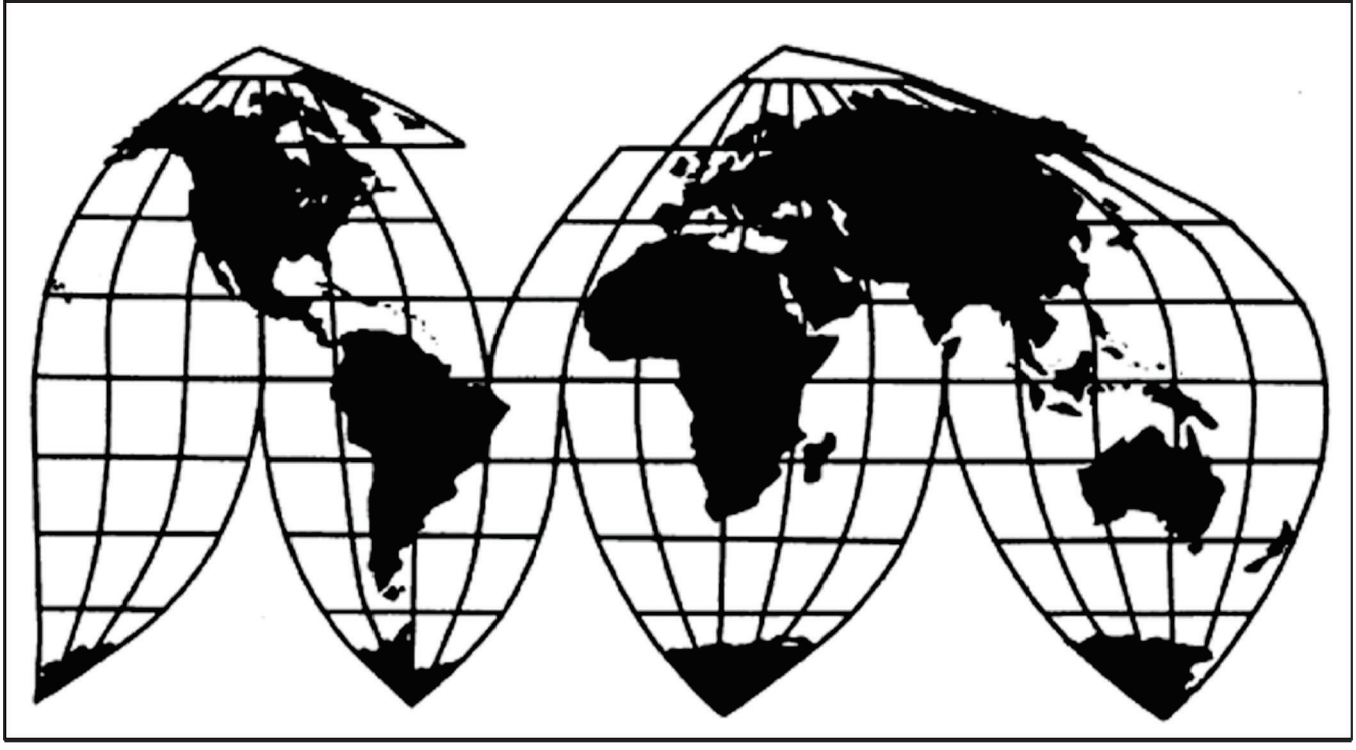
Cast Iron Soil Pipe from China

Investigation Nos. 701-TA-597 and 731-TA-1407 (Final)

Publication 4879 **April 2019**

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

COMMISSIONERS

David S. Johanson, Chairman
Irving A. Williamson
Meredith M. Broadbent
Rhonda K. Schmidtlein
Jason E. Kearns

Catherine DeFilippo
Director of Operations

Staff assigned

Junie Joseph, Investigator
Mark Brininstool, Industry Analyst
Allison Thompson, Industry Analyst
Andrew Knipe, Economist
Charles Yost, Accountant
Samuel Varela-Molina, Accountant
Carolyn Holmes, Statistician
Henry Smith, Attorney
Craig Thomsen, 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

Cast Iron Soil Pipe from China

Investigation Nos. 701-TA-597 and 731-TA-1407 (Final)

Publication 4879

April 2019

CONTENTS

CONTENTS

CONTENTS

CONTENTS

Note.—Information that would reveal confidential operations of individual concerns may not be published.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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-597 and 731-TA-1407 (Final)
Cast Iron Soil Pipe from China

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that an industry in the United States is materially injured by reason of imports of cast iron soil pipe from China, provided for in subheading 7303.00.00 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value ("LTFV"), and to be subsidized by the government of China.

BACKGROUND

The Commission, pursuant to sections 705(b) and 735(b) of the Act (19 U.S.C. 1671d(b) and 19 U.S.C. 1673d(b)), instituted these investigations effective January 26, 2018, following receipt of a petition filed with the Commission and Commerce by Cast Iron Soil Pipe Institute, Mundelein, Illinois. The final phase of the investigations was scheduled by the Commission following notification of a preliminary determinations by Commerce that imports of cast iron soil pipe from China were subsidized within the meaning of section 703(b) of the Act (19 U.S.C. 1671b(b)) and sold at LTFV within the meaning of 733(b) of the Act (19 U.S.C. 1673b(b)).

Notice of the scheduling of the final phase of the Commission's investigations and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on September 13, 2018 (83 FR 46519) and on February 6, 2018 (84 FR 2248). The hearing was held in Washington, DC, on February 12, 2019, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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

Views of the Commission

Based on the record in the final phase of these investigations, we determine that an industry in the United States is materially injured by reason of imports of cast iron soil pipe ("CISP") from China found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value and subsidized by the government of China.

I. Background

The Cast Iron Soil Pipe Institute ("CISPI" or "Petitioner"), an industry association of domestic producers of CISP,[1] filed the petitions in these investigations on January 26, 2018. Representatives for the Petitioner appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs and final comments.

Four respondent entities (collectively, "Respondents") participated in these final phase investigations. These include U.S. importers NewAge Casting, LP ("NewAge") and Wells Plumbing and Heating Supplies ("Wells Plumbing"), Chinese producer and exporter of subject merchandise HengTong Casting Co., Ltd., ("HengTong Casting"), and an association including Chinese manufactures of CISP, the China Foundry Association. Representatives for NewAge, Wells Plumbing, HengTong Casting, and the China Foundry Association appeared at the hearing, and the representative for Wells Plumbing was accompanied by counsel. HengTong Casting and the China Foundry Association submitted prehearing briefs and Wells Plumbing submitted prehearing and posthearing briefs.

U.S. industry data are based on questionnaire responses from two firms that accounted for all domestic production of CISP in 2017.[2] U.S. import data are based on official Commerce import statistics and from questionnaire responses of ten U.S importers of CISP from China over the January 1, 2015 to June 30, 2018 period of investigation ("POI").[3] The questionnaire responses accounted for 78.0 percent of subject imports based on official Commerce import statistics in 2017.[4] Data concerning the subject industry in China are based on questionnaire responses from nine foreign producers or exporters of CISP, whose exports accounted for approximately *** percent of U.S. imports of CISP from China in 2017.[5] Of the nine responding

[1] The three member CISPI companies are AB&I Foundry ("AB&I"), Tyler Pipe and Tube ("Tyler Pipe"), and Charlotte Pipe and Foundry Company ("Charlotte Pipe"). *See* Petition at Vol. I, 2-3. AB&I and Tyler Pipe are wholly owned subsidiaries of McWane, Inc. ("McWane"). Confidential Report, INV-RR-006 (Mar. 8, 2019) ("CR") at I-4 n.6, Public Report ("PR") at I-3 n.6.

[2] CR at I-5, PR at I-4; CR/PR at Table III-1. The domestic industry data are based on the questionnaire responses of Charlotte Pipe and McWane.

[3] The official import statistics include U.S. import data under HTS statistical reporting number 7303.00.0030. CR at I-5, PR at I-4.

[4] CR at I-5 and IV-1, PR at I-4 and IV-1.

[5] CR at I-5 and VII-3, PR at I-4 and VII-3. Responses to the Commission's questionnaires in the preliminary phase of these investigations by Yangcheng County Huawang Universal Spun Cast Pipe Foundry, Kingway Pipe Co., Ltd., and Shanxi Xuanshi Industrial Group Co., Ltd. were included in the data for the final phase Confidential Report. CR at VII-3 n.4.

firms, five accounted for at least 38.0 percent of overall production of CISP in China in 2017, and the remaining four firms reported resales of CISP from China.[6]

II. Domestic Like Product

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the "domestic like product" and the "industry."[7] 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."[8] 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."[9]

The decision regarding the appropriate domestic like product in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[10] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[11] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[12] Although the Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized or

---

[6] CR at VII-3, PR at VII-3; CR/PR at Table VII-2.

[7] 19 U.S.C. § 1677(4)(A).

[8] 19 U.S.C. § 1677(4)(A).

[9] 19 U.S.C. § 1677(10).

[10] *See*, *e.g.*, *Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington Co. v. United States*, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case'"). The Commission generally considers a number of factors, including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. *See Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

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

[12] *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.").

sold at less than fair value,[13] the Commission determines what domestic product is like the imported articles Commerce has identified.[14]

B. Product Description

Commerce defined the scope of the imported merchandise under investigation as follows:

> The merchandise covered by this investigation is cast iron soil pipe, whether finished or unfinished, regardless of industry or proprietary specifications, and regardless of wall thickness, length, diameter, surface finish, end finish, or stenciling. The scope of this investigation includes, but is not limited to, both hubless and hub and spigot cast iron soil pipe. Cast iron soil pipe is nonmalleable iron pipe of various designs and sizes. Cast iron soil pipe is generally distinguished from other types of nonmalleable cast iron pipe by the manner in which it is connected to cast iron soil pipe fittings.
>
> Cast iron soil pipe is classified into two major types--hubless and hub and spigot. Hubless cast iron soil pipe is manufactured without a hub, generally in compliance with Cast Iron Soil Pipe Institute (CISPI) specification 301 and/or American Society for Testing and Materials (ASTM) specification A888, including any revisions to those specifications. Hub and spigot pipe has one or more hubs into which the spigot (plain end) of a fitting is inserted. All pipe meeting the physical description set forth above is covered by the scope of this investigation, whether or not produced according to a particular standard.
>
> The subject imports are currently classified in subheading 7303.00.0030 of the Harmonized Tariff Schedule of the United States (HTSUS): Cast iron soil pipe. The HTSUS subheading and specifications are provided for convenience and customs purposes only; the written description of the scope of this investigation is dispositive.[15]

---

[13] *See*, *e.g., USEC, Inc. v. United States*, 34 Fed. Appx. 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).

[14] *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 in which Commerce found five classes or kinds).

[15] *Cast Iron Soil Pipe From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value*, 84 Fed. Reg. 6767, 6770 (Feb. 28, 2019); *Cast Iron Soil Pipe From the*

CISP is a non-malleable cast iron pipe produced in a variety of sizes and used as a component for sanitary and storm drain, waste, and vent piping.[16] CISP is used in residential, commercial, and industrial construction, as well as public buildings such as schools and hospitals.[17] Additionally, CISP may be used for storm drainage from roofs, yards, areaways, and courts.[18] CISP is manufactured by melting scrap iron, steel scrap, and alloys in a cupola furnace and casting the metal into the desired shapes.[19]

CISP is classified as hub and spigot pipe or hubless pipe.[20] Hub and spigot pipe has hubs into which the spigot (plain end) of another pipe or of a fitting is inserted.[21] The joint is sealed with a compression gasket or molten lead and oakum.[22] Hubless pipe is manufactured without a hub and is joined to a fitting or another pipe using a hubless coupling that fits over the ends of the pipe and fitting or the ends of the pipes, and is tightened to seal the joint.[23] Hubless CISP is produced to CISPI 301 and ASTM A888 standards and hub and spigot CISP is produced to ASTM A74 standards.[24] Hub and spigot CISP meets the CISPI 301 standard in all aspects other than product dimensions and shapes.[25]

C. Domestic Like Product Analysis

In its preliminary determinations, the Commission found that both hub and spigot and hubless CISP have the same physical characteristics other than product dimensions and shapes, have the same end uses, production processes, channels of distribution, and customer and producer perceptions.[26] It found that their principal distinction is their different connection mechanisms, which allow them to be used together within the same drainage system only in conjunction with an adaptor. The record, however, did not indicate, nor did any party suggest, that this distinction was tantamount to a clear dividing line.[27] The Commission consequently defined a single domestic like product consisting of all CISP coextensive with the scope of the investigations.[28]

People's Republic of China: Final Affirmative Countervailing Duty Determination, 84 Fed. Reg. 6770, 6772 (Feb. 28, 2019).

[16] CR/PR at II-1.

[17] CR/PR at II-1.

[18] CR/PR at II-1.

[19] CR at I-16, PR at I-12.

[20] CR at I-15, PR at I-12.

[21] CR at I-15, PR at I-12.

[22] CR at I-15, PR at I-12.

[23] CR at I-15 to I-16, PR at I-12.

[24] CR at I-16, PR at I-12.

[25] CR at I-16, PR at I-12.

[26] *Cast Iron Soil Pipe from China*, Inv. Nos. 701-TA-597 and 731-TA-1407 (Preliminary), USITC Pub. 4769 at 8 (March 2018) ("Preliminary Determinations").

[27] Preliminary Determinations, USITC Pub. 4769 at 8.

[28] Preliminary Determinations, USITC Pub. 4769 at 8.

The record in the final phase of these investigations does not contain any new information concerning the domestic like product factors warranting a different definition.[29] No party has argued that the Commission should adopt a definition of the domestic like product that is different from that in the preliminary determinations.[30] Therefore, for the same reasons set forth in the preliminary determinations, we define a single domestic like product consisting of all CISP, coextensive with the scope.

III. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[31] 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.

There are no related party or other domestic industry issues in these investigations.[32] In its preliminary determinations, the Commission defined one domestic industry consisting of all domestic producers of CISP.[33] In light of our single domestic like product definition, we define one domestic industry consisting of all domestic producers of CISP.

IV. Material Injury by Reason of Subject Imports

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[34] 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.[35] The statute defines

---

[29] *See generally* CR at I-13 to I-19, PR at I-10 to I-14.

[30] Petitioner urges the Commission to define a single domestic like product consisting of all CISP corresponding with Commerce's scope. Petitioner's Prehearing Br. at 2. Respondents do not contest this.

[31] 19 U.S.C. § 1677(4)(A).

[32] ***. CR at III-2 and III-11, PR at III-1 and III-4.

[33] Preliminary Determinations, USITC Pub. 4769 at 9.

[34] 19 U.S.C. §§ 1671d(b), 1673d(b). The Trade Preferences Extension Act of 2015, Pub. L. 114-27, amended the provisions of the Tariff Act pertaining to Commission determinations of material injury and threat of material injury by reason of subject imports in certain respects.

[35] 19 U.S.C. § 1677(7)(B). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... and explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

"material injury" as "harm which is not inconsequential, immaterial, or unimportant."[36] In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[37] 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."[38]

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,[39] 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.[40] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[41]

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.[42] In performing its examination, however, the Commission need not isolate

---

[36] 19 U.S.C. § 1677(7)(A).

[37] 19 U.S.C. § 1677(7)(C)(iii).

[38] 19 U.S.C. § 1677(7)(C)(iii).

[39] 19 U.S.C. §§ 1671d(a), 1673d(a).

[40] *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).

[41] 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).

[42] SAA at 851-52 ("{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports."); S. Rep. 96-249 at 75 (1979) (the Commission "will consider information which indicates that harm is caused by factors other than less-

the injury caused by other factors from injury caused by unfairly traded imports.[43] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[44] It is clear that the existence of injury caused by other factors does not compel a negative determination.[45]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports" and the Commission "ensure{s} that it is not attributing injury from other sources to

---

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.

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

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

[45] *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.").

the subject imports."[46] Indeed, the Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[47]

The Federal Circuit's decisions in *Gerald Metals, Bratsk*, and *Mittal Steel* all involved cases where the relevant "other factor" was the presence in the market of significant volumes of price-competitive nonsubject imports. The Commission interpreted the Federal Circuit's guidance in *Bratsk* as requiring it to apply a particular additional methodology following its finding of material injury in cases involving commodity products and a significant market presence of price-competitive nonsubject imports.[48] The additional "replacement/benefit" test looked at whether nonsubject imports might have replaced subject imports without any benefit to the U.S. industry. The Commission applied that specific additional test in subsequent cases, including the *Carbon and Certain Alloy Steel Wire Rod from Trinidad and Tobago* determination that underlies the *Mittal Steel* litigation.

Mittal Steel clarifies that the Commission's interpretation of *Bratsk* was too rigid and makes clear that the Federal Circuit does not require the Commission to apply an additional test nor any one specific methodology; instead, the court requires the Commission to have "evidence in the record" to "show that the harm occurred 'by reason of' the LTFV imports," and requires that the Commission not attribute injury from nonsubject imports or other factors to subject imports.[49] Accordingly, we do not consider ourselves required to apply the replacement/benefit test that was included in Commission opinions subsequent to *Bratsk*.

The progression of *Gerald Metals, Bratsk*, and *Mittal Steel* clarifies that, in cases involving commodity products where price-competitive nonsubject imports are a significant factor in the U.S. market, the Court will require the Commission to give full consideration, with adequate explanation, to non-attribution issues when it performs its causation analysis.[50]

---

[46] *Mittal Steel*, 542 F.3d at 877-78; *see also id.* at 873 ("While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured 'by reason of' subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.") *citing United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission's causation analysis as comporting with the Court's guidance in *Mittal*.

[47] *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.").

[48] *Mittal Steel*, 542 F.3d at 875-79.

[49] *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 875-79 & n.2 (recognizing the Commission's alternative interpretation of *Bratsk* as a reminder to conduct a non-attribution analysis).

[50] To that end, after the Federal Circuit issued its decision in *Bratsk*, the Commission began to present published information or send out information requests in the final phase of investigations to producers in nonsubject countries that accounted for substantial shares of U.S. imports of subject merchandise (if, in fact, there were large nonsubject import suppliers). In order to provide a more complete record for the Commission's causation analysis, these requests typically seek information on capacity, production, and shipments of the product under investigation in the major source countries that export to the United States. The Commission plans to continue utilizing published or requested

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.[51] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[52]

B. Conditions of Competition and the Business Cycle

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

1. Demand Considerations

Since CISP is generally used in building construction, U.S. demand for CISP is a function of the demand for construction activity.[53] Between January 2015 and December 2017, the value of U.S. construction increased by 5.1 percent for public construction, 37.1 percent for private residential construction, and 18.5 percent for private non-residential construction.[54] The value of U.S. construction continued to increase between December 2017 and June 2018, with increases for the different construction sectors ranging from 1.5 percent to 5.5 percent; however, all three construction sectors experienced declines ranging from 0.7 percent to 2.7 percent between June and November 2018.[55]

While both U.S. producers and a plurality of importers (five out of ten) reported an increase in demand for CISP over the POI, a plurality of purchasers (seven out of 17) reported no change in demand.[56] No U.S. producers and only two of 10 importers and three of 17 purchasers indicated that the market for CISP is subject to business cycles.[57] Two importers, however, stated that demand is seasonal, with demand highest in the summer period with peak construction activity and lowest in the winter.[58] Accordingly, the evidence in the record shows construction spending is highly seasonal, with spending lowest in January and then generally

---

information in the final phase of investigations in which there are substantial levels of nonsubject imports.

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

[52] *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.").

[53] CR/PR at II-1. CISP is primarily used in high-rise building construction, although local building codes vary in terms of regulating the use of plastic pipe as a substitute for CISP in high-rise buildings. *See, e.g.,* Petition at Vol. I, 7; Conf. Tr. at 32-33 (Dowd).

[54] CR at II-12, PR at II-7; CR/PR at Fig. II-1.

[55] CR at II-12, PR at II-7; CR/PR at Fig. II-1.

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

[57] CR at II-9, PR at II-6.

[58] CR at II-9 to II-10, PR at II-6.

increasing through the summer, and remaining at elevated levels through October before falling during the final months of the year.[59]

Reflecting the increase in demand for construction activity, apparent U.S. consumption of CISP increased from *** short tons in 2015 to *** short tons in 2016, before declining to *** short tons in 2017, for an overall increase of *** percent from 2015 to 2017.[60] Apparent U.S. consumption of CISP was higher at *** short tons in interim 2018 than *** short tons in interim 2017.[61]

2. Supply Considerations

Domestic shipments, subject imports, and imports from nonsubject sources all supplied the U.S. market during the POI.[62] The domestic industry was the largest source of supply. The domestic industry's U.S. market share declined from *** percent in 2015 to *** percent in 2016, and subsequently increased to *** percent in 2017; the domestic industry's market share was higher at *** percent in interim 2018 than *** percent in interim 2017.[63] The domestic industry consists of Charlotte Pipe and McWane, which is the parent corporation for AB&I and Tyler Pipe.[64] The domestic industry's production capacity *** and it had substantial unused capacity throughout the POI.[65]

The market share of subject imports increased from *** percent in 2015 to *** percent in 2016, and then declined to *** percent in 2017; it was lower at *** percent in interim 2018 than *** percent in interim 2017.[66] Nonsubject imports' market share was minimal, ranging from *** percent to *** percent throughout the POI.[67]

The domestic industry's production facilities and sales are geographically dispersed. One U.S. producer has a foundry located in North Carolina while the other producer has a foundry in California and another foundry in Texas.[68] U.S. producers and importers reported selling CISP to all regions in the contiguous United States.[69] U.S. producers reported shipping most of their product to the Northeast and Pacific Coast regions (*** and *** percent of their

---

[59] CR at II-13, PR at II-8; CR/PR at Fig. II-2.

[60] CR/PR at Table IV-5.

[61] CR/PR at Table IV-5.

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

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

[64] CR at I-4 n.6, PR at I-3 n.6. The share of U.S. production of CISP in 2017 was *** percent for Charlotte Pipe and *** percent for McWane. CR/PR at Table III-1.

[65] CR/PR at Table III-4. The domestic industry's production capacity increased from *** short tons in 2015 to *** short tons in 2017; the capacity was lower at *** short tons in interim 2018 than *** short tons in interim 2017. *Id.* The industry's capacity utilization ranged from *** to *** percent throughout the POI. *Id.* The domestic industry's production capacity was larger than apparent U.S. consumption throughout the POI. CR/PR at Tables III-4 and IV-5.

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

[67] CR/PR at Table IV-6. The sole reported nonsubject import source in 2017 was ***. CR at II-7, PR at II-4.

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

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

reported shipments in 2017, respectively) and U.S. importers reported shipping most of their product to the Northeast region (*** percent of their reported shipments in 2017).[70]

3. Substitutability and Other Conditions

We find that subject imports and domestically produced CISP are moderately substitutable but factors such as preferences for domestic product or domestic exclusivity requirements may limit the degree of substitutability.[71] Both U.S. producers and the plurality of importers (four of nine) responding to the Commission's questionnaire reported that subject imports and domestically produced CISP are always interchangeable, and a plurality of purchasers (four of nine) reported that subject imports and domestically produced CISP are

---

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

[71] CR at II-16, PR at II-10. Factors limiting the degree of substitutability between subject imports and domestically produced CISP include: (1) the CISPI trademark, (2) supplier exclusivity, (3) preferences or requirements for domestic product, and (4) the availability of epoxy-coated CISP. CR at II-23 to II-25, II-29 to II-33, II-35 to II-36, PR at II-16 to II-17, II-20 to II-23, and II-25.

