesses at the United States International Trade Commission's preliminary conference:

Subject: Forged Steel Fittings from India and Korea

Inv. Nos.: 701-TA-631 and 731-TA-1463-1464 (Preliminary)

Date and Time: November 13, 2019 - 9:30 a.m.

Sessions were held in connection with these preliminary phase investigations in Courtroom B (Room 111), 500 E Street, SW., Washington, DC.

OPENING REMARKS:

In Support of Imposition (**Luke A. Meisner**, Schagrin Associates)

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

Susan Leone, Executive Vice President, WFI International

Heather McClure, Vice President, Corporate Controller, and
Assistant Treasurer, Bonney Forge Corporation

Chuck Almer, Vice President of Operations, Bonney Forge Corporation

Ken O'Connell, Vice President, Business Development Eastern Region,
Bonney Forge Corporation

Roger B. Schagrin)
Elizabeth J. Drake) – OF COUNSEL
Luke A. Meisner)

CLOSING REMARKS:

In Support of Imposition (**Elizabeth J. Drake**, Schagrin Associates)

APPENDIX C

SUMMARY DATA

All producers

Table C-1
FS fittings: Summary data concerning the U.S. market, 2016-18, January to September 2018, and January to September 2019
(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 September		Calendar year			Jan-Sep
	2016	2017	2018	2018	2019	2016-18	2016-17	2017-18	2018-19
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▲***
Korea	***	***	***	***	***	▲***	▼***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▼***	▲***
U.S. consumption value:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1):									
Fully domestic value	***	***	***	***	***	▲***	▲***	▲***	▼***
Value added to imports	***	***	***	***	***	▲***	▼***	▲***	▼***
Total	***	***	***	***	***	▲***	▲***	▲***	▼***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▲***
Korea	***	***	***	***	***	▲***	▼***	▲***	▼***
Subject 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	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▲***
U.S. producers':									
Average capacity quantity	***	***	***	***	***	▼***	▼***	▲***	▲***
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)	***	***	***	***	***	▼***	▼***	▼***	▲***

Table continued.

Table C-1--Continued
FS fittings: Summary data concerning the U.S. market, 2016-18, January to September 2018, and January to September 2019
(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 September		Calendar year			Jan-Sep
	2016	2017	2018	2018	2019	2016-18	2016-17	2017-18	2018-19
U.S. producers':									
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	***	***	***	***	***	▲***	▼***	▲***	▲***
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)	***	***	***	***	***	▲***	▲***	▲***	▼***

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 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 by integrated producers plus the additional value added to imported FS fittings by finisher only producers. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported once as an import.
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
FS fittings: Summary data concerning the U.S. market excluding one U.S. producer *, 2016-18, January to September 2018, and January to September 2019**
(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 September		Calendar year			Jan-Sep
	2016	2017	2018	2018	2019	2016-18	2016-17	2017-18	2018-19
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1):									
Included producers	***	***	***	***	***	▲***	▲***	▲***	▼***
Excluded producers	***	***	***	***	***	***	***	***	***
All producers	***	***	***	***	***	▲***	▲***	▲***	▼***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▲***
Korea	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject 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	***	***	***	***	***	▲***	▲***	▲***	▲***
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	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
All import sources:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
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)	***	***	***	***	***	▼***	▼***	▲***	▲***

Table continued.

Table C-2--Continued
FS fittings: Summary data concerning the U.S. market excluding one U.S. producer *, 2016-18, January to September 2018, and January to September 2019**
(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 September		Calendar year			Jan-Sep
	2016	2017	2018	2018	2019	2016-18	2016-17	2017-18	2018-19
Included U.S. producers':									
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	***	***	***	***	***	▲***	▼***	▲***	▲***
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)	***	***	***	***	***	▲***	▲***	▲***	▼***

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. SHIPMENTS AND IMPORTS BY LEVEL OF PROCESSING

Table D-1 presents data concerning U.S. producers' U.S. shipments by level of processing. Table D-2 presents data concerning U.S. importers' U.S. imports by level of processing and source.

Table D-1
FS fittings: U.S. producers' U.S. shipments by level of processing, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. shipments.-- 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.
Note: Data in this table include U.S. shipments by Anvil.