The CISPI trademark is a collective trademark that is only available to CISPI members, Charlotte Pipe, AB&I, and Tyler Pipe. CR at II-23 n.22, PR at II-16 n.22. The CISPI trademark indicates that the marked CISP has been manufactured by a member of CISPI, and has been manufactured in accordance with the CISPI's approved standards. Petitioner's Posthearing Brief at Answer to Commissioner Question 16, Exhibit 13. While non-CISPI members cannot use the CISPI trademark on their products, they can, however, produce, advertise, and offer their CISP as meeting CISPI standards, which are close to, or sometimes identical to, ASTM standards. CR at II-16 to II-17 and II-23 n.22, PR at II-11 and II-16 n.22. The large majority of purchasers (13 of 17) reported that at least 99 percent of the product they purchased contained the CISPI trademark. CR/PR at Table II-10.

Most purchasers (14 of 17) reported that they had not changed suppliers since January 2015. CR at II-30, PR at II-21. One purchaser, ***, reported dropping AB&I in favor of NewAge due to customer demand for epoxy-coated product (which domestic suppliers do not offer) and another purchaser, ***, reported shifting from AB&I to NewAge because it was "***." *Id*. *** also reported that it lost the ability to purchase products from domestic sources after shifting to NewAge. *Id.*

Furthermore, responding purchasers reported that 80 percent of the value of their purchases in 2017 had a domestic preference or requirement, while 20 percent had no domestic requirement. Calculated from CR/PR at Table II-13. However, of the 80 percent of responding firm's purchases in 2017, only 3.2 percent was actually required to be domestic by federal, state, or local law; another 6.0 percent of 2017 purchases was required by another organization, such as a local plumbers' union. *Id*. The remaining 70.8 percent was only required to be domestic due to customer preference or for other reasons, such as CISPI certification. *Id.* *** was not able to estimate specific percentages, but indicated generally that the "desire" for domestic product was ***. Based on ***, approximately 65 percent or more of *** responding firms' purchases in 2017 had a domestic preference or requirement, and 35 percent or less had no domestic requirement. CR/PR at Table II-13 n.7.

Finally, epoxy-coated CISP accounted for only *** percent of apparent U.S. consumption in 2017 and *** percent of total U.S. imports of CISP in 2017. Calculated from CR/PR at Tables IV-2, IV-6 and IV-8. The majority (13 of 17) of purchasers reported that the availability of epoxy-coated product was not an important purchasing factor. CR/PR at Table II-7. *** stated that non-epoxy coated CISP (which is produced by both domestic and Chinese sources) is not interchangeable with in-scope epoxy-coated CISP (which is not sold by domestic manufacturers). CR at II-36, PR at II-26.

sometimes interchangeable.[72] In addition, all purchasers reported that subject imports and domestically produced CISP always or usually meet minimum quality specifications.[73] Both subject imports and domestically produced CISP must conform to the applicable ASTM standards.[74]

The record indicates that price is a moderately important purchasing factor. Price and/or the offering of rebates was most frequently cited as one of the top three factors in purchasing decisions, and the vast majority (13 out of 17) of purchasers reported that price is a very important purchasing factor.[75] While the majority (six of eight) of purchasers and a plurality of importers (four of nine) reported that differences other than price were always significant, the domestic producers reported that differences other than price were never or only sometimes significant.[76]

The record also indicates that CISP is typically sold from inventory to distributors which then sell to end users. In 2017, U.S. producers sold *** of their commercial shipments from inventories, while U.S. importers sold *** percent of their shipments from U.S. inventories.[77] Similarly, U.S. producers reported selling *** of their product to distributors, while U.S. importers sold *** of their product to distributors during the POI.[78]

The prices offered to distributors are primarily set by a negotiable multiplier, which is a regional adjustment to the list price.[79] In addition, domestic producers offer a variety of direct and indirect rebates, and require exclusivity in order for their customers to receive rebates.[80] The rebates provide a strong incentive for each distributor to purchase CISP from only one producer.[81] Most purchasers reported being offered rebates from the domestic producers in a variety of magnitudes ranging from 3.0 to 23.7 percent.[82] U.S. importer NewAge also offers *** rebates to its distributors, but these rebates appear to be *** than those offered by the

---

[72] CR/PR at Table II-15. One importer reported that subject imports and domestically produced CISP are frequently interchangeable, three reported that they are sometimes interchangeable, and one reported that they are never interchangeable. *Id.* Three purchasers reported that subject imports and domestically produced CISP are always interchangeable, one reported that they are frequently interchangeable, and one reported that they are never interchangeable. *Id.*

[73] CR/PR at Table II-16.

[74] Hearing Tr. at 39 (Dowd).

[75] CR/PR at Tables II-6 and II-7. Supplier relationship or country/supplier preference was the most frequently cited first-most important factor (cited by seven purchasers), followed by quality (four purchasers), and then price/rebates (three purchasers). CR/PR at Table II-6.

[76] CR/PR at Table II-17.

[77] CR at II-16, PR at II-10.

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

[79] CR at V-6 and V-12 to V-13, PR at V-5 and V-8.

[80] CR at V-10 to V-11, PR at V-7 to V-8. A direct rebate is based solely on the purchases of CISP. An indirect rebate is based on the joint purchases of CISP and other products, such as CISP fittings. CR at V-10 n.17, PR at V-7 n.17.

[81] Responding purchasers rated direct rebates as the most important incentive in their decision to purchase domestic CISP. CR/PR at Table II-8.

[82] CR at V-11, PR at V-8.

domestic industry.[83] U.S. producers and importers typically bundle CISP and CISP fittings in sales to distributors and discounts reflect the combined amount.[84]

We recognize that there were anticompetitive allegations against Charlotte Pipe and McWane that triggered investigations by the Federal Trade Commission ("FTC") and a price-fixing lawsuit filed by purchasers prior to the POI.[85] Notably, in 2013, the FTC concluded an investigation into Charlotte Pipe's 2010 acquisition of Star Pipe's CISP business, an importer of CISP from China.[86] The investigation resulted in a consent decree that required Charlotte Pipe to report previously undisclosed acquisitions and to notify the FTC before making similar acquisitions in the United States.[87] Additionally, in 2014, purchasers of CISP filed a class action antitrust lawsuit against Charlotte Pipe, McWane, and CISPI alleging a conspiracy to fix prices of CISP from at least January 1, 2006 through December 31, 2013.[88] In May 2017, the case was settled for $30 million.[89]

Domestic producers and producers from China use different types of raw material inputs. Domestic producers use mainly iron scrap and producers in China use pig iron.[90] The prices for these raw materials shared similar trends throughout the POI; they declined in 2015 and fluctuated but increased overall in 2016 and 2017.[91] The ratio of cost of raw materials to total cost of goods sold ("COGS") for the domestic industry increased from *** percent in 2015

[83] U.S. importer NewAge reported *** based on "***." CR at V-11, PR at V-7. Three purchasers reported being offered annual rebates of 5 percent from NewAge. CR at V-12, PR at V-8.

[84] Both U.S. producers reported bundling *** percent of CISP sales with CISP fittings. CR at V-14, PR at V-9. All four responding importers reported that their sales of CISP also include CISP fittings. *Id*. Both U.S. producers reported that CISP fittings can be invoiced together. CR at V-14 to V-15, PR at V-9. Importer *** reported that CISP was typically invoiced with other plumbing products and suppliers, such as fittings. CR at V-15, PR at V-9. *** reported that pipe and fittings generally have the same multiplier for a given territory, while ***. CR at V-13 n.23, PR at V-8 n.23. U.S. importer *** reported that CISP and CISP fittings generally have one multiplier. CR at V-13, PR at V-8.

[85] CR at II-25 to II-29, II-25 n.27, PR at II-17 to II-21, II-18 n.27. In 2014, the FTC also concluded an investigation regarding a different iron pipe product and found that McWane had unlawfully maintained its monopoly in the domestic ductile iron pipe fittings market through its "Full Support Program," which foreclosed potential entrants from accessing distributors. The FTC's order bars McWane from requiring exclusivity from its customers for the domestic ductile iron pipe fittings. CR at II-25 n.27, PR at II-18 n.27; FTC Press Release, "FTC Issues Opinion and Final Order Finding McWane, Inc. Unlawfully Maintained Its Monopoly in Domestic Pipe Fittings by Excluding Competitors" (Feb. 6, 2014) (EDIS Doc. No. 669902).

[86] CR at II-25 n.27, PR at II-18 n.27.

[87] CR at II-25 n.27, PR at II-18 n.27; FTC Press Release, "Charlotte Pipe and Foundry Settles Charges That Its 2010 Purchase of Star Pipe's Cast Iron Business Was Anticompetitive" (Apr. 2, 2013) (EDIS Doc. No. 669902).

[88] CR at II-25 n.27, PR at II-18 n.27.

[89] CR at II-25 n.27, PR at II-18 n.27.

[90] CR/PR at V-1.

[91] CR at V-2, PR at V-1; CR/PR at Fig. V-1.

to *** percent in 2017; it was higher at *** percent in interim 2018 than *** percent in interim 2017.[92]

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[93]

China was the only significant non-domestic source of CISP in the U.S. market.[94] The absolute volume of subject imports increased overall from 2015 to 2017. The volume of subject imports was 15,029 short tons in 2015, 22,208 short tons in 2016, and 17,390 short tons in 2017, for an overall increase of 15.7 percent in volume during the full years of the POI; the volume was 9,147 short tons in interim 2017 and 6,294 short tons in interim 2018.[95] Subject imports' market share increased overall from 2015 to 2017; it was *** percent of apparent U.S. consumption in 2015, *** percent in 2016, and *** percent in 2017. Subject imports' market share was *** percent in interim 2017 and *** percent in interim 2018.[96]

In light of the foregoing, we find that the volume of subject imports from China was significant in both absolute terms and relative to U.S. consumption.

D. Price Effects of the Subject Imports

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

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
>
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[97]

As explained above, there is a moderate degree of substitutability between subject imports and domestically produced CISP, and price is a moderately important factor in purchasing decisions.[98]

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value (net of all deductions for discounts, rebates, and multipliers)

---

[92] CR/PR at Table VI-1.
[93] 19 U.S.C. § 1677(7)(C)(i).
[94] CR/PR at Tables IV-5 and IV-6.
[95] CR/PR at Tables IV-5 and C-1.
[96] CR/PR at Table IV-6.
[97] 19 U.S.C. § 1677(7)(C)(ii).
[98] *Supra* at IV.B.3.

of four pricing products shipped to unrelated U.S. customers over the POI.[99] Both U.S. producers and five importers provided usable pricing data for the requested products, but not all firms reported pricing for all products for all quarters.[100] The pricing data account for approximately *** percent of U.S. producers' commercial shipments of CISP and *** percent of commercial U.S. shipments of subject imports in 2017.[101]

Subject imports undersold the domestic like product in all 56 quarterly comparisons, involving 49.8 million pounds of subject imports, at margins ranging from 7.5 to 50.4 percent, with an average margin of underselling of 26.2 percent.[102] Furthermore, all three responding purchasers that reported purchasing subject imports instead of the domestic like product since the beginning of the POI reported that subject import prices were lower than those of the domestic product.[103] Given the moderate degree of substitutability and the importance of price in purchasing decisions, we find the pervasive price underselling by subject imports to be significant.

We also examined price trends and find that subject imports depressed domestic prices to a significant degree. Prices for all domestic pricing products declined throughout the POI, narrowing the margins by which subject imports undersold the domestic product.[104] While there was some price recovery in the second quarter of 2018, this occurred following the filing of the petitions and the Commission's preliminary determinations in these investigations.[105]

---

[99] CR at V-16, PR at V-10. All four pricing products are types of hubless CISP:

Product 1.—2" x 10' no hub cast iron soil pipe, other than epoxy-coated
Product 2.—4" x 10' no hub cast iron soil pipe, other than epoxy-coated
Product 3.—3" x 10' no hub cast iron soil pipe, other than epoxy-coated
Product 4.—6" x 10' no hub cast iron soil pipe, other than epoxy-coated

[100] CR a V-16, PR at V-10.

[101] CR at V-16, PR at V-10.

[102] CR/PR at Table V-9.

[103] CR/PR at Table V-11. One purchaser, ***, reported both "yes and no" when asked whether subject import prices were lower than U.S. produced product. *Id.* This purchaser explained that ***. *Id.* This purchaser also reported both "yes and no" when asked whether price was a primary reason for the decision to purchase imported product rather than U.S.-produced product and reported an estimated value of $*** of CISP from China purchased instead of domestic product. *Id.*

[104] Pricing product 1 declined from $*** per pound in the first quarter of 2015 to $*** per pound in the second quarter of 2018, a decline of *** percent; pricing product 2 declined from $*** per pound in the first quarter of 2015 to $*** per pound in the second quarter of 2018, a decline of *** percent; pricing product 3 declined from $*** per pound in the first quarter of 2015 to $*** per pound in the second quarter of 2018, a decline of *** percent; pricing product 4 declined from $*** per pound in the first quarter of 2015 to $*** in the second quarter of 2018, a decline of *** percent. CR/PR at Tables V-4 to V-8. Consistent with the price declines in the domestic industry's pricing products, we also observe that U.S. producers' net sales AUV declined consistently throughout the POI, with the largest decline from 2016 to 2017. U.S. producers' net sales AUV were $*** per short ton in 2015, $*** per short ton in 2016, $*** per short ton in 2017, $*** per short ton in interim 2017, and $*** per short ton in interim 2018. CR/PR at Table VI-1.

[105] CR/PR at Tables V-4 to V-8; CR at I-1, PR at I-1.

Additionally, seven of 17 responding purchasers reported that U.S. producers reduced prices in order to compete with subject imports.[106] Although demand was relatively flat between 2016 and 2017, it increased between 2015 and 2016 and increased overall during the POI.[107] Similarly, while the industry's unit COGS experienced an overall decrease during the POI, it increased in 2017 and was higher in interim 2018 than in interim 2017.[108] Consequently, we find that neither demand trends nor changes in the industry's costs explain the consistent decline in domestic pricing.

We also find that the domestic industry was unable to obtain price increases, which otherwise would have occurred, due to the subject imports. Because the industry's unit COGS increased in 2017 and was higher in interim 2018 than in interim 2017, the domestic industry's ratio of COGS to net sales deteriorated from 2017 to interim 2018.[109] From 2016 to 2017, the domestic industry's net sales AUV decreased while its unit COGS increased, at a time when demand was relatively flat, suggesting that the industry was not able to raise prices at a time of increasing costs.[110] Similarly, the industry's net sales AUV was lower in interim 2018 than in interim 2017, while its unit COGS was higher and apparent U.S. consumption was substantially higher in interim 2018 than in interim 2017.[111] In addition, representatives for the domestic producers testified that they attempted numerous price increases that were unsuccessful during the POI.[112]

As discussed above, we find that there has been significant price underselling by the subject imports and that the effect of subject imports has been to depress prices and prevent price increases for the domestic like product, which otherwise would have occurred, to a significant degree.[113] We consequently find that the subject imports have had significant price effects.

---

[106] CR/PR at Table V-12. Among the six responding purchasers, the estimated U.S. price reduction averaged 23.3 percent. *Id.* *** reported an estimated U.S. price reduction of ***. *Id.*

[107] CR/PR at Table IV-5. Apparent U.S. consumption declined slightly by *** percent from 2016 to 2017; by contrast, apparent U.S. consumption increased by *** percent from 2015 to 2016. CR/PR at Table C-1.

[108] Unit COGS initially declined from $*** per short ton in 2015 to $*** per short ton in 2016 and subsequently increased to $*** per short ton in 2017, and then was higher at $*** per short ton in interim 2018 than $*** per short ton in interim 2017. CR/PR at Tables VI-2 and C-1.

[109] The domestic industry's ratio of COGS to net sales declined from *** percent in 2015 to *** percent in 2016 and subsequently increased to *** percent in 2017; it was higher at *** percent in interim 2018 than at *** percent in interim 2017. CR/PR at Table VI-1.

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

[111] CR/PR at Table C-1.

[112] Petitioner's Posthearing Br. at 12. Petitioner provided documentation regarding examples of domestic producer's unsuccessful attempts to raise prices during the POI. *Id.* at Answer to Commissioner Question 10, Exhibit 12.

[113] The class action antitrust lawsuit that Charlotte Pipe, McWane, and CISPI settled in 2017 may have affected U.S. prices in 2016 and 2017. However, the record does not contain sufficient evidence to support a finding that the case and/or settlement resulted in a decrease in U.S. prices. *See* CR/PR at Table II-11.

E. Impact of the Subject Imports[114]

Section 771(7)(C)(iii) of the Tariff Act provides that in examining the impact of subject imports, the Commission "shall evaluate all relevant economic factors which have a bearing on the state of the industry."[115] These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[116]

As apparent U.S. consumption increased overall and was higher in interim 2018 than in interim 2017,[117] the domestic industry's production and shipments experienced annual increases between 2015 and 2017, and production and shipments were higher in interim 2018 than in interim 2017.[118] The domestic industry's capacity increased from *** short tons in 2015 to *** short tons in 2016 and then decreased to *** short tons in 2017, and was lower at *** short tons in interim 2018 than *** short tons in interim 2017.[119] Capacity utilization increased from *** percent in 2015 to *** percent in 2016 and then to *** percent in 2017, and was

[114] The statute instructs the Commission to consider the "magnitude of the dumping margin" in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determination of sales at less than fair value, Commerce found a weight-average dumping margin of 235.93 percent. *Cast Iron Soil Pipe From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value and Postponement of Final Determination*, 84 Fed. Reg. 6767 (Feb. 28, 2019). We take into account in our analysis the fact that Commerce has made final findings that all subject producers in China are selling subject imports in the United States at less than fair value. In addition to this consideration, our impact analysis has considered other factors affecting domestic prices. Our analysis of the significant underselling and price effects of subject imports, described in both the price effects discussion and below, is particularly probative to an assessment of the impact of the subject imports.

[115] 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.").

[116] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[117] Apparent U.S. consumption increased by *** percent from 2015 to 2017 and was *** percent higher in interim 2018 than in interim 2017. CR/PR at Table C-1.

[118] The domestic industry's production of CISP increased from *** short tons in 2015 to *** short tons in 2016 to *** short tons in 2017, and was higher at *** short tons in interim 2018 than *** short tons in interim 2017. CR/PR at Table III-4. By quantity, U.S. producers' U.S. shipments of CISP increased from *** short tons in 2015 to *** short tons in 2016 and then to *** short tons in 2017, and were higher at *** short tons in interim 2018 than *** short tons in interim 2017. CR/PR at Table III-5.

[119] CR/PR at Table III-4.

higher at *** percent in interim 2018 than *** percent in interim 2017.[120] As explained above, the domestic industry's U.S. market share declined from *** percent in 2015 to *** percent in 2016, and then almost returned to the 2015 level at to *** percent in 2017; it was higher at *** percent in interim 2018 than at *** percent in interim 2017.[121] Even though apparent U.S. consumption increased overall and was higher in interim 2018 than in interim 2017, the industry's end-of-period inventories increased from *** short tons in 2015 to *** short tons in 2016 and then to *** short tons in 2017, an overall increase of *** percent; they were higher at *** short tons in interim 2018 than at *** short tons in interim 2017.[122]

While total hours worked,[123] hours worked per production and related worker ("PRW"),[124] wages paid,[125] hourly wages,[126] and productivity[127] all increased from 2015 to 2017 and were higher in interim 2018 than in interim 2017, by contrast, the number of PRWs[128] and unit labor costs[129] declined irregularly from 2015 to 2017, and were generally the same between the interim periods.

Despite increases in apparent U.S. consumption overall and substantially higher levels in interim 2018 than in interim 2017, the domestic industry's financial indicators deteriorated between 2015 and 2017, and the indicators in interim 2018 were generally at lower levels than in interim 2017, at a time when the industry's unit COGS were rising.[130] Net sales revenue

---

[120] CR/PR at Table III-4.

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

[122] CR/PR at Tables III-7 and C-1.

[123] Total hours worked increased from *** hours in 2015 to *** hours in 2016 and then to *** hours in 2017, and were higher at *** hours in interim 2018 than *** hours in interim 2017. CR/PR at Table III-8.

[124] Hours worked per PRW increased from *** hours in 2015 to *** hours in 2016 and then to *** hours in 2017, and were higher at *** hours in interim 2018 than *** hours in interim 2017. CR/PR at Table III-8.

[125] Wages paid increased from $*** in 2015 to $*** in 2016 and then to $*** in 2017, and were higher at $*** in interim 2018 than $*** in interim 2017. CR/PR at Table III-8.

[126] Hourly wages increased from $*** per hour in 2015 to $*** per hour in 2016 and then to $*** per hour in 2017, and were higher at $*** per hour in interim 2018 than $*** per hour in interim 2017. CR/PR at Table III-8.

[127] Productivity increased from *** short tons per thousand hours in 2015 to *** short tons per thousand hours in 2016 and then decreased to *** short tons per thousand hours in 2017, and was higher at *** short tons per thousand hours in interim 2018 than *** short tons per thousand hours in interim 2017. CR/PR at Table III-8.

[128] The number of PRWs increased from *** in 2015 to *** in 2016 and then decreased to *** in 2017, and was slightly higher at *** in interim 2018 than *** in interim 2017. CR/PR at Table III-8.

[129] Unit labor costs decreased from $*** per short ton in 2015 to $*** per short ton in 2016 and then increased to $*** per short ton in 2017, and were slightly lower at $*** per short ton in interim 2018 than $*** per short ton in interim 2017. CR/PR at Table III-8.

[130] We are not persuaded by Well's Plumbing's argument that the profitability of the domestic industry is evidence that it has not been injured by subject imports. *See* Well's Plumbing's Posthearing Br. at 9. Pursuant to 19 U.S.C. § 1677(7)(J), as amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27, "{t}he Commission may not determine that there is no material injury or threat

increased from $*** in 2015 to $*** in 2016 and subsequently declined to $*** in 2017, an overall decline of *** percent; it was higher at $*** in interim 2018 than $*** in interim 2017.[131] Gross profits increased from $*** in 2015 to $*** in 2016 before declining to $*** in 2017, an overall decline of *** percent; they were lower at $*** in interim 2018 than $*** in interim 2017.[132] Operating income increased from $*** in 2015 to $*** in 2016 and then declined to $*** in 2017, an overall decline of *** percent; it was lower at $*** in interim 2018 than $*** in interim 2017.[133] Similarly, the industry's operating income margin increased from *** percent in 2015 to *** percent in 2016 and subsequently declined to *** percent in 2017, an overall decrease of *** percentage points; it was lower at *** percent in interim 2018 than *** percent in interim 2017.[134] Net income declined annually from $*** in 2015 to $*** in 2016 and $*** in 2017, an overall decline of *** percent; it was lower at $*** in interim 2018 than $*** in interim 2017.[135] Similarly, the industry's net income margin declined annually from *** percent in 2015 to *** percent in 2016 and *** percent in 2017, an overall decline of *** percentage points; it was lower at *** percent in interim 2018 than *** percent in interim 2017.[136] The domestic industry's capital expenditures declined irregularly from 2015 to 2017, and were lower in interim 2018 than in interim 2017, while its research and development expenses increased.[137]

As discussed above, we find that the subject imports of CISP significantly undersold the domestic like product and had significant price-depressing and suppressing effects. From 2015 to 2016, low-priced subject imports of CISP increased in volume and gained market share at the expense of the domestic industry. The market share gain during this period occurred while domestic prices remained relatively flat with some slight decreases, despite an *** percent increase in demand. From 2016 to 2017, during a period of slowing demand but increasing costs, domestic producers accelerated their price declines in order to compete with the lower prices of subject imports, which enabled them to regain some of the market share in 2017 that

---

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." The degree of the industry's profitability is a relevant consideration in our analysis; however, the U.S. industry's profitability deteriorated as it lowered prices to gain back market share. Moreover, falling profitability is not the only indicator showing injury.

[131] CR/PR at Tables VI-1 and C-1.

[132] CR/PR at Tables VI-1 and C-1.

[133] CR/PR at Tables VI-1 and C-1.

[134] CR/PR at Tables VI-1 and C-1.

[135] CR/PR at Tables VI-1 and C-1.

[136] CR/PR at Tables VI-1 and C-1.

[137] Capital expenditures increased from $*** in 2015 to $*** in 2016 and then declined to $*** in 2017, and were lower at $*** in interim 2018 than $*** in interim 2017. CR/PR at Table VI-5. Research and development expenses increased from $*** in 2015 to $*** in 2016 and to $*** in 2017, and were higher at $*** in interim 2018 than $*** in interim 2017. *Id.* The domestic industry's return on assets decreased irregularly from *** percent in 2015 to *** percent in 2017. CR/PR at Table VI-6.

they had lost from 2015 to 2016.[138] Moreover, despite substantially higher apparent U.S. consumption in interim 2018 compared to interim 2017, domestic producers were forced to continue to maintain lower prices. This resulted in the deterioration in the domestic industry's financial performance overall from 2015 to 2017, and between the interim periods, despite rising apparent U.S. consumption. We therefore find that subject imports had a significant adverse impact on the domestic industry.

We have also considered the role of other factors so as not to attribute injury from other factors to the subject imports. As stated, apparent U.S. consumption for CISP increased overall from 2015 to 2017, and was higher in interim 2018 than in interim 2017, so the declines in the domestic industry's condition during that period cannot be explained by declines in consumption.[139] Nonsubject imports had only a minimal and irregularly declining presence in the U.S. market, and thus cannot explain the deteriorating financial performance of the domestic industry.

We are not persuaded that substitutability limiting factors, such as the CISPI trademark, supplier exclusivity, preferences or requirements for domestic product, or the availability of epoxy-coated CISP, attenuated competition to the extent that subject imports did not injure the domestic industry.[140] As discussed above, although the CISPI trademark is only available to domestic CISP producers, subject producers may and do produce and market their CISP to CISPI standards.[141] In addition, builder's requirements that CISP bear the CISPI trademark may be open to negotiation.[142]

We recognize that most purchasers (14 of 17) reported that they had not changed suppliers since January 2015.[143] However, despite some supplier exclusivity, the evidence demonstrates that subject imports were able to increase their volume and market share over

---

[138] The pricing-product tables and graphs show narrowing underselling margins in 2017 as domestic producers lowered their prices to compete with lower-priced subject imports. CR/PR at Tables V-4 to V-7; CR/PR at Figures V-4 to V-7.

[139] We are not persuaded by Wells Plumbing's argument that demand for CISP was limited by the growth in demand for out-of-scope substitute plastic pipe products. Wells Plumbing's Prehearing Br. at 1-2. As discussed, demand for construction activity was growing during the POI and apparent U.S. consumption of CISP increased overall from 2015 to 2017 and was higher in interim 2018 than in interim 2017. Furthermore, domestic shipments of CISP increased each full year of the POI and were higher in interim 2018 than in interim 2017. CR/PR at Table III-5. Moreover, most firms that reported that there were substitutes for CISP (including 12 of 15 purchasers) reported that the price of plastic pipe has not affected the price of CISP. CR at II-15, PR at II-10.

[140] *See* Wells Plumbing's Prehearing Br. at 3-4; Wells Plumbing's Posthearing Br. at 2 to 3; HengTong Casting's Prehearing Br. at 3.

[141] CR at II-23 n.22, PR at II-16 n.22. A representative for U.S. Importer NewAge testified that NewAge's CISP is marked "CISPI 301." Hearing Tr. at 181 (Singh).

[142] CR at II-25, PR at II-17. U.S. purchasers *** and *** reported that it would need to convince a mechanical contractor to consider an alternative or obtain a mechanical engineer's approval to substitute CISP that does not carry the CISPI trademark if the building plans require it. *Id.* *** reported that CISPI is not a required certification. *Id.*

[143] CR at II-30, PR at II-21; CR/PR at Table II-5.

the full years of the POI.[144] Specifically, one U.S. purchaser, ***, reported that it had changed its supplier from a domestic source to a subject source over the course of the POI.[145] Moreover, half (eight of 16) and a plurality (six of 14) of responding purchasers reported that their end user customers only sometimes make purchasing decisions based on a particular supplier or based on a particular country of origin, respectively.[146] Distributors of exclusively domestic product must compete head-to-head with distributors of subject imports for end user customers. Among the seven distributors reporting that U.S. producers had to lower their prices in order to compete with subject imports were six distributors ***.[147]

As discussed above, while responding purchasers reported that 80 percent of the value of their purchases in 2017 had a domestic preference or requirement, only 3.2 percent was actually required to be domestic by federal law and state or local law; another 6.0 percent of 2017 purchases were preferred or required by another organization, such as a local plumbers' union.[148] The remaining 70.8 percent of purchases of domestic product were due to customer preference or for other unspecified reasons, such as "CISPI certified."[149] Overall, subject imports had a significant presence in the U.S. market and increased their market share over the full years of the POI, indicating that a significant portion of the U.S. market was not required to be domestic.[150]

Finally, although two U.S. purchasers stated that non-epoxy coated CISP is not interchangeable with foreign-produced epoxy-coated CISP and subject producer HengTong Casting argued that epoxy-coated CISP is a superior product, epoxy-coated CISP did not have an appreciable presence in the U.S. market.[151] Likewise, the majority (13 of 17) of purchasers reported that the availability of epoxy-coated CISP product was not an important purchasing factor.[152]

Nor are we persuaded that the FTC actions and class-action antitrust lawsuit against Charlotte Pipe and McWane significantly attenuated competition between domestic and

---

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

[145] CR at II-30, PR at II-21; CR/PR at Table V-10. Of the 17 responding purchasers, 15 purchased domestic CISP exclusively, and three purchased subject imports, including ***, which switched from a domestic supplier to a subject supplier during the POI. CR at II-2 n.2, PR at II-1 n.2. We note that the Commission only received limited responses to its U.S. purchasers' questionnaire from purchasers of subject imports.

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

[147] Among the six responding purchasers, the estimated U.S. price reduction averaged 23.3 percent. *** reported an estimated U.S. price reduction of ***. CR/PR at Table V-12; Petitioner's Final Comments at 4.

[148] CR/PR at Table II-13. *** approximately 65 percent or more of *** responding firms' purchases in 2017 were due to a desire or requirement for a domestic product. CR/PR at Table II-13 n.7.

[149] CR/PR at Table II-13.

[150] *Supra* at IV.C; CR/PR at Table IV-6.

[151] CR at II-36, PR at II-26; HengTong Castings Prehearing Br. at 3. Subject imports of epoxy-coated CISP accounted for only *** percent of apparent U.S. consumption and *** percent of total U.S. CISP imports in 2017. Calculated from CR/PR at Tables IV-2, IV-6 and IV-8.

[152] CR/PR at Table II-7.

imported CISP.[153] The FTC action involving McWane was resolved prior to the POI and involved out-of-scope ductile iron pipe fittings.[154] Similarly, the FTC's action against Charlotte Pipe and Charlotte Pipe's acquisition of Star Pipe's CISP business were well before the beginning of the POI in these investigations.[155] The class-action lawsuit against Charlotte Pipe, McWane, and CISPI was settled during the POI in 2017, but was originally filed in 2014.[156] Importantly, the majority of responding importers and purchasers reported that these various proceedings had no effect on their respective firms, the market, or prices since January 2015.[157]

Lastly, we are not persuaded by Wells Plumbing's arguments that the volume and impact of subject imports were slight and any injury to the domestic industry was due to intra-industry competition.[158] For the reasons explained above, we find that the absolute and relative volume of subject imports were significant and subject imports had a significant adverse impact on the domestic industry.[159] Notwithstanding intra-industry competition, subject import prices undersold both domestic producers' prices and gained market share as a result.[160] Additionally, specific responses from purchasers, including the largest purchaser, ***, demonstrate that U.S. producers had reduced their prices in order to compete with lower priced subject imports.[161] Finally, a plurality of purchasers reported that competition among U.S. producers had no or minimal effect on prices.[162]

V. Conclusion

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of subject imports of CISP from China that are sold in the United States at less than fair value and subsidized by the government of China.

[153] *See* HengTong Casting's Prehearing Br. at 2; Hearing Tr. at 135 to 136 (Singh); NewAge's U.S. Importers' Questionnaire at Response to III-21.

[154] CR at II-25 n.27, PR at II-18 n.27.

[155] CR at II-25 n.27, PR at II-18 n.27.

[156] CR at II-25 n.27, PR at II-18 n.27.

[157] CR/PR at Table II-11.

[158] *See* Wells Plumbing's Prehearing Br. at 4; Wells Plumbing's Posthearing Br. 1 to 2, 4, 7, 10.

[159] *Supra* at IV.C and IV.E.

[160] CR/PR at Fig V-9, Tables IV-6, V-4 to V-7.

[161] CR/PR Table V-12.

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

PART I: INTRODUCTION

BACKGROUND

These investigations result from petitions filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by the Cast Iron Soil Pipe Institute, Mundelein, Illinois, on January 26, 2018, 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 cast iron soil pipe ("CISP")[1] from China. The following tabulation provides information relating to the background of these investigations.[2] [3]

Effective date	Action
January 26, 2018	Petitions filed with Commerce and the Commission; institution of Commission investigations (83 FR 4684, February 1, 2018)
February 15, 2018	Commerce's notice of initiation (83 FR 8047, February 23, 2018; 83 FR 8053, February 23, 2018)
March 13, 2018	Commission's preliminary determination (83 FR 12025, March 19, 2018)
July 2, 3018	Commerce's preliminary countervailing duty determination (83 FR 30914, July 2, 2018)
August 31, 2018	Commerce's preliminary antidumping duty determination (83 FR 44567, August 31, 2018)
September 13, 2018	Scheduling of final phase of Commission investigations (83 FR 46519, September 13, 2018)
February 1, 2019	Revised scheduling of final phase of Commission investigations (84 FR 2248, February 6, 2019)
February 12, 2019	Commission's hearing
February 28, 2019	Commerce's countervailing duty determination (84 FR 6770, February 28, 2018) and antidumping duty determination (84 FR 6767, February 28, 2018)
March 20, 2019	Commission's vote
April 8, 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] A list of witnesses appearing at the hearing is presented in appendix B of this report.

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

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*

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

effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.

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

CISP is generally used in building construction for sanitary and storm drain, waste, and vent ("DWV") piping applications. The product is installed in residential construction, hospitals, schools, and in commercial and industrial structures. The U.S. producers of CISP are Charlotte Pipe and Foundry Company ("Charlotte" or "Charlotte Pipe"), and McWane, Inc. ("McWane"),[6] while leading producers of CISP outside the United States include Qinshui County Shunshida Casting Co. Ltd. ("Shunshida") and Yuncheng Jiangxian Economic Development Zone HengTong Casting Co., Ltd ("HengTong") of China. The leading U.S. importers of CISP from China are ***, both of which import CISP exclusively from China. U.S. purchasers of CISP are distributors; leading purchasers include ***.

Apparent U.S. consumption of CISP totaled approximately *** short tons (***) in 2017. Charlotte and McWane are the only known producers of CISP in the United States. U.S. producers' U.S. shipments of CISP totaled *** short tons (***) in 2017, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from

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

[6] AB&I Foundry located in Oakland, California and Tyler Pipe and Tube in Tyler, Texas are wholly owned subsidiaries of McWane.

China totaled 17,390 short tons ($13.2 million) in 2017 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled 726 short tons ($757,000) in 2017 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

SUMMARY DATA AND DATA SOURCES

A summary of data collected in these investigations is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on questionnaire responses of two firms that accounted for 100 percent of U.S. production of CISP during 2017. Except as noted, U.S. imports are based on official U.S. import statistics of CISP under HTS statistical reporting number 7303.00.0030. Responding importers accounted for 78.0 percent of imports of CISP from China to the United States in 2017 based on official U.S. import statistics. Foreign industry data are based on questionnaire responses of firms in China whose exports accounted for *** of U.S. imports of CISP from China in 2017 based on official U.S. import statistics.[7]

PREVIOUS AND RELATED INVESTIGATIONS

Cast iron soil pipe has been the subject of three prior antidumping duty investigations in the United States. Table I-1 presents data on previous and related investigations. Cast iron soil pipe fittings, a related product not subject to these investigations, was also recently subject to antidumping and countervailing duty investigations.[8]

[7] The Commission received no responses indicating imports of CISP from nonsubject sources in 2017.

[8] *Cast Iron Soil Pipe Fittings from China,* Investigation Nos. 701-TA-583 and 731-TA-1381 (Final), U.S. International Trade Commission Publication 4812, August 2018. *Cast Iron Soil Pipe Fittings From the People's Republic of China: Initiation of Countervailing Duty Investigation,* 82 FR 37048, August 8, 2017; *Cast Iron Soil Pipe Fittings From the People's Republic of China: Initiation from the People's Republic of China: Initiation of Less-Than-Fair Value Investigation,* 82 FR 37053, August 8, 2017.

Table I-1
CISP: Previous and related investigations, 1955 to 1975

Product	Inv. No.	Year	Country	Original determination
Cast iron soil pipe[1]	AA1921-5	1955	United Kingdom	Affirmative
Cast iron soil pipe[2]	n/a	n/a	Belgium, Denmark, West Germany	Negative
Cast iron soil pipe[3]	AA1921-35	1964	Australia	Negative
Cast iron soil pipe and fittings[4]	AA1921-50	1967	Poland	Affirmative
Cast iron soil pipe and fittings[5]	n/a	1975	India	Negative

[1] *Cast Iron Soil Pipe from United Kingdom, Antidumping,* 21 FR 8269, November 3, 1955.
[2] "Historical Information (Orders Revoked Before 1980), AD: 1921 to 1980," *International Trade Administration Enforcement and Compliance*, August 24, 2018, https://enforcement.trade.gov/stats/pre80ad.txt, retrieved November 27, 2018.
[3] *Cast Iron Soil Pipe from Australia,* Inv. AA 1921-35, Tariff Commission Publication 124, April 13, 1964;
[4] *Cast Iron Soil Pipe from Poland,* Inv. AA 1921-50, Tariff Commission Publication 214, September 1967.
[5] *Cast Iron Soil Pipe and Fittings from India, Preliminary Countervailing Duty Determination*, 40 FR 28103, July 3, 1975.

Source: Cited publications.

NATURE AND EXTENT OF SUBSIDIES AND SALES AT LTFV

Subsidies

On February 28, 2019, Commerce published a notice in the Federal Register of its final determination of countervailable subsidies for producers and exporters of CISP from China.[9]

Commerce determined the following to be countervailable: [10]

- Policy loans to the soil pipe industry
- Treasury bond loans
- Preferential loans for state-owned enterprises ("SOEs")
- Preferential lending to soil pipe producers and exporters classified as "Honorable Enterprises"
- Loans and interest subsidies provided pursuant to the Northeast Revitalization Program

[9] *Cast Iron Soil Pipe From the People's Republic of China: Final Affirmative Countervailing Duty* Determination, 84 FR 6770, February 28, 2019.
[10] Decision Memorandum for the Final Affirmative Determination: Countervailing Duty Investigation of Cast Iron Soil Pipe from the People's Republic of China, February 22, 2019, pp. 31-33.

- Debt-to-equity swaps
- Exemptions for SOEs from distributing dividends
- Loan and/or interest forgiveness for SOEs
- Income tax programs under the GOC's 2008 corporate income tax law
    - Preferential income tax reductions for high and new technology enterprises ("HNTEs")
    - Preferential deduction of R&D expenses for HNTEs
- Other countervailable income tax programs
    - Income tax credits for domestically owned companies purchasing domestically produced equipment
    - Preferential income tax policy for enterprises in the Northeast region
    - Reduction in or exemption from fixed assets investment orientation regulatory tax
    - Income tax benefits for domestically owned enterprises engaging in Research and Development
- VAT and tariff exemptions for purchasers of fixed assets under the Foreign Trade Development Fund
- Import tariff and VAT exemptions for Foreign Invested Enterprises ("FIEs") and certain domestic enterprises using imported equipment in encouraged industries
- Deed tax exemptions for SOEs undergoing mergers or restructuring
- Provision of land to SOEs for less than adequate remuneration ("LTAR")
- Provision of pig iron for LTAR
- Provision of ferrous scrap for LTAR
- Provision of electricity for LTAR
- Provision of iron ore for LTAR
- Provision of metallurgical coke for LTAR through SOEs
- Provision of coking coal for LTAR
- State Key Technology Project Fund
- Foreign Trade Development Fund grants
- Export Assistance grants
- Grants to loss-making SOEs
- Export interest subsidies
- Grants for energy conservation and emission reduction
- Grants for the retirement of capacity
- Grants for relocating production facilities

Table I-2 presents Commerce's findings of subsidization of CISP from China.

Table I-2
CISP: Commerce's subsidy determination with respect to imports from China

Entity	Preliminary countervailable subsidy margin (*percent*)	Final countervailable subsidy margin (*percent*)
Kingway Pipe Co., Ltd	111.20	109.27
Yuncheng Jiangxian Economic Development Zone HengTong Casting Co. Ltd	13.11	14.69
All others	13.11	14.69

Source: 83 FR 30914, July 2, 2018; 84 FR 6770, February 28, 2019.

Sales at LTFV

On February 28, 2019, Commerce published a notice in the *Federal Register* of its final determination of sales at less than fair value ("LTFV") with respect to imports from China.[11] Table I-3 presents Commerce's dumping margins with respect to imports of CISP fittings from China.

Table I-3
CISP: Commerce's weighted-average LTFV margins with respect to imports from China

Producer	Exporter	Preliminary estimated weighted-average dumping margin & cash deposit rate (percent)	Final weighted-average dumping margin (percent)
Yucheng Jiangxian Economic Development Zone HengTong Casting Co., Ltd.	Yucheng Jiangxian Economic Development Zone HengTong Casting Co., Ltd.	302.61	235.93
Wu'An Yongtian Casting Co., Ltd	Dalian Lino F.T.Z. Co., Ltd	302.61	235.93
Yangcheng County Huawang Universal Spun Cast Pipe Foundry	Dalian Lino F.T.Z. Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Dalian Metal I/E Co., Ltd	302.61	235.93
Wu'an Yongtian Casting Co., Ltd	Dalian Metal I/E Co., Ltd	302.61	235.93
Zezhou Golden Autumn Foundry Co., Ltd	Dalian Metal I/E Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Dinggin Hardware (Dalian) Co., Ltd	302.61	235.93
Wu'an Kerui xin Machinery Manufacturing Co., Ltd	Dinggin Hardware (Dalian) Co., Ltd	302.61	235.93
Wu'an Yongtian Casting Co., Ltd	Dinggin Hardware (Dalian) Co., Ltd	302.61	235.93

Table continued on next page.

[11] *Cast Iron Soil Pipe From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value and Postponement of Final Determination*, 84 FR 6767, February 28, 2019.

Table I-3–Continued
CISP: Commerce's weighted-average LTFV margins with respect to imports from China

Producer	Exporter	Preliminary estimated weighted-average dumping margin & cash deposit rate (percent)	Final estimated weighted-average dumping margin & cash deposit rate (percent)
Wuan City Feixiang Metal Product Co., Ltd	Dinggin Hardware (Dalian) Co., Ltd	302.61	235.93
DingXiang County YuTai Casting-Forging Co., Ltd	Hebei Metals & Engineering Products Trading Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Hebei Metals & Engineering Products Trading Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Kingway Pipe Co., Ltd	302.61	235.93
Zezhou Golden Autumn Foundry Co., Ltd	Kingway Pipe Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Qinshui Shunshida Casting Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Shanxi Chen Xin Da Castings & Forgings Co., Ltd	302.61	235.93
Shanxi Xuanshi Industrial Group Co., Ltd	Shanxi Xuanshi Industrial Group Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Shanxi Zhongrui Tianyue Trading Co., Ltd	302.61	235.93
Qinshui Shunshida Casting Co., Ltd	Terrifour (Dalian) Trading Co., Ltd	302.61	235.93
Shanxi Chengda Special Forging Co., Ltd	Terrifour (Dalian) Trading Co., Ltd	302.61	235.93
Wuan City Feixiang Metal Product Co., Ltd	Wuan City Feixiang Metal Product Co., Ltd	302.61	235.93
Zezhou Golden Autumn Foundry Co., Ltd	Zezhou Golden Autumn Foundry Co., Ltd	302.61	235.93
China-wide entity		302.61	235.93

Source: 83 FR 44567, August 31, 2018; 84 FR 6767, February 28, 2019.

THE SUBJECT MERCHANDISE

Commerce's scope

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

The merchandise covered by this investigation is cast iron soil pipe, whether finished or unfinished, regardless of industry or proprietary specifications, and regardless of wall thickness, length, diameter, surface finish, end finish, or stenciling. The scope of this investigation includes, but is not limited to, both hubless and hub and spigot cast iron soil pipe. Cast iron soil pipe is nonmalleable iron pipe of various designs and sizes. Cast iron soil pipe is generally distinguished from other types of nonmalleable cast iron pipe by the manner in which it is connected to cast iron soil pipe fittings.

Cast iron soil pipe is classified into two major types—hubless and hub and spigot. Hubless cast iron soil pipe is manufactured without a hub, generally in compliance with Cast Iron Soil Pipe Institute (CISPI) specification 301 and/or American Society for Testing and Materials (ASTM) specification A888, including any revisions to those specifications. Hub and spigot pipe has one or more hubs into which the spigot (plain end) of a fitting is inserted. All pipe meeting the physical description set forth above is covered by the scope of this investigation, whether or not produced according to a particular standard.

The subject imports are currently classified in subheading 7303.00.0030 of the Harmonized Tariff Schedule of the United States (HTSUS): Cast iron soil pipe. The HTSUS subheading and specifications are provided for convenience and customs purposes only; the written description of the scope of this investigation is dispositive.[12]

Tariff treatment

Based on the scope set forth by the Department of Commerce, information available to the Commission indicates that the merchandise subject to these investigations is classifiable in HTS heading 7303.00.00 and imported under statistical reporting number 7303.00.0030. Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection. Imports classifiable in HTS heading 7303.00.00 are free of duty when they are the product of normal trade relations (NTR) countries,[13] but imports from China are subject to additional tariffs under Section 301 of the Trade Act of 1974 as discussed below.

---

[12] *Cast Iron Soil Pipe Fittings From the People's Republic of China: Initiation of Countervailing Duty Investigation,* 82 FR 37048, August 8, 2017; *Cast Iron Soil Pipe Fittings From the People's Republic of China: Initiation from the People's Republic of China: Initiation of Less-Than-Fair Value Investigation,* 82 FR 37053, August 8, 2017.

[13] *HTSUS (2019) Basic* edition, USITC Publication No. 4862, January 2019, p. XV 73-2.

Sections 232 and 301 tariff treatment

HTS heading 7303.00.00 was 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. See U.S. notes 16(a) and 16(b), subchapter III of chapter 99.[14]

However, HTS subheading 7303.00.00, for cast iron tubes, pipes, and hollow profiles, including CISP, was included among the products imported from China subject to additional tariffs under Section 301 of the Trade Act of 1974. The ad valorem duties have an initial 10-percent duty rate.[15] The increase to 25 percent has been postponed until further notice.[16]

THE PRODUCT

Description and applications

CISP is used primarily in the sanitary systems and storm drain piping, waste piping, and vent piping of buildings[17] and is intended for gravity-flow, non-pressure applications.[18] The scope of this investigation includes nonmalleable finished and unfinished CISP, regardless of industry or proprietary specifications, and regardless of wall thickness, length, diameter, surface finish, end finish, or stenciling.[19] See figure I-1 for images of the subject CISP products. Finished CISP are coated, while unfinished CISP are uncoated.[20] Domestic producers usually apply an asphaltic coating, but a small amount of pipe is finished using epoxy e-coating.[21] One

[14] *Imports of Steel Mill Articles (Steel Articles) Under Section 232 of the Trade Expansion Act of 1962, As Amended (19 U.S.C.1862), Presidential Proclamation 9705*, March 8, 2018, 83 FR 11625, March 15, 2018. *HTSUS (2019) Basic edition*, USITC Publication 4862, January 2019, pp. 99-III-5 - 99-III-6.