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

Table D-2
FS fittings: U.S. importers' U.S. imports by level of processing, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

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Table D-2--Continued
FS fittings: U.S. importers' U.S. imports by level of processing, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. imports from Korea.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. imports from Korea.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. imports from Korea.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. imports from Korea.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. imports from Korea.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

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Table D-2--Continued
FS fittings: U.S. importers' U.S. imports by level of processing, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. imports from subject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. imports from subject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. imports from subject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. imports from subject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. imports from subject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

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Table D-2--Continued
FS fittings: U.S. importers' U.S. imports by level of processing, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. imports from nonsubject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. imports from nonsubject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. imports from nonsubject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. imports from nonsubject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. imports from nonsubject sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

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Table D-2--Continued
FS fittings: U.S. importers' U.S. imports by level of processing, 2016-18, January to September 2018, and January to September 2019

Item	Calendar year			January to September	
	2016	2017	2018	2018	2019
	Quantity (short tons)				
U.S. imports from all import sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. imports from all import sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. imports from all import sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. imports from all import sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. imports from all import sources.--Unfinished	***	***	***	***	***
Finished	***	***	***	***	***

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

Table E-1
FS fittings: Weighted-average f.o.b. prices and quantities of product 1 imported from China, Italy, and Taiwan, January 2016-March 2018

Period	China		Italy		Taiwan	
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)
2016:						
Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2017:						
Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2018:						
Jan.-Mar.	***	***	***	***	***	***

Note: Product 1: ASME B16.11, ¼" 3000 Tee (threaded), finished.

Source: Questionnaire responses tabulated in Investigation Nos. 701-TA-589 and 731-TA-1394-1396 (Final): *Forged Steel Fittings from China, Italy, and Taiwan*, Confidential Report, INV-QQ-093, August 21, 2018.

Table E-2
FS fittings: Weighted-average f.o.b. prices and quantities of product 2 imported from China, Italy, and Taiwan, January 2016-March 2018

Period	China		Italy		Taiwan	
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)
2016:						
Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2017:						
Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2018:						
Jan.-Mar.	***	***	***	***	***	***

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

Source: Questionnaire responses tabulated in Investigation Nos. 701-TA-589 and 731-TA-1394-1396 (Final): *Forged Steel Fittings from China, Italy, and Taiwan*, Confidential Report, INV-QQ-093, August 21, 2018.

Table E-3
FS fittings: Weighted-average f.o.b. prices and quantities of product 3 imported from China, Italy, and Taiwan, January 2016-March 2018

Period	China		Italy		Taiwan	
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)
2016: Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2017: Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2018: Jan.-Mar.	***	***	***	***	***	***

Note: Product 3: ASME B16.11, ¾" 3000 Union (threaded), finished.

Source: Questionnaire responses tabulated in Investigation Nos. 701-TA-589 and 731-TA-1394-1396 (Final): *Forged Steel Fittings from China, Italy, and Taiwan*, Confidential Report, INV-QQ-093, August 21, 2018.

Table E-4
FS fittings: Weighted-average f.o.b. prices and quantities of product 4 imported from China, Italy, and Taiwan, January 2016-March 2018

Period	China		Italy		Taiwan	
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)
2016: Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2017: Jan.-Mar.	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***
2018: Jan.-Mar.	***	***	***	***	***	***

Note: Product 4: ASME B16.11, 2" 3000 Coupling (threaded), finished.

Source: Questionnaire responses tabulated in Investigation Nos. 701-TA-589 and 731-TA-1394-1396 (Final): *Forged Steel Fittings from China, Italy, and Taiwan*, Confidential Report, INV-QQ-093, August 21, 2018.

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APPENDIX F

PRICE DATA EXCLUDING U.S. FINISHER ANVIL

Table F-1
FS fittings: Weighted-average f.o.b. prices and quantities of domestic (excluding finisher Anvil) and imported product 1 and margins of underselling/(overselling), by quarter, January 2016-September 2019

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)
2016:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

Note: Product 1: ASME B16.11, ¼" 3000 Tee (threaded), finished.

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

Table F-2
FS fittings: Weighted-average f.o.b. prices and quantities of domestic (excluding finisher Anvil) and imported product 2 and margins of underselling/(overselling), by quarter, January 2016-September 2019

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)
2016:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

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

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

Table F-3
FS fittings: Weighted-average f.o.b. prices and quantities of domestic (excluding finisher Anvil) and imported product 3 and margins of underselling/(overselling), by quarter, January 2016-September 2019

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)
2016:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

Note: Product 3: ASME B16.11, ¾" 3000 Union (threaded), finished.

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

Table F-4
FS fittings: Weighted-average f.o.b. prices and quantities of domestic (excluding finisher Anvil) and imported product 4 and margins of underselling/(overselling), by quarter, January 2016-September 2019

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)
2016:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
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.	***	***	***	***	***	***	***	***

Note: Product 4: ASME B16.11, 2” 3000 Coupling (threaded), finished.

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