[15] *Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 FR 47974, September 21, 2018.

[16] *Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 84 FR 7966, March 5, 2019. See U.S. notes 20(e) and 20(f), *HTSUS (2019) Basic edition*, USITC Publication 4862, January 2019, pp. 99-III-21 - 99-III-22, 99-III-40, 99-III-68.

[17] Petition, p. 6.

[18] CISPI Designation: 301-12, Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications, p. 1.

[19] Petition, p. 5.

[20] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 24.

[21] The domestic producers do not utilize the typical epoxy coating that requires painting or spraying the cast iron soil pipe. Domestic producers use an epoxy electrical coating method or e-coating, which has application limitations. Typical epoxy coated cast iron soil pipes are only manufactured by foreign producers.

(*continued*...)

foreign producer reported production of epoxy-coated CISP.[22] The coatings provide a smooth, glossy, hard but not brittle finish that is free of blisters and blemishes.[23]

Figure I-1
Cast iron soil pipe: Images of cast iron soil pipe (CISP)

			
Hubless Pipe	Hub and Spigot Pipe	Double-Hub Pipe	Close up of a CISP hub

Source: Lowe's Companies Inc., https://www.lowes.com/pd/Charlotte-Pipe-4-in-x-2-ft-ABS-DWV-Pipe/3415778, https://www.lowes.com/pd/Charlotte-Pipe-4-in-dia-x-5-ft-Cast-Iron-Pipe/3407076, https://www.lowes.com/pd/Charlotte-Pipe-4-in-dia-x-5-ft-Cast-Iron-Pipe/3407078, and https://www.plumbersstock.com/ridgid-34570-chain-extension-assembly-for-model-246.html?utm_source=google&utm_medium=cpc&adpos=3o10&scid=scplp112244&sc_intid=112244&gclid=EAIaIQobChMIoIf2sN-52QIVj4jICh0VkwDSEAkYCiABEgIFh_D_BwE (accessed February 13, 2018).

(…*continued*)

In the e-coating process, unfinished CISP is submerged in a bath of ground epoxy particles and water. An electrical charge is applied to the CISP which causes the epoxy particles to form a thin layer on the pipe. E-coating is limited to certain five-foot pipe produced by Charlotte Pipe and accounts for a small percentage of the company's CISP production. Conference transcript, p. 96 (Simmons). Charlotte pipe produces the small amount of epoxy e-coating CISP because they thought it would "give just a better tactile feel to our customers, to the plumber that's handling the thing every day." Conference transcript, p. 98 (Dowd).

In terms of the application of the coatings, e-coating bonds the epoxy directly to the cast iron while an epoxy coating is merely sprayed on or painted on. An epoxy coating is thicker than a coating applied with e-coating and the epoxy coating is available in various colors while the e-coating is only available in black. The petitioner reported that other than these differences the final coatings are physically similar. The petitioner makes no claim that e-coated pipe offers advantages over CISP coated with an asphaltic coating. Petitioner's postconference brief, p. 10 and Exhibit 4.

New Age claims that its epoxy-coated CISP has greater corrosion resistance and can resist pH levels of 2 to 12. Conference transcript, p. 121 (Singh).

CISP with an asphaltic coating can resist pH levels of 4.3 or higher. However, the Cast Iron Soil Pipe Institute claims that 95 percent of the soils in the United States are non-corrosive to cast iron and that in soils which may cause corrosion, a loose wrap of polyethylene film can be used to protect CISP coated with the traditional asphaltic coating. Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 7.

[22] One importer, New Age, was known to sell epoxy-coated CISP imported from HengTong Casting, a Chinese foundry. Conference transcript, pp. 117–118 (Singh).

[23] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 24.

The material from which CISP is made, cast iron, is an alloy primarily composed of iron, carbon, and silicon. The carbon content of cast iron is greater than 2 percent, while steel contains less than 2 percent carbon. In comparison with steel, the carbon and silicon content of cast iron gives it characteristics that are beneficial to casting, such as a lower melting temperature, more fluidity in a molten state, less reactivity with molding materials, and less change in volume during the conversion from a liquid to a solid.[24]

Commerce's scope references only nonmalleable cast iron, which includes gray iron.[25] Gray iron contains interconnected graphite flakes which form during solidification of the iron.[26] Neither ductile iron nor malleable iron were mentioned in Commerce's scope definition: ductile iron contains graphite that occurs as spheroids owing to the addition of a small amount of magnesium to the molten iron[27] and malleable cast iron contains graphite which occurs as irregularly shaped nodules as a result of heat treatment after the castings are formed. The form in which the graphite occurs in the cast iron determines a range of properties in the cast iron.[28]

CISP is classified either as "hub and spigot pipe" or "hubless pipe."[29] [30] Hub and spigot pipe has a hub (enlarged end) into which the spigot (plain end) of another pipe or fitting is inserted.[31] The joint is sealed with a compression gasket[32] or molten lead and oakum.[33] Hubless pipe is manufactured without a hub and is joined to a fitting or another pipe using a hubless coupling that fits over the ends of the pipe and fitting or of the pipes, and is tightened to seal the joint.[34] Hubless CISP is produced to CISPI 301 and ASTM A888 standards[35] and hub and spigot CISP is produced to ASTM A74 standards.[36] [37] Hub and spigot CISP meets the CISPI 301 standard in all aspects other than product dimensions and shapes.[38]

---

[24] Atlas Foundry Company, *Understanding Cast Irons*.

[25] Petition, p. 5.

[26] Atlas Foundry Company, *Understanding Cast Irons - Gray Iron*.

[27] Atlas Foundry Company, *Understanding Cast Irons - Ductile Iron*.

[28] Atlas Foundry Company, *Understanding Cast Irons - Malleable Iron*.

[29] Petition, p. 5.

[30] Hub and spigot CISP is available in two classes or thicknesses: Service and Extra Heavy. Hubless CISP is available in only one class of thickness. Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 8.

[31] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 8.

[32] A compression gasket is made of rubber or another material and fits between the inside of the hub and the outside of the spigot to create a seal. Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 8, 45–46.

[33] Oakum is made from vegetable fiber, cotton, or hemp, and is packed into the joint between the hub and spigot. Molten lead is then poured into the joint and allowed to solidify and the joint is caulked with a caulking iron to seal the joint. Cast Iron Soil Pipe Institute, Cast Iron Soil Pipe and Fittings Handbook, 2006, p. 8, 47–49.

[34] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 8.

[35] Petition, p. 5.

[36] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 8.

[37] One foreign producer, HengTong Casting, reported manufacturing CISP to European standard EN877. Conference transcript, p. 112 (Zhao).

[38] Conference transcript, p. 92 (Simmons).

Manufacturing processes[39]

CISP is manufactured by melting scrap iron, steel scrap, and alloys[40] in a cupola furnace[41] and casting the metal into the desired shapes. The first step in producing CISP is to screen all scrap metal for radiation and to remove any contaminated materials. The scrap metal is then transferred to a storage area until it is time to melt the metal in the cupola furnace. In a vertically erected, cylindrical cupola furnace, an initial layer of coke is ignited and then the scrap and alloys, coke, and limestone (which helps remove coke ash and other impurities), are loaded in alternating layers. Generally the raw-material inputs consist of eight to ten parts of metal by weight to one part of coke. Alloys added to the melt include ferrosilicon and silicon carbide, among others, although alloys only account for around 1 to 2 percent of the total volume of metal.[42] Tuyeres (nozzles) inject combustion air or blast air heated up to 1,200 degrees Fahrenheit into the furnace. As the initial inputs are reduced, additional scrap, coke, and limestone are added to the furnace, resulting in a melting process that is usually continuous. The molten metal is discharged through a tap hole near the bottom of the furnace and is either stored in a holding furnace or is taken directly to the casting area in refractory-lined ladles.

To meet ATSM standards, the pipe receives standardized markings during the casting process. All pipes, whether hubless or hub and spigot types, must be labeled with its 1) country of origin, 2) manufacturer's name or registered trademark, and 3) date of manufacture. The hub and spigot ASTM standard A74 requires CISP to be labeled for one of the two categories: Service or SV, and Extra Heavy or XH. The ATSM standards also permit nonstandard markings on CISP if such markings are not misleading as to the identification of the manufacturer by the end user.[43] Examples of common nonstandard markings are the size of the pipe or the mark "CI NO HUB" which is associated with the members of Cast Iron Soil Pipe Institute meeting the CISPI 301 standard which is equivalent to ASTM standard A888.[44]
To meet CISPI 301 and ASTM A888 standards, CISP is marked continuously on the barrel with a minimum of 0.75-inch lettering starting within 3 inches of each end of the pipe. As for the hub and spigot pipe, the marking shall be stenciled on the pipe or otherwise applied to be clear and legible according to ASTM standard A74. The lettering shall be a minimum of ¾-inch size.[45]

---

[39] Unless otherwise stated, information in this section was taken from the Cast Iron Soil Pipe Institute's *Cast Iron Soil Pipe and Fittings Handbook*, 2006, pp. 12-24.

[40] Chinese manufacturers reportedly use a high percentage of pig iron in the production of CISP. Conference transcript, p. 95 (Simmons).

[41] Electric melting equipment can be used as well, but the cupola furnace is the primary production method.

[42] *Cast Iron Soil Pipe Fittings from China, Inv. Nos. 701-TA-583 and 731-TA-1381 (Preliminary)*, USITC Publication 4722, p. I-10.

[43] Petitioner's posthearing brief, pp. 20-22 (Schagrin).

[44] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 22.

[45] Petitioner's posthearing brief, pp. 20-22 (Schagrin).

The molten metal from the cupola furnace is cast into CISP using centrifugal casting. In the centrifugal pipe casting process, molten metal transported from the cupola furnace is added to a sand-lined or water-cooled metal mold.[46] The ends of the mold are sealed with either a sand core or a metal core.[47] The mold is rotated on a horizontal axis to create a centrifugal force while the molten metal is added to the mold. The centrifugal force causes the molten metal to spread uniformly onto the mold's inner surface to the desired dimensions of the pipe. The molten iron is allowed to cool inside the rotating mold until the iron solidifies, at which point the pipe is removed from the mold and moved to the foundry's cleaning and finishing department. If sand cores have been used, once fully cool, the castings are still covered with a small amount of sand that must be removed. The sand from the used molds is recycled.

Cleaning the CISP after it is removed from the molds involves removing not only sand, but also burrs and sharp edges on the ends of the pipe.[48] After the CISP is cleaned, it is inspected and tested before it receives any finishing it might need. Domestic producers generally finish CISP with an asphaltic coating which is applied by dipping the pipe into a bath of coating material.[49] Alternatively, one domestic producer reported using e-coating to finish a small amount of its CISP production.[50] One foreign producer reported using epoxy finish which is sprayed or painted onto the pipe.[51] The coatings provide a smooth, glossy, hard but not brittle finish that is free of blisters and blemishes.[52] The epoxy coating reportedly also provides extra protection against corrosion.[53]

DOMESTIC LIKE PRODUCT ISSUES

The petitioner proposes a single domestic like product, co-extensive with the scope.[54] No further issues with respect to domestic like product have been raised by parties in these investigations. In the preliminary phase of these investigations, the Commission defined a single domestic like product consisting of all CISP coextensive with the scope of these investigations.[55]

---

[46] When a water-cooled metal mold is used, the inside of the mold may be coated with refractory materials in the form of a thin slurry to prevent the cast pipe from sticking to the mold. Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 18.

[47] Production of hub and spigot pipe requires a sand core on the end of the mold to form the hub end of the pipe. Hubless pipe production generally uses metal cores to close off both ends of the mold, but a sand core can also be used. Conference transcript, p. 99 (Simmons).

[48] Conference transcript, pp. 29-30 (Simmons).

[49] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 24.

[50] Conference transcript, p. 96 (Simmons).

[51] Conference transcript, p. 97 (Simmons).

[52] Cast Iron Soil Pipe Institute, *Cast Iron Soil Pipe and Fittings Handbook*, 2006, p. 24.

[53] Conference transcript, p. 121 (Singh).

[54] Petition, p. 13.

[55] *Cast Iron Soil Pipe from China, Investigation Nos. 701-TA-583 and 731-TA-1381 (Preliminary)*, USITC Publication 4769, March 2018.

PART II: CONDITIONS OF COMPETITION IN THE U.S. MARKET

U.S. MARKET CHARACTERISTICS

Cast iron soil pipe ("CISP") is a nonmalleable iron casting used in sanitary and storm drain systems, waste piping systems, and vent piping systems of buildings, commonly referred to as drain, waste and vent systems (or "DWV").[1] It is used primarily in industrial, commercial, and larger residential buildings, as well as public buildings such as schools and hospitals, but may also be used for storm drainage from roofs, yards, areaways, and courts. Consequently, construction activity is the primary driver of demand for CISP. It is almost always used in conjunction with cast iron soil pipe fittings, which adjoin the pipes together, and sometimes with drainplates, drain assembly components, couplings, and rubber gaskets. It is frequently sold and shipped as part of a system that includes at least CISP fittings and occasionally these other materials.

The U.S. market is primarily served by two domestic producers (that produce both pipe and fittings) and by imports from China, with limited nonsubject imports. CISP sold in the United States is typically manufactured to particular specifications and standards set by organizations such as ASTM and The Cast Iron Soil Pipe Institute ("CISPI"). Domestic manufacturers Charlotte Pipe and McWane subsidiaries AB&I and Tyler make up the members of CISPI, and CISPI is highly involved in setting standards. CISP is primarily sold to distributors, which often partner with one sole supplier on a long-term basis. Much of the market involves exclusive purchasing arrangements, in which purchasers buy only from one supplier on an annual basis, with little to no mixing of suppliers.

Apparent U.S. consumption of CISP increased during January 2015-June 2018. Overall, apparent U.S. consumption in 2017 was *** percent higher than in 2015, and was *** percent higher in January-June 2018 compared with January-June 2017.

U.S. PURCHASERS

The Commission received 17 usable questionnaire responses from firms that purchased CISP during January 2015-June 2018.[2] Sixteen of the responding purchasers are distributors, and one firm (***) is a plumbing contractor. All responding purchasers identified their primary customers as plumbing and mechanical contractors, with one firm (***) indicating that it also sold to municipalities. In general, responding U.S. purchasers were located in all geographic regions of the United States, with pluralities of responding firms located on the Pacific Coast

[1] Petition, p. 6.

[2] Of the 17 responding purchasers, 15 purchased domestic cast iron soil pipe, 3 purchased imports of the subject merchandise from China, and none purchased imports of cast iron soil pipe from other sources. None of the responding purchasers reported being the importer of record for any cast iron soil pipe purchases during 2015-17.

and Northeast regions (4 firms each), followed by the Midwest (3 firms), and the Southeast, Central Southwest, and Mountain regions (2 firms each). The largest responding purchasers of CISP by value were ***, which accounted for *** percent and *** percent, respectively, of the value of all reported purchases in 2017. Both *** reported purchasing exclusively from domestic producers ***. The largest responding purchaser of CISP imported from China by value was ***, which accounted for a very small portion (*** percent) of the value of all reported purchases in 2017.

CHANNELS OF DISTRIBUTION

U.S. producers and importers both reported selling the vast majority of CISP to distributors (table II-1). U.S. producers reported selling *** percent of their product to distributors, and importers of CISP from China reporting selling *** of their product to distributors during January 2015-June 2018.

Table II-1
Cast iron soil pipe: U.S. producers' and importers' U.S. shipments, by source and channel of distribution, 2015-17, January-June 2017, and January-June 2018

* * * * * * *

GEOGRAPHIC DISTRIBUTION

U.S. producers and importers reported selling CISP to all regions in the contiguous United States (table II-2). U.S. producers reported shipping most of their product to the Northeast and Pacific Coast regions (for *** and *** percent of their reported shipments in 2017, respectively). Importers reported shipping most of their product to the Northeast region (for *** percent of their reported shipments in 2017). For U.S. producers, *** percent of their sales were within 100 miles of their production facilities, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold *** percent within 100 miles of their U.S. points of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.[3]

Table II-2
Cast iron soil pipe: Geographic market areas in the United States served by U.S. producers and importers

* * * * * * *

[3] ***.

SUPPLY AND DEMAND CONSIDERATIONS

U.S. supply

Table II-3 provides a summary of the supply factors regarding CISP from U.S. producers and from China.

Table II-3
Cast iron soil pipe: Supply factors that affect the ability to increase shipments to the U.S. market

	Capacity (short tons)		Capacity utilization (percent)		Ratio of inventories to total shipments (percent)		Shipments by market, 2017 (percent)		Able to shift to alternate products
Country	2015	2017	2015	2017	2015	2017	Home market shipments	Exports to non-U.S. markets	No. of firms reporting "yes"
United States	***	***	***	***	***	***	***	***	*** of 2
China	***	***	***	***	***	***	***	***	*** of 6

Note.--Responding U.S. producers accounted for all U.S. production of cast iron soil pipe in 2017. Responding foreign producer/exporter firms accounted for slightly more than three-fourths of U.S. imports of cast iron soil pipe from China (by quantity) during 2017. 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 CISP have the ability to respond to changes in demand with large changes in the quantity of shipments of U.S.-produced CISP to the U.S. market. The main contributing factor to this degree of responsiveness of supply is the availability of large amounts of unused capacity. Factors mitigating this level of supply responsiveness include a limited ability to shift shipments from other markets or from alternative products.

U.S. producers' capacity utilization increased by approximately six percentage points from 2015 to 2017, driven primarily by an increase in production of *** percent during this time.[4] U.S. producers' ratio of inventories to total shipments also increased during 2015-17, from *** to *** percent. Only a very small percentage of U.S. producers' shipments (between *** percent (2016) and *** percent (2015)) were to non-U.S. markets during 2015-17. *** reported being able to produce other products on the same equipment as CISP.

[4] Petitioners state that the production of CISP is much less capital- and labor- intensive than the production of CISP fittings, and that pipe operations "need to be significantly more profitable in order to carry the operations of the foundry overall." Hearing transcript, p. 51 (Simmons); Petitioners' prehearing brief, p. 12.

Subject imports from China[5]

Based on available information, producers of CISP from China have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of CISP to the U.S. market.[6] The main contributing factors to this degree of responsiveness of supply are the availability of some unused capacity, the ability to shift shipments from alternative markets, and a higher export sales price for Chinese CISP than the sales price in China.[7]

Responding Chinese producers' reported capacity utilization increased by approximately 15 percentage points in 2017, due to an increase in production of *** percent. Chinese producers' reported capacity did not change during this time. Chinese producers' ratio of inventories to total shipments decreased during 2015-17, from *** to *** percent. Chinese producers' non-U.S. export shipments decreased from *** percent in 2015 to *** percent in 2017, while the share of their home market shipments relative to total shipments increased from *** percent in 2015 to *** percent in 2017. *** of the six responding Chinese producers indicated directly being able to produce other products on the same equipment as CISP, the share of out-of-scope product produced on the same equipment as CISP ranged from *** percent (2017) to *** percent (2015). Only one Chinese producer reported these other products, listing "pig iron." One Chinese producer named "environmental protection" as a production constraint, and another named a 30-day annual maintenance shutdown as a constraint.

Imports from nonsubject sources

Import statistics indicate that nonsubject imports accounted for 4.0 percent of total U.S. imports of CISP in 2017, down from 7.3 percent in 2015 and 9.4 percent in 2016.[8] Among responding importers, the sole reported nonsubject import source in 2017 was Canada. Two importers, *** reported nonsubject imports from *** in January-June 2018; *** reported importing *** short tons and *** reported importing *** short tons.[9]

---

[5] The Commission received fewer foreign producer questionnaire responses in the final phase of these investigations than in the preliminary phase. Accordingly, several preliminary phase foreign producer responses have been used in this final phase to supplement the data set.

[6] Petitioners argue that Chinese producers overall have significant excess capacity and "target the U.S. market with their excess supply." Petitioners' prehearing brief, pp. 4, 28-32.

[7] In its prehearing brief, Chinese respondent China Foundry Association stated that the export sales price of China's CISP is higher than the sales price in China. China Foundry Association's prehearing brief, pp. 4-5. See also hearing transcript, pp. 18-19 (Cloutier).

[8] Compiled from official U.S. import statistics for HTS statistical reporting number 7303.00.0030, accessed November 1, 2018.

[9] ***, accessed November 9, 2018.

Supply constraints

*** U.S. producers and half of importers reported refusing, declining, or otherwise being unable to supply CISP since January 1, 2015. *** reported that increased environmental regulations in China have forced the shutdown of foundries in China, and that this has created supply constraints since 2017. *** reported that it has been unable to place orders "because of the fear of the antidumping duty." *** reported that it had shipments from China delayed or cancelled due to "sharply decreased supply."

Among purchasers, five of 17 responding firms reported supply constraints. Three of these purchasers stated that U.S. producers require exclusivity from their customers, and that they will not sell to firms that also purchase imported CISP. One firm (***) reported that Charlotte experienced production issues that led to supply restrictions for a period of two months, but that it has since returned to its normal production cycle. One firm (***) reported that NewAge has been unable to provide a continuous supply due to environmental regulations in China as well as the current and related antidumping investigations and tariffs. *** elaborated that these constraints affected NewAge's ability to supply epoxy-coated product, and that it has had to substitute standard tar-coated CISP when allowed.

When asked if the availability of CISP from various sources had changed since January 2015, one purchaser reported that the availability of U.S. produced product had changed, and six reported that the availability of Chinese imports had. While one firm reported that there was an increase in the availability of Chinese product, five firms reported a decrease in the availability of Chinese product for reasons related to environmental regulations, the antidumping investigation and tariffs, and a general decrease in the number of vendors. One of these firms (***) stated that the decrease in the number of vendors also affected nonsubject imports.

New suppliers

Four of the 17 responding purchasers indicated that new suppliers entered the U.S. market since January 1, 2015, with two of them naming NewAge as a new market entrant. The third purchaser indicated that AB&I "may have come into the NYC territory," and the fourth purchaser did not specify a firm.

U.S. demand

Based on available information, the overall demand for CISP is likely to experience small changes in response to changes in price. The main contributing factors are the limited range of substitute products for most end-use applications and small cost share of CISP in the overall cost of the building or construction projects in which they are used.

End uses and cost share

U.S. demand for CISP depends on the demand for wastewater piping systems in residential, commercial, industrial, and public buildings. CISP accounts for a large share of the cost of these piping systems, generally ranging from 49 to 79 percent (although several firms reported a cost share of 100 percent), but a small portion of the overall cost of the overall building/construction project.[10]

Business cycles

*** U.S. producers, 2 of 10 importers, and 3 of 17 purchasers indicated that the market was subject to business cycles, and *** U.S. producers, 1 of 10 importers, and 2 of 17 purchasers indicated that the market was subject to distinct conditions of competition. Regarding business cycles, *** reported that demand for CISP is seasonal, with *** indicating that it peaks in the summer months due to high construction activity and declines during the winter months. Regarding distinct conditions of competition, *** cited oversupply in the market, and *** cited code changes that allow for more use of substitutes. *** cited several factors, including the role of CISPI standards,[11] anticompetitive behavior[12] among the members of CISPI, the closing of factories in China due to environmental regulations, and the increased availability of several substitutes.

*** U.S. producers, 2 of 3 importers, and 4 of 6 purchasers reported changes in the conditions of competition for the CISP market since 2015. *** reported that there are many more firms importing Chinese product, and *** reported that there has been an increase in construction along with a decrease in domestic prices. *** reported an improvement in commercial business, *** reported that plastic pipe is allowed in a greater number of applications, and *** cited the antidumping duty on CISP fittings, an increase in the price for domestic cast iron products, and stricter Chinese environmental regulations, which have reduced availability.

---

[10] Only one firm reported cost shares for cast iron soil pipe as a share of the total cost of the entire building structure; *** reported a cost share of 1 percent.

[11] CISPI is an industry organization "dedicated to aiding and improving the plumbing industry" by distributing technical reports, conducting research, setting standards, and advance the use and distribution of cast iron soil pipe and fittings. See *CISPI website*, https://www.cispi.org/, retrieved December 6, 2018. It is made up exclusively of the two petitioning firms, Charlotte and McWane. While imported product can be produced to CISPI specifications, imported product is not eligible for CISPI certification or to use the trademark. Hearing transcript, pp. 66, 121 (Simmons); Respondent Wells' posthearing brief, p. 2. For more on CISPI, see "CISPI trademark" below.

[12] Charlotte and McWane have both been involved in several investigations and lawsuits regarding alleged anticompetitive behavior, including confidential acquisitions, non-compete agreements, and price fixing. For more on these anticompetitive allegations, see the section entitled "Anticompetitive allegations" below.

Demand trends

*** U.S. producers and half of the responding importers (5 of 10 firms) reported an increase in U.S. demand for CISP since January 2015, while four importers reported no change and one reported that demand fluctuated (table II-4). Among purchasers, a plurality (7 firms) reported no change in demand, while 5 reported that demand had increased, 4 reported that it fluctuated, and 1 reported that it decreased. Among the firms reporting an increase, four cited an increase in construction spending, and one firm (***) cited "tariffs." The only firm reporting a decrease in U.S. demand for CISP, ***, cited the use of plastics as a substitute. *** noted that while demand for CISP has increased overall, the increase has been mitigated by the growing use of plastics.

Table II-4
Cast iron soil pipe: Firms' responses regarding U.S. demand and demand outside the United States, by number of responding firms

Item	Increase	No change	Decrease	Fluctuate
Demand in the United States				
U.S. producers	***	***	***	***
Importers	5	4	---	1
Purchasers	5	7	1	4
Demand outside the United States				
U.S. producers	***	***	***	***
Importers	1	1	1	---
Purchasers	---	1	---	1
Demand for purchasers' end use products	---	2	---	1

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

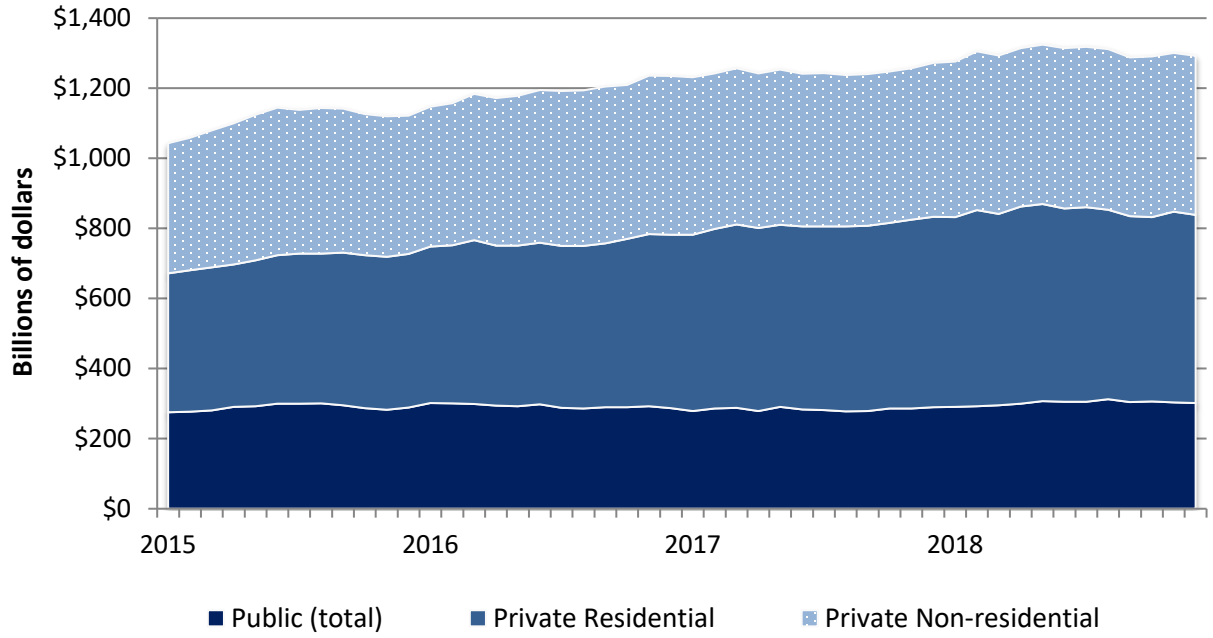
Demand for CISP in the United States is driven by construction spending on public, private non-residential (including commercial), and larger private residential buildings.[13] As can be seen in figure II-1, the value of construction put in place in the United States grew from January 2015 to December 2018. Overall, the seasonally adjusted values of public construction, private residential construction, and private non-residential (including commercial) construction put in place increased between January 2015 and December 2017 by 5.1 percent, 37.1 percent, and 18.5 percent, respectively. Between December 2017 and June 2018, the value of public, private residential, and private non-residential construction put in place increased by 5.5 percent, 1.5 percent, and 4.2 percent, respectively. Between June and November 2018, the value of public construction, private residential construction, and private non-residential construction put in place decreased, by 1.3 percent, 2.7 percent, and 0.7 percent, respectively.[14]

[13] See also *Cast Iron Soil Pipe Fittings from China, Invs. Nos. 701-TA-583 and 731-TA-1381 (Final)*, USITC Publication 4812, August 2018, p. II-8.

[14] Petitioners argue that demand slowed in the second half of 2018, and demand for multi-family homes and commercial buildings is projected to decrease in 2019 due in part to an increase in interest

(*continued*...)

Figure II-1
Construction spending: Total public, private residential, and private non-residential construction spending, annual value of construction put in place, seasonally adjusted, monthly, January 2015-December 2018

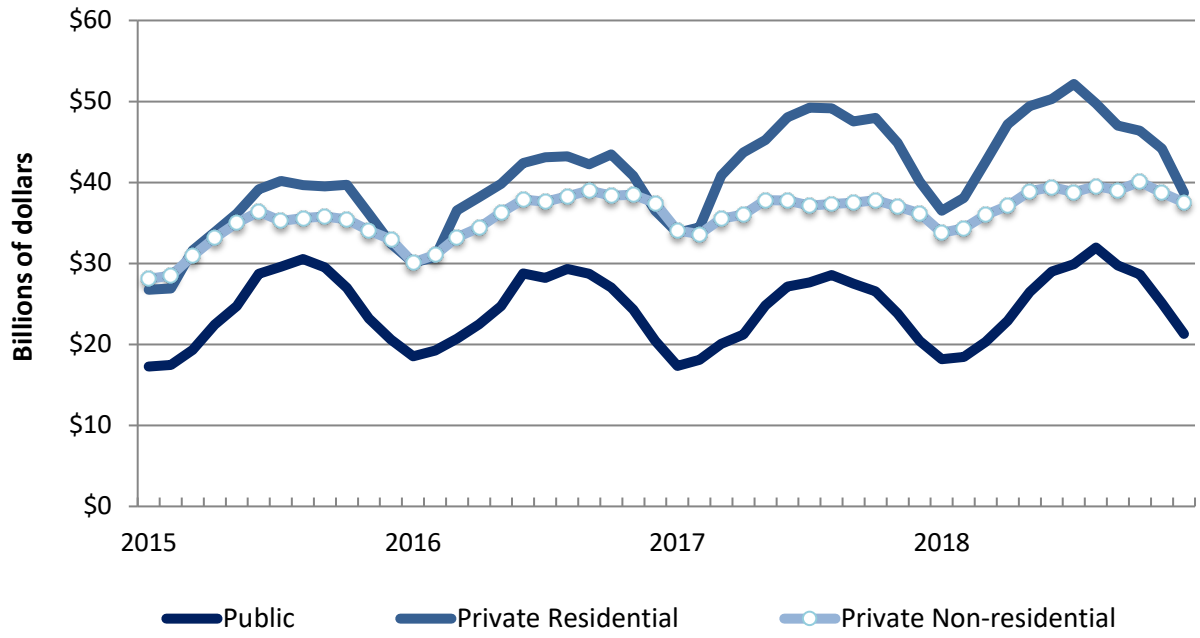


Source: https://www.census.gov/construction/c30/historical_data.html, retrieved March 7, 2019.

As shown in figure II-2, construction spending is highly seasonal. Non-seasonally adjusted construction spending was typically lowest each January and then generally increased through the summer months, remaining at elevated levels through October before falling in the final months of the year. Public and private residential construction spending had comparatively more seasonal variation, while private non-residential construction spending had the least seasonal variation.

(…*continued*)
rates. Petitioners' prehearing brief, pp. 5-6, 44-45; Hearing transcript, pp. 48-49 (Hardison). Solco testified that it is seeing an overall decrease in construction demand for the first time since 2010. Hearing transcript, p. 55 (Miller).

Figure II-2
Construction spending: Total public, private residential, and private non-residential construction spending, annual value of construction put in place, not seasonally adjusted, monthly, January 2015-December 2018



Source: https://www.census.gov/construction/c30/historical_data.html, retrieved March 7, 2019.

Substitute products

Most firms (*** U.S. producers, 3 of 8 importers, and 13 of 15 purchasers) reported that there were substitutes for CISP.[15] All of these firms listed plastic pipe and/or PVC as the first substitute in plumbing/drain, waste, and vent applications, although the use of plastic pipe and fittings tends to be limited to smaller residential buildings.[16] According to Charlotte, plastic soil

[15] One firm, ***, selected both 'yes and 'no,' citing "maybe plastics to some degree."

[16] According to the New York City plumbing construction code, for example, "{p}lastic piping and fittings may only be used in residential buildings five stories or less in height." See https://www1.nyc.gov/assets/buildings/apps/pdf_viewer/viewer.html?file=2014CC_PC_Chapter7_Sanitary_Drainage.pdf&section=conscode_2014, retrieved February 23, 2019. See also *Cast Iron Soil Pipe Fittings from China, Invs. Nos. 701-TA-583 and 731-TA-1381 (Final)*, USITC Publication 4812, August 2018, p. pp. II-7 to II-8 and II-10 to II-11.

Heng Tong testified that the City of Chicago recently approved the use of plastic soil pipes in any-sized building, but petitioners dispute this, indicating that this was part of a pilot program that applied to buildings only four stories or less. Documents from the City of Chicago Plumbing Materials Pilot Program indicate that "other existing buildings up to 80 feet in height … may be deemed eligible for participation in the pilot program after an in-person meeting with the Building Commissioner and

(*continued*...)

pipe is typically used in single-family homes, and the migration from CISP to plastic pipe "was essentially over by the mid-1980s."[17] Some localities' plumbing codes may also mandate the use of cast iron pipe.[18] Most of these firms (*** U.S. producers, 1 importer, and 12 purchasers) reported that the price of plastic pipe has not affected the price of CISP, although 2 importers reported that it has. *** reported that the price of CISP has not been affected due to its superior fire resistance and noise abatement properties,[19] and *** reported that while the price of plastic has not affected the price of CISP it has "substantially affected {the} market share of cast iron." Importers *** reported that the price of plastic/PVC has affected the price of CISP, stating that the use of this substitute has affected demand for CISP.

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported CISP 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 domestic and imported CISP are highly substitutable, though preferences for domestic product or domestic exclusivity requirements may limit this degree of substitutability.

Lead times

CISP is sold from inventory. U.S. producers reported that 100 percent of their commercial shipments were sold from inventory in 2017, with an average lead time of *** days, while importers reported that the vast majority of their commercial shipments (*** percent) were sold from inventory, with an average lead time of just over 3 days. The remaining *** percent of importers' commercial shipments were produced-to-order, with a lead time average of *** days. No importers reported commercial shipments from a foreign manufacturers' inventory.

(…*continued*)
demonstrate compelling benefits." Hearing transcript, p. 171 (Gao); Petitioners' posthearing brief, p. 14 and Exhibit 3.

[17] Hearing transcript, pp. 48 (Hardison), 98-99 (Dowd).

[18] Conference transcript, pp. 32-33 (Dowd).

[19] See also *Cast Iron Soil Pipe Fittings from China, Invs. Nos. 701-TA-583 and 731-TA-1381 (Final)*, USITC Publication 4812, August 2018, pp. II-10 to II-11; Conference transcript, pp. 33-34 (Dowd). When burned, plastic pipe can also give off deadly gasses. Conference transcript, p. 142 (Singh).

Knowledge of country sources

Sixteen purchasers indicated they had marketing/pricing knowledge of domestic product, and three had knowledge of product from China. No firm reported marketing/pricing knowledge from nonsubject countries.

As shown in table II-5, the vast majority of purchasers reported "always" making purchasing decisions based on the producer and country of origin. Half of responding purchasers (8 of 16 firms) reported that their customers "sometimes" make purchasing decisions based on the producer, while a plurality of purchasers (6 of 14 firms) reported that their customers "sometimes" made decisions based on country of origin.

Table II-5
Cast iron soil pipe: Purchasing decisions based on producer and country of origin

Purchaser/customer decision	Always	Usually	Sometimes	Never
Purchaser makes decision based on producer	13	---	1	2
Purchaser's customers make decision based on producer	2	4	8	2
Purchaser makes decision based on country	11	1	---	4
Purchaser's customers make decision based on country	1	5	6	2

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

In explaining these responses, several firms cited a preference for domestic product, with some contractors requiring it. One firm (***) indicated that NewAge is the primary supplier of epoxy-coated CISP in the U.S. market, and that some customers require this product.

Factors affecting purchasing decisions

The most often cited top three factors firms consider in their purchasing decisions for CISP were price and/or the offering of rebates (13 firms), followed by factors related to supplier relationship or country/supplier preference (11 firms), quality (9 firms), and availability (7 firms) (table II-6). Factors related to supplier relationship or country/supplier preferences were the most frequently cited first-most important factors (cited by 7 firms), followed by quality (4 firms), then price/rebates (3 firms). Quality was the most frequently reported second-most important factor (5 firms); and price/rebates was the most frequently reported third-most important factor (6 firms).

Table II-6
Cast iron soil pipe: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor

Factor	First	Second	Third	Total
Supplier relationship / preference[1]	7	3	1	11
Quality	4	5	---	9
Price / rebates	3	4	6	13
Availability	2	3	2	7
Other[2]	1	1	5	7

[1] The specific supplier relationship and supplier preference factors identified were traditional supplier (3 firms); domestic, relationship with supplier, and country of origin (2 firms each); and local in market (1 firm). Three of the four firms listing additional factor also listed long term partnerships, customer preference, and contractor or end-user preference.
[2] Other factors include service and customer/market acceptance (2 firms each); and availability of epoxy-coated products, buying requirements, selective distribution, support, and ability to complete order in time (1 firm each).

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

A plurality of purchasers (8 of 17) reported that they "never" purchase the CISP product offered at the lowest price. Four reported that they "sometimes" do, 4 reported that they "usually" do, and 1 reported that it "always" does.

When asked if they specifically order CISP from one country in particular over another possible source of supply, 10 of 15 firms reported that they do. Eight of these purchasers reported a preference for domestic product, and two reported a preference for Chinese product. Only one of these firms elaborated further, citing a demand for epoxy-coated product, which is only available from Chinese sources.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 23 factors in their purchasing decisions (table II-7). Purchasers rated most factors as very important, and relatively few as only somewhat or not important. The factors rated as very important by the majority of purchasers generally related to quality, product reliability, availability, and price. The factors rated as not important by the majority of purchasers were availability of epoxy-coated product, bundled products (with plastic pipe & fittings), and customer rebates.

Table II-7
Cast iron soil pipe: Importance of specified purchase factors, as reported by U.S. purchasers, by factor

Factor	Very important	Somewhat important	Not important
Product consistency	17	---	---
Availability	16	1	---
Delivery time	16	1	---
Product range	16	1	---
Quality meets industry standards	16	1	---
Reliability of supply	15	2	---
Delivery terms	14	3	---
Rebates – to your firm	14	3	---
Discounts offered	14	2	---
Price[1]	13	4	---
Quality exceeds industry standards	13	3	1
Bundled products – with cast iron pipe fittings	12	4	---
Technical support/service	11	4	2
Traditional supplier	11	4	2
Extension of credit	11	2	4
CISPI certified	9	5	3
U.S. transportation costs[1]	6	9	1
Promotional incentives (non-rebate)	6	7	4
Packaging	5	10	1
Minimum quantity requirements	4	7	6
Availability of epoxy-coated product	4	---	13
Bundled products – with plastic pipe & fittings	3	2	13
Rebates – to your customers	---	6	11

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

Purchasers were also asked whether different types of customers they sell to have different requirements for the CISP they purchase. Five of the 16 responding firms reported that they did, whereas 11 reported that they did not. Among the firms reporting customer requirements, three stated that some of their customers require domestic product, with one stating that some specify a particular supplier. One purchaser stated that some customers require CISPI certification, while another firm that did not report its customers having differing requirements (***) noted that "CISPI has a standard that most U.S. customers expect to be met for the pipe that they buy."

Promotional activities

Purchasers were also asked about the importance of certain promotional activities on their purchasing decisions. As shown in table II-8, purchasers rated direct rebates as the most important incentive in their decision to purchase domestic CISP.[20] Rebates to their customers and bonus packs were rated as moderately important by the next largest number of responding

[20] Further information regarding rebates in this industry can be found in Part V, "Rebates."

firms, and promotional allowances was rated as minimally important by half of responding firms. Pluralities of firms reported that indirect rebates, bonus couplings/gaskets, and other incentives were not offered. Either all or the majority of responding purchasers reported that the specified promotional activities were either not offered by suppliers of Chinese product or only minimally important.

Table II-8
Cast iron soil pipe: Purchasers' ratings of the importance of various promotional activities, by number of responding firms

	None[1]	Minimal[2]	Moderate[3]	Substantial[4]
Cast iron soil pipe from U.S. producers				
Direct rebate[5]	1	1	2	11
Indirect rebate[6]	6	---	3	5
Rebates to your customers	5	3	5	1
Promotional allowances	2	7	3	2
Bonus packs	3	4	4	3
Bonus couplings/gaskets	6	5	2	1
Other incentives	5	3	---	1
Cumulative impact of all incentives	---	1	3	8
Cast iron soil pipe from Chinese producers				
Direct rebate	3	3	---	---
Indirect rebate	4	2	---	---
Rebates to your customers	6	---	---	---
Promotional allowances	6	---	---	---
Bonus packs	6	---	---	---
Bonus couplings/gaskets	6	---	---	---
Other incentives	5	---	---	---
Cumulative impact of all incentives	3	3	---	---

[1] Not offered.
[2] Offered, minimal impact on purchasing decisions.
[3] Offered, moderate impact on purchasing decisions.
[4] Offered, substantial impact on purchasing decisions.
[5] Direct rebates are associated directly with the purchase/sale of cast iron soil pipe.
[6] Indirect rebates are associated with the purchase/sale of pipe system "bundles" which include cast iron soil pipe.

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

In additional comments, several purchasers identified direct rebates as the most important promotional activity which affects their CISP decisions. Two firms also listed relationship-building (either with their supplier or with their customers) as important, two listed "customer trips," one listed advertising, and one listed adherence to California Plumbing Code.

Purchasers were also asked to rate and describe the effect of several factors on the prices they pay for CISP. As shown in table II-9, rebates and domestic requirements/preferences were reported to have the most substantial effect on the prices they pay, while the availability

of substitute products, competition among U.S. producers, and the availability of subject imports were reported to have comparatively less effect.[21]

Table II-9
Cast iron soil pipe: Purchasers' ratings of various factors on the prices it pays for cast iron soil pipe, by number of responding firms

Factor	Rating of the factor				
	No/Minimal effect				Substantial effect
	1	2	3	4	5
Rebates	1	3	2	3	8
Domestic requirements and/or preferences	2	2	3	3	5
Availability of substitute products	7	1	5	2	1
Competition among U.S. producers	5	1	4	4	3
Availability of subject imports	5	4	3	3	1
Other[1]	2	1	1	---	---

[1] Two purchasers each reported that "other" factors had either no role or a minimal impact, though what these factors were was not specified by any purchaser.

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

Supplier certification

Only two responding purchasers require their suppliers to become certified or qualified to sell CISP to their firm, while the remaining 15 do not. Neither of these purchasers reported the time it takes to qualify a new supplier. *** reported that the product it purchases must be CISPI-certified. No responding purchasers reported that any firm had failed in its attempt to qualify CISP or had lost its approved status since 2015.

[21] Importer and respondent Wells argues that the effect of competition between U.S. producers has a substantial effect on the CISP market. It argues that Charlotte and McWane aggressively compete with one another on price, and that their comparative size advantage and market power (over importers) make any impact from lower import prices minimal. Respondent Wells' posthearing brief, p. 4.

CISPI trademark[22]

U.S. producers, importers, and purchasers were asked a series of questions about the role of the CISPI trademark, including the share of the product their firm sells or purchases that carry the trademark and the proportion of their product that could be used in a building that required the trademark. Purchasers were also asked about the difficulty or ease in substituting CISP that does not carry the trademark if the building plans require it.

As shown in table II-10, the two responding U.S. producers reported that more than 99 percent of their CISP bears the CISPI trademark. Six of nine importers reported that less than 1 percent of their product contain the CISPI trademark, while two (***) reported that 11-50 percent carry the CISPI trademark, and one (***) reported that more than 99 percent of its product contains the CISPI trademark.[23] Among purchasers, the large majority of firms (13 of 17) reported that more than 99 percent of the product they purchase contains the CISPI trademark, while 2 reported that 50-90 percent did and 2 reported that less than 1 percent did. This is generally consistent with reported purchase sources, as 15 firms reported only purchasing domestic product during 2015-17,[24] while two firms (***) reported purchasing only Chinese product, and one firm (***) reported only domestic purchases in 2015 and 2016 and purchases from both domestic and Chinese sources in 2017. Firms' responses regarding the amount of their product that could be used in a building that required CISP with the CISPI

---

[22] As noted earlier in this section, the Cast Iron Soil Pipe Institute is a domestic industry advocacy and trade group that "seek{s} to advance interest in the manufacture, use and distribution of cast iron soil pipe and fittings, and through a program of research and the cooperative effort of soil pipe manufacturers, strive{s} to improve the industry's products, achieve standardization of cast iron soil pipe and fittings, and provide a continuous program of product testing, evaluation and development." It offers "collective trademarks" such as CI, Ç®, or CI NO-HUB® that are only available to its members, although non-CISPI members can produce, advertise, and offer "certification marks" on their CISP and fittings products made to CISPI specifications. Hearing transcript, pp. 66, 121 (Simmons); Respondent Wells' posthearing brief, p. 2. See also *CISPI website*, https://www.cispi.org/, accessed November 15, 2018.

A certification mark refers to a "standard met with respect to quality, materials, or mode of manufacture," such as CISPI 301. See *USPTO website, Certification Marks*, https://tmep.uspto.gov/RDMS/TMEP/current#/current/TMEP-1300d1e585.html, accessed March 7, 2019. A collective trademark, such as CI, Ç®, or CI NO-HUB®, is "*owned by* a collective entity… {and is} for use only by its members, who in turn use the mark *to identify their goods or services and distinguish them from those of nonmembers*." See *USPTO website, Collective Marks Generally*, https://tmep.uspto.gov/RDMS/TMEP/current#/current/TMEP-1300d1e319.html , accessed March 7, 2019.

[23] *** likely misunderstood the question, since it is exclusively an importer of Chinese CISP, and while its products can contain the "CISPI Standard 301" marking, they do not appear to carry the CISPI trademark. See ***, retrieved February 23, 2019.

[24] Charlotte and McWane subsidiaries AB&I and Tyler are the only members of CISPI. See https://www.cispi.org/about-the-institute/member-directory/, accessed November 15, 2018.

trademark generally mirrored their responses regarding the amount of CISPI product they sold or purchased.[25]

Table II-10
Cast iron soil pipe: U.S. producers', importers', and purchasers' responses regarding CISPI trademark issues, by number of responding firms

Item	0-1 %	2-10 %	11-50 %	51-90 %	91-98 %	99-100 %
	Number of firms responding					
Sales/purchases containing CISPI trademark						
U.S. producers	---	---	---	---	---	2
Importers	6	---	2	---	---	1
Purchasers	2	---	---	2	---	13
Amount of product that can be used in building that requires CISPI trademark						
U.S. producers	---	---	---	---	---	2
Importers	4	---	1	---	---	1
Purchasers	1	---	1	1	---	13

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

Purchasers were also asked about the steps required to substitute CISP that do not carry the trademark if the building plans require it, as well as how long it would take to authorize such a substitution, and how much it would cost a contractor that decided to make such a change. Only three firms elaborated: *** reported that it would need a mechanical engineer's approval; *** reported that it would have to convince a mechanical contractor to consider an alternative; and *** reported that CISPI is not a required certification and that since only Charlotte and McWane companies belong to it, the institute's "credibility is directly tied to support for the domestic brands."[26] Regarding the number of days to obtain an authorization to change to a non-CISPI product, *** reported 30 or more, *** reported 10, and *** reported "a few or never." Only one firm (***) estimated the cost to a contractor of switching, estimating a cost of $500-$1,000.

Anticompetitive allegations

U.S. producers, importers, and purchasers were also asked a series of questions about whether three separate investigations (including a 2013 Federal Trade Commission ("FTC") inquiry and consent order, a 2012 FTC inquiry involving ductile iron pipe fittings, and a 2014

[25] Charlotte stated that there are no standards or building codes that require a product to bear the CISPI trademark, but that some engineers do specify for CISPI-trademarked products to be used "as an indication to the consumer that those products have been inspected." Hearing transcript, pp. 62-63 (Simmons).

[26] While the CISPI trademark is only available to its members, there are specifications such as CISPI 301 or CISPI 310 that define the standard and characteristics for such designations, and non-CISPI members, including foreign producers, can identify products they offer as meeting such specifications. See http://www.mgcoupling.com/files/CISPI%20Designation%20310-12.pdf.

district court litigation and subsequent settlement) regarding alleged anticompetitive behavior affected their firm, the market, or prices for CISP and the market for CISP since January 2015.[27]

As shown in table II-11, most firms reported that neither of the FTC's actions nor the district court litigation had any effect on their firm, the market, or prices since January 2015.

[27] According to FTC documents, Star Pipe entered the domestic cast iron soil pipe ("CISP") market in 2007 and expanded its sales base throughout the United States between 2007 and 2010. In 2010 Charlotte purchased Star Pipe's CISP business for approximately $19 million, and, "after the acquisition, Charlotte Pipe destroyed Star Pipe's CISP production equipment {and} entered into an agreement under which Star Pipe and its employees kept the acquisition secret and agreed not to compete with Charlotte Pipe in the CISP market for six years." In May 2013, the FTC issued an order requiring Charlotte "to inform industry participants of its prior confidential acquisitions as well as its role in Star Pipe's exit from the CISP market… to notify the FTC before making similar acquisitions in the United States…" and prohibiting Charlotte from "enforcing any provision of a confidentiality and non-compete agreement with Star Pipe." See https://www.ftc.gov/news-events/press-releases/2013/04/charlotte-pipe-and-foundry-settles-charges-its-2010-purchase-star, accessed November 15, 2018. At the hearing for a related product, cast iron soil pipe fittings, Charlotte testified that it shut down operations on Star Pipe's affiliated Chinese producer because it "discovered that this foundry was significantly polluting the air and water and had no safety standards in place for its workers." Cast Iron Soil Pipe Fittings hearing transcript, p. 28 (Dowd).

With respect to a different iron pipe product, in January 2012 "{t}he FTC charged that three companies, McWane, Inc., Star Pipe Products, Ltd., and Sigma Corporation, illegally conspired to set and maintain prices for {ductile iron} pipe fittings, and that McWane illegally maintained its monopoly power in the market for U.S.-made pipe fittings by implementing an exclusive dealing policy." Sigma and Star Pipe settled during or prior to the litigation, and in May 2013 the presiding judge "dismissed charges that McWane illegally conspired with its competitors to raise and stabilize DIPF prices but found that McWane violated the antitrust laws when it excluded competitors from the market for U.S. made ductile iron pipe fittings." The decision was appealed, but on February 6, 2014, the FTC issued a decision finding that "McWane unlawfully maintained its monopoly in the domestic fittings market through its 'Full Support Program,' which foreclosed potential entrants from accessing distributors. The FTC's order bars McWane from requiring exclusivity from its customers. On April 17, 2015, the Eleventh Circuit upheld the Commission's order." See https://www.ftc.gov/enforcement/cases-proceedings/101-0080b/mcwane-inc-star-pipe-products-ltd-matter, accessed November 15, 2018.

In August 2014, a complaint was filed in district court alleging that Charlotte, McWane, and CISPI "conspired to fix, raise, maintain and stabilize the prices of cast iron soil pipe from at least January 1, 2006 through December 31, 2013." In May 2017, final approval was granted to a $30 million settlement between direct purchasers and the defendants. See https://www.cohenmilstein.com/case-study/cast-iron-soil-pipe-and-fittings-antitrust-litigation, accessed November 15, 2018.

Table II-11
Cast iron soil pipe: Effect of anti-competitive actions and allegations, by number of responding firms

Item	Effect on firm		Effect on market		Effect on price	
	No	Yes	No	Yes	No	Yes
FTC 2013 action and consent order						
U.S. producers	***	***	***	***	***	***
U.S. importers	4	3	4	3	4	3
U.S. purchasers	13	3	9	5	10	4
FTC 2012 action regarding ductile pipe fittings						
U.S. producers	***	***	***	***	***	***
U.S. importers	7	---	7	---	7	---
U.S. purchasers	13	1	13	---	12	---
District court 2014 litigation and 2017 settlement						
U.S. producers	***	***	***	***	***	***
U.S. importers	5	2	5	2	4	3
U.S. purchasers	12	2	12	1	12	1

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

While *** reported that these allegations or actions had any effect on the firm, the market, or on prices, nearly half of importers and several purchasers reported that the CISP-related actions and allegations did have an effect.[28] In reference to the 2013 FTC inquiry and consent order, Charlotte argued that it "disclosed its acquisitions in compliance with a consent agreement reached in 2013, no wrongdoing was found, and those transactions far pre-dated the POI in this case."[29] In contrast, *** stated that the shutting down of Star Pipe by Charlotte created uncertainty in the market, and many customers switched to domestic suppliers for fear that the same could happen to other importers. *** stated that the shutdown of Star Pipe took that firm out of the market, with *** indicating that it began purchasing from AB&I as a result. *** stated that Star Pipe was the largest importer and had been successful in being awarded projects, but after it was shut down and a "propaganda campaign" was implemented by CISPI to label the imported products as inferior, smaller importers were less successful in selling products to new projects. *** reported that the 2013 inquiry and order had a positive effect, "since it was an importer and it made our domestic sources more valuable." *** reported that the 2013 inquiry and order increased prices of CISP, with *** stating that prices rose by "up to 40 percent in some market segments."

With regards to the 2014 district court complaint and 2017 settlement, two purchasers (***) indicated that they were a party to the settlement, *** "direct purchaser plaintiff."[30] ***

[28] In reference to the 2012 FTC action regarding ductile pipe fittings, only one purchaser reported any effects. *** stated that it had a negative effect, "as it resulted in a lot of work and depositions which in the end appeared to be more beneficial to importers than domestic producers."

[29] Petitioners' prehearing brief, p. 4.

[30] According to the settlement agreement, the following firms were listed as "former direct purchaser plaintffs": Aaron & Company, Inc.; Capitol Group, Inc.; Coastal Plumbing Supply Co.; Eastway Supplies, Inc.; Las Vegas Supply Company, Inc.; Mountain States Supply, LLC; Mountainland Supply, LLC; Security

(*continued*...)

stated that it filed a claim to recover a portion of the amount it was "overcharged by the defendants," Charlotte and McWane. *** also stated that it was questioned in reference to this case and its legal fees exceeded $10,000. *** reported that the settlement increased prices for CISP, while *** reported that it decreased domestic producers' prices so that they could retain market share. The petitioners argue that "the class action antitrust suit… resulted in no findings of wrongdoing, and was settled for a fraction of the claimed damages to avoid the nuisance of litigation."[31]

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since 2015. Most firms that reported purchasing domestic product (9 of 13) reported constant purchases, while one reported increasing domestic purchases and two reported decreasing domestic purchases (table II-12). *** reported increasing domestic purchases due to an increase in its market share, and *** reported decreasing domestic purchases, but did not elaborate. Most firms that reported purchases of Chinese CISP (3 of 4) reported constant purchases. The one firm that reported increasing its purchases from China (***), did not elaborate.

Table II-12
Cast iron soil pipe: Changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	1	2	1	9	1
China	11	---	1	3	---
All other countries	12	---	---	1	---
Sources unknown	12	---	---	1	---

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

Purchasers were also asked a series of questions relating to their purchase histories. Fourteen of the 17 responding firms indicated that they only purchase from one supplier, with the remaining three reporting that they purchase from three suppliers. A majority of responding firms (10 of 17) indicated that that they had been sourcing from their supplier(s) for at least 10 years, with seven reporting that they had been sourcing from the same supplier(s) for 20 years or more. The least amount of time reported with one supplier was 4 years (***), while the most was 40 years (***). When asked which firms they consider to be the main

(…*continued*)
Supply Corp.; and Trumbull Industries, Inc. Among the firms that provided responses to the Commission's purchaser questionnaire, the following (9 of 17) firms were listed as "known opt-outs," or firms that either released their claims against the Defendants or opted out of any litigation or settlement class certified in the Action: ***. See Direct Purchaser Class Action Settlement Agreement, United States District Court, Eastern District of Tennessee at Chattanooga, EDIS doc no. 637217.

[31] Petitioners' prehearing brief, p. 4.

competitors with their current suppliers, firms named Charlotte (10 of 15 responding firms), McWane or one of its subsidiaries (10 firms), and NewAge (3 firms). One firm cited imports generally, and one firm (***) stated that "it used to be China, now after the tariffs it is the United States."

Most purchasers (14 of 17 firms) reported that they had not changed suppliers since January 2015, while three reported that they had. *** reported that *** shifted its purchases to Charlotte; *** reported dropping AB&I in favor of NewAge due to customer demand for epoxy-coated product (which domestic suppliers do not offer); and *** reported shifting from AB&I to NewAge because it was "***." When asked if they had incurred any costs or lost any benefits by purchasing from a different supplier, 1 of 8 responding firms replied affirmatively: *** reported that it "lost the ability to purchase products from domestic sources," but did not estimate a specific dollar amount it had lost or forfeited. When asked if they would have incurred any costs or lost any benefits if they had changed suppliers since January 2015, 5 of 15 firms reported that they would have: *** reported that it would have lost as much as $2 million in loyalty rebates; *** reported that it would forfeit a loyalty rebate of approximately 23 percent if it changed vendors in the middle of the year, whereas it would earn the rebate if it stayed with one vendor for an entire year; and *** reported that "a substantial amount of the {annual} rebate {would be} lost" if one of its locations changed from one domestic producer to another mid-year. *** also reported that it "would lose rebates, but {would} need to balance that off with any different price point."

When asked how likely they were to change suppliers of CISP in 2018 and 2019, the majority of responding purchasers (11 of 16) reported being "not at all" likely to change suppliers in 2018 or 2019, with the 5 remaining firms reporting that they were "slightly" likely to change suppliers in 2018 or 2019. Four of the firms that reported being slightly likely to change suppliers listed domestic producers as their primary supplier (two listed Tyler, one listed AB&I, and one listed Charlotte), while one listed NewAge.

Importance of purchasing domestic product

Purchasers were asked to estimate the percentage of their 2017 purchases of CISP that was required to be produced domestically. As shown in table II-13, the greatest number of firms reported that they either required domestic product for reasons related to customer preference, or their purchases had no domestic requirement (7 firms each). As a share of the value of the responding firms' reported purchases in 2017, 41.0 percent was required to be domestic for other reasons (such as CISPI certification), 29.8 percent was required to be domestic for reasons related to customer preference, and 20.1 percent had no domestic requirement.[32] [33] While several firms reported that their domestic purchases were required by

[32] As a share of the value of all responding firms' reported purchases in 2017, 20.3 percent was required to be domestic for other reasons (such as CIPI certification), 14.8 percent was required to be domestic for reasons related to customer preference, and 10.0 percent had no domestic requirement.

federal law, required by state law, or required by their customers for reasons related to another organization (such as a local plumbers' union), these categories only accounted for 2.4 percent, 0.8 percent, and 6.0 percent, respectively, of the value of these responding firms' reported purchases in 2017.

Table II-13
Cast iron soil pipe: Importance of purchasing domestic product, by number of responding firms, by value of responding firms' 2017 purchases, and by percent of 2017 purchases

Domestic requirement type	Number of purchasers reporting	Value of reporting firms' 2017 purchases	Percent of reporting firms' 2017 purchases	Percent of all firms' 2017 purchases
No domestic requirement[1]	7	***	20.1	10.0
Domestic required by federal law[2]	4	***	2.4	1.2
Domestic required by state/local law[3]	1	***	0.8	0.4
Domestic required by customers (e.g., another organization)[4]	3	***	6.0	3.0
Domestic required by customers (e.g., customer preference)[5]	7	***	29.8	14.8
Domestic required for other reasons (e.g., CISPI certified)[6]	4	***	41.0	20.3
Total	15	***	100.0	49.6[7]

[1] Purchases that did not require domestic product.
[2] Purchases that were required by federal law or regulation to be domestic product (e.g., government purchases under "Buy American" provisions).
[3] Purchases that were required by state/local law or regulation to be domestic (e.g., to meet local plumbing codes).
[4] Purchases that were not required by law or regulation, but were required by customers to be domestic product by another organization (e.g., local plumbers' union rules/preference).
[5] Purchases that were not required by law or regulation, but were required by customers to be domestic product for some other reason (e.g., customer preference).
[6] Purchases that were required to be domestic product for other reasons (e.g., CISPI certified, other).
[7] ***. Based on this estimate, approximately 65 percent or more of *** responding firms' purchases in 2017 was required to be domestic for at least one of the reasons detailed above, and 35 percent or less had no domestic requirement.

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

Purchasers were asked how frequently the building projects for which they supply CISP have a variance in the building plans that changes the manufacturer or source of the product to be used in that project. The majority of purchasers (10 of 17 firms) reported that they "never" do, while six reported that they "sometimes" do, and one firm (***) reported that they "always" do.[34]

(…*continued*)

[33] Only one firm, ***, elaborated on its decision to purchase domestic product for other reasons, stating that it "bought USA pipe to be good Americans."

[34] ***.

Comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing CISP produced in the United States, China, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 23 factors, for which they were asked to rate the importance (table II-14).[35] Most purchasers rated U.S.-produced CISP as superior to Chinese product on most factors. A majority of purchasers reported that U.S. and Chinese CISP were comparable on "bundled products (with CISP fittings)," while an equal number of purchasers rated the U.S. as superior and comparable for "quality meets industry standards" and "packaging." Most purchasers reported that U.S. product was inferior to that from China with respect to the "availability of epoxy-coated products." On the topic of price, an equal number of purchasers rated the U.S. as superior, comparable, and inferior to Chinese product.

When comparing U.S. CISP to that from nonsubject sources, most purchasers reported that U.S. product was superior on most factors. When comparing Chinese CISP to that from nonsubject sources, either a majority or an equal number of firms rated that Chinese CISP was inferior for all factors.

[35] These are identical to the factors listed in table II-7 (importance of specified purchase factors).

Table II-14
Cast iron soil pipe: Purchasers' comparisons between U.S.-produced and imported product

Factor	U.S. vs. China			U.S. vs. nonsubject			China vs. nonsubject		
	S	C	I	S	C	I	S	C	I
Product consistency	6	4	---	3	1	---	1	---	1
Availability	7	3	---	3	1	---	---	1	1
Delivery time	7	3	---	3	1	---	---	1	1
Product range	5	4	1	2	2	---	---	1	1
Quality meets industry standards	5	5	---	3	1	---	1	---	1
Reliability of supply	6	2	---	3	1	---	---	1	1
Delivery terms	6	3	1	3	1	---	1	---	1
Discounts offered	5	1	2	4	---	---	---	---	1
Rebates – to your firm	8	---	2	4	---	---	1	---	1
Price	3	3	3	2	1	1	---	1	1
Quality exceeds industry standards	6	3	1	3	1	---	1	---	1
Bundled products – with cast iron pipe fittings	4	5	---	2	2	---	---	1	1
Technical support/service	6	3	---	3	1	---	1	---	1
Extension of credit	6	3	---	4	---	---	---	1	1
Traditional supplier	6	3	---	3	1	---	---	1	1
CISPI certified	6	4	---	2	2	---	---	---	2
Promotional incentives (non-rebate)	6	3	---	2	2	---	---	---	2
U.S. transportation costs	6	4	---	3	1	---	---	1	1
Packaging	4	4	2	2	2	---	1	---	1
Availability of epoxy-coated product	1	1	6	1	1	1	1	---	1
Minimum quantity requirements	5	2	2	2	2	---	1	---	1
Bundled products – with plastic pipe & fittings	5	3	---	2	2	---	---	---	2
Rebates – to your customers	5	3	---	1	3	---	---	---	2

[1] A rating of superior means that price/U.S. transportation cost is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

Note.--S=first listed country's product is superior; C=both countries' products are comparable; I=first list country's product is inferior.

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

Purchasers were asked if certain sizes, grades, or types of CISP (such as epoxy-coated product) were available only from certain country sources. Five of 14 firms reported that they were, with four firms stating that epoxy-coated product was only available from Chinese and some European sources and not from domestic producers.[36] U.S. producers and importers were also asked whether they manufacture certain sizes, types, grades, or coatings of CISP that they do not sell in the United States. *** U.S. producers reported that ***. Only one of 10 importers (***) reported that it did, although it mentioned a McWane coating facility in the United Arab

[36] Among these purchasers, two purchased exclusively domestic product during 2015-17, two purchased exclusively Chinese product, and one purchased exclusively domestic product in 2015 and 2016 and both domestic and Chinese product in 2017.

Emirates that imports Chinese product and coats it to the EN 877 standards for the Middle Eastern and European markets, which requires epoxy coating.[37]

Comparison of U.S.-produced and imported cast iron soil pipe

In order to determine whether U.S.-produced CISP can generally be used in the same applications as imports from China, U.S. producers, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-15, *** U.S. producers reported that CISP from ***. Most importers rated U.S. and Chinese CISP as either always or frequently interchangeable, whereas a plurality of purchasers rated U.S. and Chinese CISP as sometimes interchangeable.

[37] McWane reports offering hubless cast iron soil pipe and fittings to the ISO 6594/EN 877 standards. See *McWane International website, Soil Pipe and Accessories*, available at http://www.mcwaneinternational.com/products/catalog/commercial-construction-plumbing/iso-en-standard-2/soil-pipe-and-accessories-2/, retrieved November 16, 2018.

CSN EN 877 is a European standard for cast iron pipes, fittings, and their joints and accessories. It "specifies the requirements for the materials, dimensions and tolerances, mechanical properties, appearance, standard coatings and quality assurance for cast iron pipes, fittings and accessories… and indicates performance requirements for all components, including joints." See *European Standards website, CSN EN 877*, available at https://www.en-standard.eu/csn-en-877-cast-iron-pipes-and-fittings-their-joints-and-accessories-for-the-evacuation-of-water-from-buildings-requirements-test-methods-and-quality-assurance/?gclid=CjwKCAjw3cPYBRB7EiwAsrc-ufjas6XmB33Ts80hg4bbuqUhLLDgNchsdiFVRz7sSLqMdNrPIajnxhoCygEQAvD_BwE, retrieved November 16, 2018.

Charlotte indicated that standards in the European Union have historically been more stringent than in the United States, and that they have different length/diameter requirements and more extensive epoxy coatings that are designed for increased corrosion resistance. *See* Staff field trip report, Charlotte Pipe, May 23, 2018, EDIS document no. 663718. Foreign producer Heng Tong stated that asphalt-coated CISP has been banned in several countries, including Australia, Hong Kong, and all European countries. Heng Tong prehearing brief, p. 3.

Table II-15
Cast iron soil pipe: Interchangeability between cast iron soil pipe produced in the United States and in other countries, by country pair

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. subject countries:												
U.S. vs. China	***	***	***	***	4	1	3	1	3	1	4	1
Nonsubject countries comparisons:												
U.S. vs. nonsubject	***	***	***	***	---	---	---	1	1	1	1	---
China vs. nonsubject	***	***	***	***	---	---	---	---	1	---	1	---

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

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

In additional comments, *** stated that the existence of different standards in different countries, the practice of domestic producers voiding warranties if their product is used with an imported pipe or fitting, and restrictive selling policies by domestic producers limit interchangeability. *** also stated that the domestic producers' warranty being voided if two product sources are mixed together limits interchangeability. *** stated that the inability to switch between domestic and imported product once a source is approved by architects and engineers, and that the preference for CISPI-trademarked product by engineering firms and building owners limits interchangeability. Finally, *** stated that tar-coated product (which is produced by both domestic and Chinese sources) is not interchangeable with epoxy-coated product (which is not produced by domestic manufacturers).

As can be seen from table II-16, the large majority of responding purchasers reported that domestically produced CISP always met minimum quality specifications, while half of responding purchasers reported that Chinese CISP always met minimum quality specifications and the other half reported that it usually did.

Table II-16
Cast iron soil pipe: Ability to meet minimum quality specifications, by source[1]

Source	Always	Usually	Sometimes	Rarely or never
United States	13	3	---	---
China	2	2	---	---
Other	---	---	---	---

[1] Purchasers were asked how often domestically produced or imported cast iron soil pipe meets minimum quality specifications for their own or their customers' uses.

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

In addition, producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of CISP from the United States, China, or nonsubject countries. As seen in table II-17, ***. Among importers, most firms reported that they were either always or frequently significant. Most purchasers reported that differences other than price were always significant, regardless of source.

Table II-17
Cast iron soil pipe: Significance of differences other than price between cast iron soil pipe produced in the United States and in other countries, by country pair

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. subject countries:												
U.S. vs. China	***	***	***	***	4	1	3	1	6	1	---	1
Nonsubject countries comparisons:												
U.S. vs. nonsubject	***	***	***	***	1	---	---	---	4	---	---	---
China vs. nonsubject	***	***	***	***	---	---	---	---	3	1	---	---

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

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

In additional comments, *** cited the limited range and long lead times of imports, the voiding of warranties if domestic and imported products are comingled, the inability of imported product to be used on union jobs, the influence of CISPI, the transportation and environmental cost of not buying locally, and the exclusivity requirements of domestic producers, as important non-price factors. *** cited its delivery and handling abilities (such as packaging by floor or section of a project, direct delivery to job sites, and indoor storage), and the offering of special coatings (such as epoxy-coated or zinc-adhering product) as important non-price factors. *** cited buying requirements and "ability to compete" as important non-price factors.

ELASTICITY ESTIMATES[38]

U.S. supply elasticity

The domestic supply elasticity[39] for CISP measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of CISP. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced cast iron soil pipe. Due to the relatively low level of reported capacity utilization, the U.S. industry appears to have the ability to greatly increase or decrease shipments to the U.S. market. A supply elasticity estimate in the range of 3 to 7 is suggested.

[38] No party provided comments on elasticity estimates.

[39] A supply function is not defined in the case of a non-competitive market.

U.S. demand elasticity

The U.S. demand elasticity for CISP measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of CISP. This estimate depends on factors discussed above such as the existence, availability, and commercial viability of substitute products, as well as the component share of the CISP in the production of any downstream products. Based on the available information, the aggregate demand for CISP is likely to be relatively inelastic; a range of -0.1 to -0.5 is suggested.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.[40] Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). While domestic and Chinese CISP appear highly physically interchangeable, warranty concerns, rebate incentives, and/or preferences for domestic (CISPI-trademarked) product may limit their substitutability in practice. Based on available information, the elasticity of substitution between U.S.-produced CISP and CISP imported from China is likely to be in the range of 2 to 4.

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

PART III: U.S. PRODUCERS' PRODUCTION, SHIPMENTS, AND EMPLOYMENT

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in Part I of this report and information on the volume and pricing of imports of the subject merchandise is presented in Part IV and Part V. Information on the other factors specified is presented in this section and/or Part VI and (except as noted) is based on the questionnaire responses of two firms that accounted for the all U.S. production of CISP during 2017.

U.S. PRODUCERS

The Commission issued a U.S. producer's questionnaire to two firms based on information contained in the petition. Both firms provided usable data on their production operations.[1] Staff believes that these responses represent all U.S. production of CISP.

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

Table III-1
CISP: U.S. producers of CISP, their positions on the petition, production locations, and shares of reported production, 2017

Firm	Position on petition	Production location(s)	Share of production (percent)
Charlotte	Petitioner	Charlotte, NC	***
McWane	Petitioner	Oakland, California Tyler, Texas	***
Total			***

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

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

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

Item / Firm	Firm Name	Affiliated/Ownership
Related producers:		
McWane	Bibby-Ste-Croix (Canada)	Owned by McWane, Inc.

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

[1] McWane is the sole owner of AB&I Foundry ("AB&I") and Tyler Pipe and Tube ("Tyler"), which produce CISP.

As indicated in table III-2, one U.S. producer is related to a foreign producer of nonsubject merchandise located in Canada.

Table III-3 presents U.S. producers' reported changes in operations since January 1, 2015.

Table III-3
CISP: U.S. producers' reported changes in operations, since January 1, 2015

* * * * * * *

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-4 and figure III-1 present U.S. producers' production, capacity, and capacity utilization during 2015-17, January-June 2017 ("interim 2017"), and January-June 2018 ("interim 2018"). Reported capacity remained relatively stable, slightly increasing during 2015-17 and slightly lower in interim 2018 than in interim 2017.[2] ***.[3] Charlotte and McWane's production increased from 2015 to 2017 by *** and ***, respectively. Total production increased *** in 2016 and *** in 2017. Compared with interim 2017, total production was *** percent higher in interim 2018. The increased production, coupled with relatively stable capacity resulted in capacity utilization increasing from *** in 2015 to *** in 2017. [4] In addition, it was *** higher in interim 2018 (***) compared with interim 2017 (***).[5]

Table III-4
CISP: U.S. producers' production, capacity, and capacity utilization, 2015-17, January to June 2017, and January to June 2018

* * * * * * *

Figure III-1
CISP: U.S. producers' production, capacity, and capacity utilization, 2015-17, January to June 2017, and January to June 2018

* * * * * * *

[2] ***. See Petitioner's posthearing brief, Answers to Commission Questions, pp. 10-11 and respondent Wells Plumbing's posthearing brief, p. 5-7.

[3] See Petitioner's posthearing brief, Answers to Commission Questions, pp. 10-11.

[4] The domestic industry reportedly requires high capacity utilization to absorb fixed costs of pipe and fittings production. Hearing transcript, p. 51 (Simmons). See also Respondent Wells Plumbing's posthearing brief, pp. 5-7.

[5] ***.

Alternative products

*** reported out-of-scope production between January 2015 and June 2018. *** of the product produced during 2015-17 and the first half of 2018 by U.S. producers was in-scope product.[6]

U.S. PRODUCERS' U.S. SHIPMENTS AND EXPORTS

Table III-5 presents data regarding U.S. producers' U.S. shipments, export shipments, and total shipments. U.S. producers' U.S. shipments increased from *** short tons in 2015 to *** short tons in 2017, while overall value decreased during this time, from *** to ***. As such, the average unit value ("AUV") of U.S. shipments of CISP decreased by *** between 2015 and 2017, from *** in 2015 to *** in 2016 before settling to *** in 2017. Interim 2018 U.S. producers' U.S. shipments were *** higher in quantity terms and *** higher in value terms compared with interim 2017, with an AUV of U.S. shipments that was *** lower in interim 2018 compared with interim 2017. U.S. producers' export shipments decreased by *** during 2015-17 and accounted for a decreasing share of total shipments, declining from *** in 2015 to *** in 2017 on a quantity basis. Additionally, the quantity of export shipments were *** lower in interim 2018 compared with interim 2017 and were lower as a share of total shipments, *** in interim 2018 compared with *** interim 2017.

Table III-5
CISP: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2015-17, January to June 2017, and January to June 2018

* * * * * * *

Table III-6 presents U.S. producers' U.S. shipments by region and product type in 2017. The product types include both hubless and hub and spigot types. Most (***) U.S. producers' domestic shipments of CISP are of hubless CISP. In total, most domestically produced CISP was shipped to *** and ***, *** and ***, respectively, followed by *** at *** percent and *** at *** percent. Of the *** of domestically produced CISP shipped to ***, ***, while of the *** of CISP shipments to ***, ***. The greatest regional difference in shipments between Charlotte and McWane was in *** with *** supplied by ***. The largest geographical area for CISP in 2017 for hubless CISP shipments was ***, and *** for hub and spigot CISP shipments.

[6] ***.

Table III-6
CISP: U.S. producers' U.S. shipments, by region and product types, 2017

* * * * * * *

The regions with the lowest AUVs were also the regions with the most shipments, *** at *** and *** at ***.[7] The regions in the contiguous United States with the highest AUVs for hubless CISP were *** at *** and for hub and spigot CISP, the *** at ***.[8] Conversely, the region with the lowest AUV for hubless CISP was *** at ***, which was *** in 2017. Similarly, the region with the lowest AUV for hub and spigot CISP was *** at ***, which was *** in 2017.[9] The average AUV of U.S. shipments of hub and spigot CISP was *** more than hubless varieties, with the largest difference occurring in *** and smallest in ***.

U.S. PRODUCERS' INVENTORIES

Table III-7 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments**.** End-of-period inventories increased by *** between 2015 and 2017 (***). Inventories were slightly higher in interim 2018 (***) compared with interim 2017 (***). Despite the relatively large increase in inventories during 2015-17, the ratio of inventories to U.S. production, shipments, and total shipments remained steady between 2015 and 2016 before increasing by *** in 2017. Furthermore, these ratios each were lower by *** in interim 2018 compared with interim 2017, even though the absolute inventories were higher.

Table III-7
CISP: U.S. producers' inventories, 2015-17, January to June 2017, and January to June 2018

* * * * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

There were ***. *** reported purchases of CISP during the period of investigation. ***.[10] ***.

[7] Respondent Wells Plumbing states that higher volumes suggest economies of scale may contribute to the lower AUVs in such regions for both domestic and imported CISP. Respondent Wells Plumbing's posthearing brief, Posthearing Questions, p. 1.

[8] *** had the lowest volume of hub and spigot CISP U.S. shipments in the contiguous United States in 2017.

[9] ***.

[10] ***.

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-8 shows U.S. producers' employment-related data from 2015 to 2017 and the interim periods (January to June 2017 and January to June 2018). The number of production and related workers (PRWs) remained relatively stable during this timeframe. Total hours worked increased, with *** more total hours worked in 2016 than in 2015 and *** more total hours worked in 2017. Hours worked per PRW increased each year since 2015, from 2015 to 2016 by *** hours worked per PRW in 2016 and an additional *** hours worked per PRW in 2017. Similarly, wages paid and hourly wages increased during 2015-17 by *** and ***. Productivity increased by *** during 2015-17, from *** to *** short tons per 1,000 hours and unit labor costs decreased by ***, from *** to *** during this time.

In interim 2018, total hours worked and wages paid were *** and *** higher than in interim 2017, respectively. Hourly wages and productivity were *** higher in interim 2018 than in interim 2017, while the number of PRWs and unit labor costs remained relatively stable.

Table III-8
CISP: U.S. producers' employment related data, 2015-17, January to June 2017, and January to June 2018

* * * * * * *

PART IV: U.S. IMPORTS, APPARENT U.S. CONSUMPTION, AND MARKET SHARES

U.S. IMPORTERS

The Commission issued importer questionnaires to 46 firms believed to be importers of CISP, as well as to all U.S. producers of CISP. Of the 10 responding firms, usable questionnaire responses were received from 10 companies, representing 78.0 percent of U.S. imports from China in 2017 and no imports from nonsubject countries under HTS statistical reporting number 7303.00.0030.[1] Table IV-1 lists all responding U.S. importers of CISP, their locations, and their shares of U.S. imports in 2017.

Table IV-1
CISP: U.S. importers by source, 2017

Firm	Headquarters	Share of imports by source (percent)		
		China	Nonsubject sources	All import sources
ASA	Burbank, CA	***	***	***
Burton	Douglaston, NY	***	***	***
LC Supply	Brooklyn, NY	***	***	***
Leo	Brooklyn, NY	***	***	***
Lino International Inc.	Flushing, NY	***	***	***
Max Supply Inc.	College Point, NY	***	***	***
NewAge	Sugar Land, TX	***	***	***
Steves	Jamaica, NY	***	***	***
Thermatix	Hicksville, NY	***	***	***
Wells	Chicago, IL	***	***	***
Total		100.0	100.0	100.0

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

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

The leading importer of CISP was ***, which accounted for *** of reported imports of CISP from China by quantity in 2017, followed by *** and *** which accounted for *** and ***, respectively. These top three importers of CISP from China accounted for *** of subject imports according to official import statistics. ***.

[1] ***.

U.S. IMPORTS

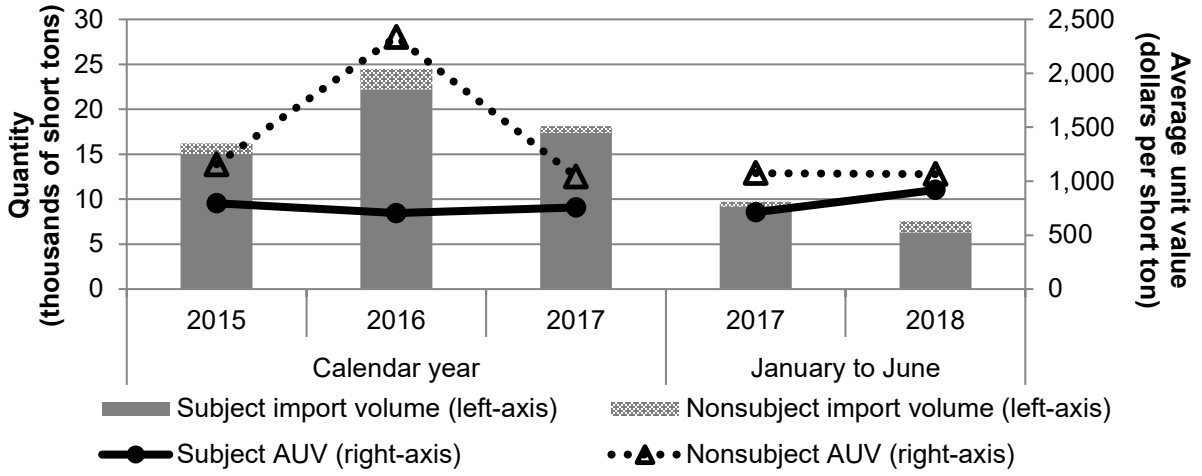
Table IV-2 and figure IV-1 present official import statistics for U.S. imports of CISP from China and all other sources during 2015-17, January-June 2017 ("interim 2017"), and January-June 2018 ("interim 2018"). Between January 2015 and June 2018, China was the largest source of imports of CISP, accounting for more than 90 percent by quantity of imports. In value terms, imports from China accounted for 89.7 percent of U.S. imports in 2015, decreasing to 74.4 percent in 2016 before increasing to 94.6 percent in 2018. U.S. imports from China as a share of total imports of CISP were lower by about 10 percentage points in quantity terms and value terms in interim 2018 compared with interim 2017.

Table IV-2
CISP: U.S. imports by source, 2015-17, January to June 2017, and January to June 2018

Item	Calendar year			January to June	
	2015	2016	2017	2017	2018
	Quantity (short tons)				
U.S. imports from.--China	15,029	22,208	17,390	9,147	6,294
Nonsubject sources	1,186	2,303	726	583	1,255
All import sources	16,216	24,511	18,116	9,730	7,549
	Value (1,000 dollars)				
U.S. imports from.--China	11,951	15,647	13,167	6,528	5,784
Nonsubject sources	1,372	5,382	757	627	1,337
All import sources	13,323	21,029	13,924	7,155	7,120
	Unit value (dollars per short ton)				
U.S. imports from.--China	795	705	757	714	919
Nonsubject sources	1,156	2,337	1,042	1,075	1,065
All import sources	822	858	769	735	943
	Share of quantity (percent)				
U.S. imports from.--China	92.7	90.6	96.0	94.0	83.4
Nonsubject sources	7.3	9.4	4.0	6.0	16.6
All import sources	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)				
U.S. imports from.--China	89.7	74.4	94.6	91.2	81.2
Nonsubject sources	10.3	25.6	5.4	8.8	18.8
All import sources	100.0	100.0	100.0	100.0	100.0
	Ratio to U.S. production				
U.S. imports from.--China	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to commission questionnaires and official U.S. import statistics for HTS statistical reporting number 7303.00.0030, accessed November 1, 2018.

Figure IV-1
CISP: U.S. import volumes and prices, 2015-17, January to June 2017, and January to June 2018



Source: Compiled from official U.S. import statistics for HTS statistical reporting number 7303.00.0030, accessed November 1, 2018.

Between 2015 and 2017, U.S. imports of CISP from China increased irregularly from 15,029 to 17,390 short tons. From 2015 to 2016, U.S. imports of CISP from China increased by 7,179 short tons ($3.7 million) before decreasing by 4,818 shorts tons ($2.5 million) in 2017. The quantity and value of imports from China in interim 2018 were 2,853 short tons (31.2 percent) and $745,000 (11.4 percent) lower than in interim 2017, respectively.[2] Imports from nonsubject sources were also at their period highs during 2016 for quantity and value.[3] In 2017, the quantity and value of imports of CISP from nonsubject sources declined (by 68.5 percent and 85.9 percent, respectively), but in contrast to imports of CISP from China, the quantity and value of imports from nonsubject sources were over 113 percent higher in interim 2018 compared with interim 2017 (672 short tons and $710,000).

During 2015-17, the average unit value ("AUV") of imports from China fluctuated, decreasing from $795 per short ton in 2015 to $705 per short ton in 2016. However in 2017, the AUV of CISP from China increased to $757 per short ton. Though imports from China were greatest in 2016 in terms of quantity and value, the AUV was the lowest. Compared with interim 2017, the AUV of CISP from China was 28.7 percent higher in interim 2018, while it remained relatively stable for CISP from nonsubject sources. From 2015 to 2017, the AUV of CISP from nonsubject sources was consistently higher than that of CISP from China, ranging from 23.7 percent to 66.0 percent higher than the AUV for CISP from China. In interim 2018, the

[2] The petitioner reiterates respondent Hengtong's claim that imports during interim 2018 were lower due to the petition filing for these investigations. Hearing transcript, p. 31 (Drake). See also respondent Hengtong's prehearing brief, p. 2.

[3] Imports of CISP from nonsubject sources increased by 94.1 percent in quantity terms, while value increased by 292.3 percent between 2015 and 2016.

AUV of nonsubject imports of CISP was 29.4 percent higher than the AUV of imports from China, compared with 39.2 percent higher in interim 2017.

In relation to U.S. production, during 2015-17, imports from China remained relatively constant overall after reaching a period high in 2016, reflecting the increase in imports from China that year. U.S. imports of CISP from China as a ratio to U.S. production were lower by *** in interim 2018 compared with interim 2017 as well. Comparing the same periods, the ratio of nonsubject imports to U.S. production was *** higher in interim 2018.

Table IV-3 presents U.S. importers' U.S. shipments by region and product type in 2017.

Table IV-3
CISP: U.S. importers' U.S. shipments of imports from China by region and product type, 2017

* * * * * * *

The product types include both hubless and hub and spigot types. Most U.S. importers' domestic shipments of CISP are of hubless CISP (*** and ***). In total, *** and *** of CISP imported from China are shipped to *** and *** regions, respectively, followed by *** at *** and *** at *** percent. The largest geographical areas for CISP by product type in quantity terms were *** (***) for hubless CISP and *** (***) for hub and spigot CISP.

The regions with the highest AUVs were *** at *** for hubless CISP and *** at *** for hub and spigot CISP. Conversely, the region with the lowest AUV for hubless CISP was *** at ***, which is *** with the highest volume of U.S. shipments (***).[4] Similarly, the region with the lowest AUV for hub and spigot CISP was *** at ***, which was ***.[5] The AUV of hub and spigot CISP was *** more than hubless varieties, with the largest difference occurring in *** and the smallest in ***.

NEGLIGIBILITY

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[6] 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

[4] Respondent Wells Plumbing states that higher volumes suggest economies of scale may contribute to the lower AUVs in such regions for both domestic and imported CISP. Respondent Wells Plumbing's posthearing brief, Posthearing Questions, p. 1. See discussion on p. III-3 of this report.

[5] ***. See discussion on p. III-3 of this report.

[6] 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)).

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.[7] Imports from China accounted for 96.0 percent of total imports of CISP by quantity during 2017, as stated below in table IV-4.

Table IV-4
CISP: U.S. imports in the twelve months preceding the filing of the petition, January 2017 to December 2017

Item	January 2017 to December 2017	
	Quantity (short tons)	Share of quantity (percent)
U.S. imports from.--		
China	17,390	96.0
Nonsubject sources	726	4.0
All import sources	18,116	100.0

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting number 7303.00.0030, November 1, 2018.

APPARENT U.S. CONSUMPTION

Table IV-5 presents data on apparent U.S. consumption of CISP constructed by U.S. producers' U.S. shipments and U.S. imports. By quantity, apparent U.S. consumption increased overall by *** from 2015 to 2017. It increased by *** between 2015 and 2016, from *** to ***, but subsequently decreased by *** in 2017 to ***. Apparent U.S. consumption was *** percent higher in interim 2018 than in interim 2017 in both quantity and value terms: *** in interim 2018 compared with *** in interim 2017.

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

Table IV-5
CISP: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2015-2017, January to June 2017, and January to June 2018

Item	Calendar year			January to June	
	2015	2016	2017	2017	2018
	Quantity (short tons)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	15,029	22,208	17,390	9,147	6,294
Nonsubject sources	1,186	2,303	726	583	1,255
All import sources	16,216	24,511	18,116	9,730	7,549
Apparent U.S. consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	11,951	15,647	13,167	6,528	5,784
Nonsubject sources	1,372	5,382	757	627	1,337
All import sources	13,323	21,029	13,924	7,155	7,120
Apparent U.S. consumption	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting number 7303.00.0030, accessed November 1, 2018.

Following an increase of 7,179 short tons between 2015 and 2016, U.S. imports from China fell by 4,818 short tons ($2.5 million) in 2017, while U.S. producers' shipments increased by ***, but decreased in value by *** that same year. Overall, U.S. imports from China increased in quantity and value terms during 2015-17, by 15.7 percent and 10.2 percent, respectively. Similarly, U.S. producers' U.S. shipments increased by *** from 2015 to 2017 in quantity terms, though their shipments declined by *** in value terms. U.S. producers' domestic shipments were *** higher in interim 2018 compared with interim 2017 (*** in quantity terms). In contrast, comparing the same periods, U.S. imports from China in interim 2018 were 31.2 percent lower than during interim 2017 and 11.4 percent lower in value terms.

MARKET SHARES

Table IV-6 and figure IV-2 present data on the market shares of CISP. U.S. producers' market share decreased from 2015 to 2016 by *** before increasing by *** in 2017. In contrast, U.S. imports from China increased in market share from *** in 2015 to *** in 2016, before declining by *** in 2017 to ***. Comparing interim periods, U.S. producers' market share was *** higher in quantity terms, and was *** higher in value terms during interim 2018 compared to that of 2017. Conversely, in interim 2018, the market share of U.S. imports from China were over *** lower in quantity terms: *** in interim 2018 compared with *** in interim 2017. In value terms, the market share of U.S. imports from China was *** lower in interim 2018 than in interim 2017.

Table IV-6
CISP: Market shares, 2015-2017, January to June 2017, and January to June 2018

* * * * * * *

Figure IV-2
CISP: Apparent U.S. consumption, 2015-17, January to June 2017, and January to June 2018

* * * * * * *

Like U.S. imports from China, the market share of nonsubject imports in value terms increased from *** in 2015 to *** in 2016, before falling to *** in 2017, with its market share in quantity terms following a similar pattern. However, contrary to U.S. imports, the market share of nonsubject imports was *** higher in interim 2018 than in interim 2017 in both quantity and value terms.

Market segments by product types

Table IV-7 presents data on U.S. shipments and market shares for CISP by product type in 2017; based on questionnaire responses. During 2017, *** of reported domestic shipments of CISP were of the hubless variety, where U.S. producers had a larger share of hub and spigot CISP shipments than U.S. importers (***). U.S. importers' domestic shipment AUVs of subject CISP were *** and *** less than U.S. producers' U.S. shipments' AUVs of hubless and hub and spigot CISP, respectively.

Table IV-7
CISP: U.S. producers' and U.S. importers' U.S. shipments by product type, 2017

* * * * * * *

Table IV-8 presents data on U.S. shipments and market shares for CISP by product coating in 2017. Product coatings are divided into whether they were epoxy-coated or standard (i.e., asphalt-based or other coating technology).[8] Standard-coated CISP comprised *** of U.S. producers domestic CISP shipments and *** of imported CISP shipments in 2017. Because domestic producers ***,[9] there were no domestic shipments of epoxy-coated CISP from U.S. producers.[10] U.S. importers' domestic shipments of subject epoxy-coated CISP averaged *** more than the AUV of standard-coated CISP imported from China. U.S. importers' shipments of standard-coated CISP averaged *** less than U.S. producers' U.S. shipments of standard-coated

[8] ***.

[9] ***.

[10] Due to exclusivity agreements and absence of domestic production of epoxy-coated CISP, purchasers of epoxy-coated CISP have incentives to purchase imported standard-coated CISP from the same source. See Part II.

CISP, but their epoxy-coated CISP averaged *** more than shipments of U.S. produced standard-coated CISP.

Table IV-8
CISP: U.S. producers' and U.S. importers' U.S. shipments by product coating, 2017

* * * * * * *

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

The primary raw materials used in the domestic production of CISP are cupola cast scrap (*** percent) and shredded auto scrap (*** percent).[1] Chinese producers primarily produce CISP using pig iron.[2] The majority of CISP (hubless and/or single hub) is cast via centrifugal casting (also known as "sling" casting) where a permanent steel mold is specially coated, then rapidly spun while molten iron is injected into the mold. Double-hubbed pipe is produced by mold-injection, similar to CISP fittings. CISP is typically coated with asphalt, black paint, zinc phosphate, or epoxy resin for added corrosion resistance, handling, and aesthetic appeal.[3]

Overall, raw material costs accounted for *** of the final cost of CISP during January 2015-June 2018. For domestic producers, raw materials as a share of the cost of goods sold ("COGS") increased from *** percent in 2015 to *** percent in 2017.

In general, the prices of cupola cast scrap, shredded auto scrap, and Chinese pig iron all followed similar trends, with cupola cast scrap and shredded auto scrap prices tracking closely (figure V-1). Prices for cupola cast scrap and shredded auto scrap generally decreased throughout 2015 before recovering irregularly throughout 2016 and 2017 (***). Beginning in ***, the prices of cupola cast scrap and shredded auto scrap increased, plateauing ***, then decreasing ***.[4] The price of pig iron in China decreased through early 2016 before irregularly increasing through February 2018.[5]

---

[1] ***, July 24, 2017. See EDIS document no. 663715. Charlotte indicated that roughly *** percent of its scrap metal raw material is made up of steel and *** percent is cast iron. ***, EDIS document no. 663718.

[2] CISPF conference transcript, pp. 60-61 (Simmons). According to petitioner Charlotte, this is primarily to due to availability and overall cost, as recycled scrap metals are readily available in the United States but largely unavailable in China. See CISPF hearing transcript, pp. 98-99 (Simmons). According to U.S. Geological Survey data, China accounted for approximately 61 percent of global pig iron production in 2017, while the United States accounted for approximately 2 percent. See USGS Mineral Commodities Summary, Iron and Steel, January 2018, available at https://minerals.usgs.gov/minerals/pubs/commodity/iron_&_steel/mcs-2018-feste.pdf, retrieved November 19, 2018.

[3] Charlotte stated that ***. ***, EDIS document no. 663718.

[4] Between January 2015 and December 2017, the prices of cupola cast scrap and shredded auto scrap decreased ***, while the prices of these raw materials increased *** between December 2017 and June 2018. Between June and December 2018, the price of cupola cast scrap decreased by *** percent, and the price of shredded auto scrap they increased by *** percent.

[5] Overall, the price of pig iron in China increased by *** percent between January 2015 and February 2018, at which point data were no longer available.

Figure V-1
Raw material costs: Price of cupola cast scrap and shredded auto scrap, monthly, January 2015-December 2018, and pig iron (China), monthly, January 2015-February 2018

* * * * * * *

*** U.S. producers and a plurality of importers (3 of 7 firms) reported increasing prices for raw materials since 2015. Two importers reported no change in raw material costs, one reported fluctuating costs, and one (***) reported a decrease. In explaining its response, *** reported that the cost of scrap metal has decreased since 2014.

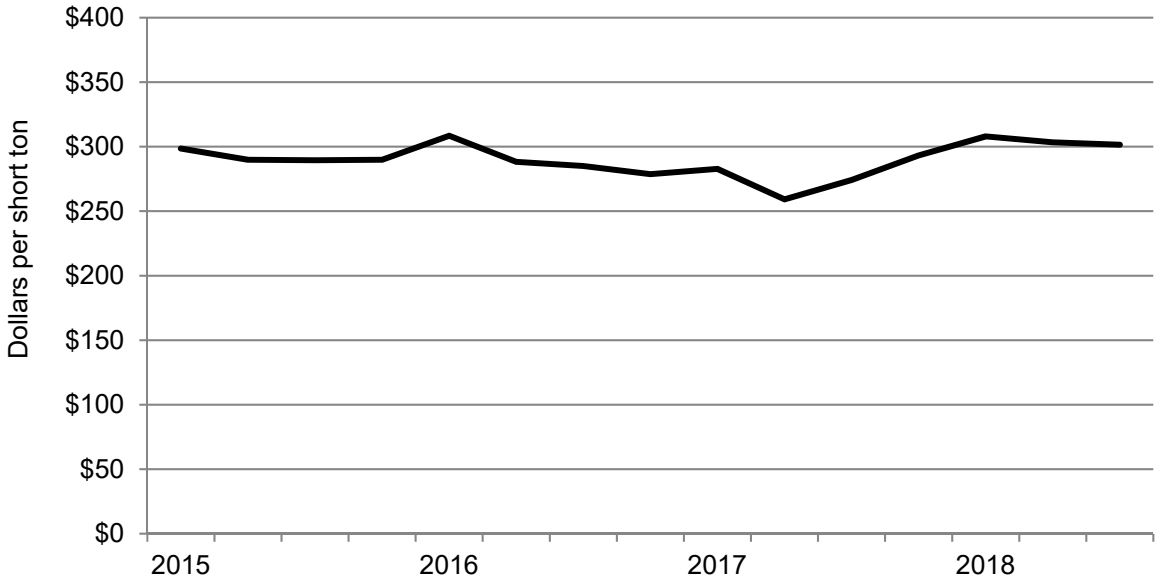
Energy and other factory costs

In addition to scrap metal, other large input costs in the production of CISP include coke, electricity, and energy. Due to inefficiencies associated with starting and stopping cupola furnace operations, domestic producers attempt to keep these furnaces burning continuously in order to maximize efficiency.[6] Charlotte and AB&I also stated that maintaining compliance with environmental and safety regulations is costly and requires large capital expenditures.[7] During 2015-17, U.S. producers' "other factory costs" (which include both energy and environmental/safety costs) as a share of COGS decreased, ***.

Between the first quarter of 2015 and the second quarter of 2017, the price of foundry coke decreased by 13.2 percent (figure V-2). Between the second quarter of 2017 and the third quarter of 2018 (the last quarter for which data were available), the price of foundry coke increased by 10.0 percent.

[6] CISPF conference transcript, p. 26 (Lowe).
[7] CISPF conference transcript, pp. 20 (Dowd), 35 and 76-77 (Lowe, Simmons).

Figure V-2
Coke prices: Price of foundry coke, quarterly, January 2015-September 2018

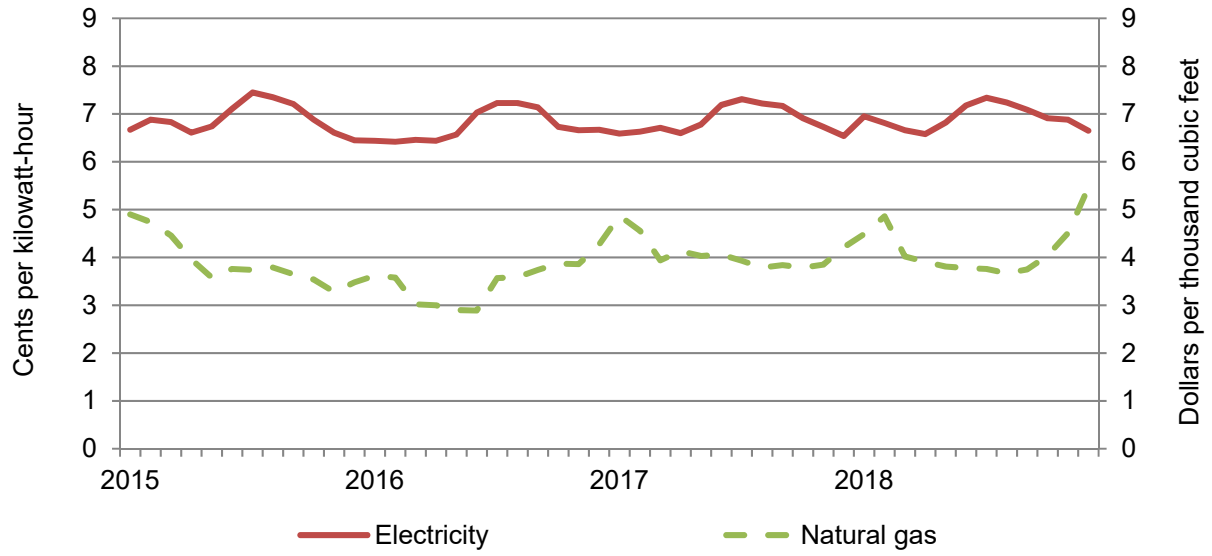


Source: Energy Information Administration, available at https://www.eia.gov/coal/production/quarterly/, retrieved February 21, 2019.

The price of electricity and natural gas remained relatively stable during January 2015-June 2018, with seasonal peaks each summer (for electricity) and winter (for gas). The prices of electricity and natural gas were lower in December 2017 than January 2015, by 1.9 percent and 14.1 percent, respectively. Between December 2017 and June 2018, the price of electricity was 9.8 percent higher, while the price of natural gas was 10.2 percent lower. Between June and December of 2018, however, the price of electricity was 7.4 percent lower and the price of natural gas was 44.4 percent higher.[8]

[8] Charlotte indicated that its negotiated electricity costs are *** per kilowatt hour. Staff field trip report, Charlotte Pipe, May 23, 2018, EDIS document no. 663718.

Figure V-3
Energy prices: Industrial prices of electricity and natural gas, monthly, January 2015-December 2018



Source: Energy Information Administration, available at https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_03 and https://www.eia.gov/dnav/ng/ng_pri_sum_dcu_nus_m.htm, retrieved March 7, 2019.

Transportation costs to the U.S. market

Transportation costs for CISP shipped from China to the United States averaged 14.1 percent for China during 2017. These estimates were derived from official import statistics and represent the transportation and other charges on imports.[9]

U.S. inland transportation costs

All responding U.S. producers and importers reported that they typically arrange transportation to their customers. U.S. producers reported that their U.S. inland transportation costs ranged from *** to *** percent, while importers reported costs of 3.5 to 25.0 percent.

[9] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for January 2015-June 2018 and then dividing by the customs value based on HTS subheading 7303.00.0030, accessed November 2, 2018.

PRICING PRACTICES

Pricing methods

According to questionnaire responses, U.S. producers and importers reported using all methods except contracts to determine the prices they charge for CISP (table V-1). *** U.S. producers and five responding importers reported using price lists. Petitioners stated, however, that "everybody" (including Charlotte, McWane, and importers of subject product) sells CISP using price lists in combination with multiplier discounts off the list price (that vary by location), as well as one or more credit programs or rebates.[10]

Table V-1
Cast iron soil pipe: U.S. producers' and importers' reported price setting methods, by number of responding firms[1]

Method	U.S. producers	U.S. Importers
Transaction-by-transaction	***	4
Contract	***[2]	---
Set price list	***	5
Other	***	1
Responding firms	2	9

[1] 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.
[2] ***.

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

As shown in table V-2, U.S. producers and importers reported their 2017 U.S. commercial shipments of CISP by type of sale. U.S. producers reported selling *** of their CISP in the spot market ***.[11] While Charlotte reported ***, it also reported using loyalty incentive programs to drive sales; these rebates are distributed only after adhering to purchase agreements which require exclusivity for up to a year.[12] *** reported that its ***. Responding importers reported selling the large majority of their product in the spot market.[13]

[10] Conference transcript, pp. 63-64 (Biggers); Petitioners' posthearing brief, Response to Commissioner Questions 11 and 14, p. 17.

[11] ***.

[12] Both Charlotte and McWane use rebate and loyalty programs which "necessitate our customers buying from {them} 100 percent." Conference transcript, p. 28 (Lowe); Petitioners' postconference brief, Exhs. 9, 10, and 11. See further discussion in "Rebates" section below.

[13] *** reported selling all of its product ***.

Table V-2
Cast iron soil pipe: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2017

Type of sale	U.S. producers	Importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***[1]	***
Total	100.0	100.0

[1] ***.

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

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

Most (12 of 17 responding) purchasers reported that they purchase CISP weekly. Four reported that they purchase daily, and two reported that they purchase monthly. Twelve of 16 responding purchasers reported that their purchasing frequency had not changed since 2015. Three purchasers reported an increase in their purchase frequency, while one reported that its purchasing frequency has fluctuated "due to tariffs and availability." Fourteen of the 17 responding purchasers indicated that they only contact one supplier before making a purchase, while the remaining three – all of which purchase exclusively domestic CISP – indicated that they contact between one and three suppliers.

Seven of 17 purchasers reported that their purchases of CISP usually involve negotiations with the supplier, while 10 reported that they do not. Several firms (including ***) indicated that they negotiate the details of their annual buying (rebate) and other programs and invoice multipliers,[14] typically once at the beginning of the year. *** reported that it negotiates "job/market pricing on jobs," *** negotiates volume, and *** negotiates competitors' offerings on "pricing, price protection, lead times, {and} support." Solco testified that "when a contractor is looking to purchase pipe, they will contact multiple distributors and compare bids based on price."[15]

Sales terms and discounts

Most firms (*** U.S. producers and 7 of 9 responding importers) typically quote prices on a delivered basis. *** reported sales terms of ***, while *** also offers sales terms of "***."[16] Importers reported various sales terms: four of 9 responding firms reported sales terms of net 30 days; two reported cash on delivery ("COD") terms; one reported 2/10 net 30

[14] For more on multipliers, see the "Price multipliers" section below.
[15] Hearing transcript, p. 54 (Miller).
[16] *** reported that if a customer pays "***."

days; one reported sales terms of 2 percent paid in 30 days; one reported 20 percent deposit, 80 percent on delivery; and one reported that it is "to be paid at the time of purchase."

*** U.S. producers and 5 of 9 importers reported offering discounts. *** reported *** discounts for "***." *** reported offering discounts through "***." *** reported offering ***; *** reported offering discounts through "***;" *** reported offering discounts of ***; and *** reported offering *** and ***.

Rebates

U.S. producers, importers, and purchasers were asked to report the types of rebates they or their suppliers offer, and to describe the rebate amounts, payment frequencies, and any requirements involved in their offering or receipt. As shown in table V-3, U.S. producers reported offering *** rebates (***), while the sole responding importer (***) reported offering *** rebates.[17] Among purchasers, eleven reported receiving direct rebates from U.S. producers and no indirect rebates, while three reported receiving direct rebates from importers and one reported indirect rebates from importers. Petitioners state that "***."[18]

Table V-3
Cast iron soil pipe: Rebates offered by U.S. producers and importers and received by U.S. purchasers

Item	Direct rebates	Indirect rebates	Any rebate
	Number of firms (count)		
Rebates offered by:			
U.S. producers	***	***	2
U.S. importers	***	***	1
Rebates received by:			
U.S. purchasers -- domestic	11	---	11
U.S. purchasers -- imported	3	1	4

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

As discussed earlier, both Charlotte and McWane require exclusivity in order for their customers to receive rebates.[19] Charlotte's *** rebates include ***. McWane's *** rebates include ***. McWane reported that ***. Among importers, NewAge reported offering *** rebates "***" that are distributed ***. NewAge reported that ***, and that its *** rebates were based on "***."

[17] A direct rebate is based solely on the purchases of cast iron soil pipe. An indirect rebate is based on the joint purchase of cast iron soil pipe and other products, such as CISP fittings.

[18] Charlotte, AB&I, and Tyler reported that *** of their 2017 sales were to customers that qualified for rebates. Petitioners' posthearing brief, Response to Commission Questions 11 and 14, p. 18.

[19] Petitioners' posthearing brief, Response to Commission Questions 11 and 14, pp. 16-17, Exhibits 6, 8 and 9.

Among purchasers, 11 of 17 firms reported being offered direct rebates from Charlotte, AB&I, and Tyler in a variety of magnitudes ranging from 3.0 to 23.7 percent.[20] These included loyal distributor incentives and promotional allowances; loyalty rebates; exclusivity arrangements; distributor year-end rebates; as well as various other rebates paid monthly, quarterly, bi-annually, or annually. Among the responding purchasers, the total value of domestic rebates reported in 2017 was approximately $41.2 million, which applied to an estimated $175.4 million of domestic CISP purchases in 2017 (as well as $4.7 million of other products, including mostly CISP fittings).

Three purchasers also reported being offered direct rebates from importer NewAge. All three firms reported annual rebates of 5 percent, for a total estimated value in 2017 of $***, which applied to an estimated $*** million of CISP import purchases in 2017 (as well as $*** of fittings). One purchaser also reported being offered indirect rebates from NewAge of 5 percent, for a total estimated value in 2017 of $***, which applied to an estimated $*** of CISP import purchases.

Price multipliers

As discussed earlier, price multipliers reflect discounts off list prices. Petitioners state that multipliers are applicable to all potential buyers, and that a purchaser need not purchase all of its CISP from one unique supplier in order to receive the multiplier discount off the list price.[21] Charlotte's multipliers for *** ranged from *** to ***.[22] Similarly, McWane's multipliers for *** ranged from *** to ***. NewAge stated that it "***," and that the multiplier is set based on geographical territory, which "***."

Firms were also asked whether CISP is typically sold at different price list multipliers than other products such as fittings, couplings, gaskets, or plastic pipe and fittings. Most responding firms (*** U.S. producers, 3 of 6 importers, and 12 of 17 purchasers) reported that CISP and other products are sold at different multipliers. *** reported that couplings, gaskets, and plastic fittings and pipe have individual price lists, multiplers and/or net prices with no association to CISP.[23] *** also reported that all products have different multipliers, *** reported selling by net prices and that it does not sell by list and discounts at all, and *** reported that pipe and fittings have one multiplier, but that gaskets, couplings, and brass plugs have different multipliers and list prices. *** reported that pipe and fittings generally have the same multiplier for a given territory.

---

[20] Staff verified *** utilization and allocation of rebates to its customers. A sample of one customer (***) was used to complete the testing. Staff calculated an average unit value of $*** per short ton ($*** per pound) inclusive of rebates, and $*** per short ton ($*** per pound) exclusive of rebates in 2017.

[21] Petitioners' posthearing brief, Response to Commission Questions 11 and 14, pp. 16-17, Exhibit 5.

[22] Multipliers of *** indicate discounts of *** off the list price.

[23] ***.

Among responding purchasers, several indicated that couplings and gaskets have different multipliers, and some (***) reported that pipe and fittings have different multipliers, while others (***) reported that pipe and fittings have the same multiplier. *** also reported that hubless couplings are based on different multipliers than standard or epoxy-coated pipe, and *** reported that hubless and service weight pipe and fittings have different multipliers. *** reported that different multipliers result from several different factors, including product mix, shipment timing, and type of end user, and that some include price increase adjustments while others do not.

Sales bundles

U.S. producers, importers, and purchasers were asked if their sales/purchases of CISP usually also include products other than CISP, such as CISP fittings, couplings, gaskets, and/or plastic pipe and fittings. Most firms (including *** U.S. producers, 5 of 9 importers, and all 17 purchasers) reported that they do. *** stated that *** include CISP fittings, ***. *** estimated that *** percent of their CISP sales are bundled with fittings. All four responding importers reported that their sales of CISP also include CISP fittings, with three reporting that they also include couplings, two reporting that they also include gaskets, two reporting that include plastic pipe and fittings, and one reporting that they include brass plugs. Among purchasers, 13 reported that their pipe purchases also involve fittings, 8 reported that they also involve couplings, 6 reported that they also involve gaskets, and 1 reported that they also involve plastic.

When asked if the CISP was usually invoiced separately or as part of the bundle with other products, three of five importers and nine purchasers specifically reported that they were typically invoiced together with other products. *** one importer and one purchaser specifically reported that they were typically invoiced separately. *** reported, however, that its CISP, fittings, gaskets, and couplings can all be invoiced together, *** if a customer orders both pipe and fittings, "such products, if shipped on the same truck, will generally be billed on the same invoice." Importers *** reported that CISP was typically invoiced with other plumbing products and supplies, with *** specifically identifying couplings, gaskets, fittings, and brass plugs. Among the 9 purchasers that reported buying CISP co-invoiced with other products, 7 firms reported that CISP was typically invoiced together with fittings, 4 reported that it was invoiced with couplings, 3 with gaskets, and 2 with plastic or plastic pipe and fittings. Petitioners stated that CISP generally represents approximately 80 percent of the total weight of combined orders.[24] Conversely, one importer (***) reported that every item ordered and shipped on a delivery is individually invoiced, and one purchaser (***) reported that "cast iron fittings" were bundled with CISP and that its "cast iron is purchased on separate purchase orders from all other purchases."

[24] Conference transcript, p. 24 (Schagrin).

Price leadership

Ten of the 11 purchasers that reported price leaders named Charlotte, and six also named one or more of the McWane subsidiaries (AB&I and/or Tyler). One firm, ***, named NewAge as a price leader along with Charlotte and McWane, stating that "… NewAge has taken increases as the market has moved up," but that "Charlotte always is the first to announce a price increase." One firm, ***, named "importers" as price leaders, stating that they lead by "determining the domestics' prices and quoting under it, sometimes substantially."

PRICE DATA

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value (net of all deductions for discounts, rebates, and multipliers) of the following CISP products shipped to unrelated U.S. customers during January 2015-June 2018.

Product 1.--2" x 10' no hub cast iron soil pipe, other than epoxy-coated

Product 2.--4" x 10' no hub cast iron soil pipe, other than epoxy-coated

Product 3.--3" x 10' no hub cast iron soil pipe, other than epoxy-coated

Product 4.--6" x 10' no hub cast iron soil pipe, other than epoxy-coated

*** U.S. producers and five importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products across all quarters.[25] [26] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' commercial U.S. shipments of CISP and *** percent of commercial U.S. shipments of subject imports from China in 2017.

Price data for products 1-4 are presented in tables V-4 to V-7 and figures V-4 to V-7.

Table V-4
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, and margins of underselling/(overselling), by quarter, January 2015-June 2018

* * * * * * *

[25] 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.

[26] *** indicated that it is "***." Accordingly, these data have not been included in this pricing analysis. ***.

Table V-5
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, and margins of underselling/(overselling), by quarter, January 2015-June 2018

* * * * * * *

Table V-6
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, and margins of underselling/(overselling), by quarter, January 2015-June 2018

* * * * * * *

Table V-7
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, and margins of underselling/(overselling), by quarter, January 2015-June 2018

* * * * * * *

Figure V-4
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarter, January 2015-June 2018

* * * * * * *

Figure V-5
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by quarter, January 2015-June 2018

* * * * * * *

Figure V-6
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by quarter, January 2015-June 2018

* * * * * * *

Figure V-7
Cast iron soil pipe: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by quarter, January 2015-June 2018

* * * * * * *

Price trends

Table V-8 summarizes the price trends, by country and by product for the four listed products. As shown in the table, domestic prices for all four pricing products decreased during January 2015-June 2018, while prices of imports from China increased for all four pricing products. Domestic price decreases ranged from *** percent (for product ***) to *** percent (for product ***). Import price increases ranged from *** percent (for product ***) to *** percent (for product ***).

Table V-8
Cast iron soil pipe: Summary of weighted-average f.o.b. prices for products 1-4 from the United States and China

Item	Number of quarters	Low price (dollars per pound)	High price (dollars per pound)	Change in price[1] over period (percent)
Product 1				
United States	14	***	***	***
China	14	***	***	***
Product 2				
United States	14	***	***	***
China	14	***	***	***
Product 3				
United States	14	***	***	***
China	14	***	***	***
Product 4				
United States	14	***	***	***
China	14	***	***	***

[1] Percentage change from the first quarter in which data were available to the last quarter in which price data were available.

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

As shown in figure V-8, domestic price decreases were fairly consistent across the four pricing products, irregularly decreasing throughout 2015, then consistently decreasing throughout 2016 and 2017, before increasing in the first or second quarter of 2018.[27]

Figure V-8
Cast iron soil pipe: U.S. producers' indexed prices, by quarter, January 2015-June 2018

* * * * * * *

[27] Petitioner Charlotte stated that it announced four price increases between 2015 and 2018 in order to recover some of the increased raw material costs, but rescinded the increases. It testified that its first successful price increase was in July 2018. Hearing transcript, pp. 39-40 (Dowd); Petitioners' posthearing brief, Response to Commission Question 13, pp. 22-23, Exhibit 12.

As shown in figure V-9, ***'s average prices were above ***'s average prices for *** of the four pricing products *** of January 2015-June 2018.

Figure V-9
Cast iron soil pipe: Charlotte and McWane's average prices for products 1-4, January 2015-June 2018

* * * * * * *

As shown in figure V-10, subject import prices generally decreased throughout 2015 and the first three quarters of 2016, increased in the first quarter of 2016, then stayed relatively flat before increasing in the first and second quarters of 2018.[28]

Figure V-10
Cast iron soil pipe: U.S. importers' indexed prices, by quarter, January 2015-June 2018

* * * * * * *

Price comparisons

As shown in table V-9, prices for CISP imported from China were below those for U.S.-produced product in all 56 instances (49.8 million pounds); margins of underselling ranged from 7.5 percent (for product ***) to 50.4 percent (for product ***). The largest margins of underselling for *** occurred during ***; underselling margins during this quarter ranged from *** percent (for product ***) to *** percent (for product ***). The largest margin of underselling for *** occurred during ***; the underselling margin during this quarter *** percent. The smallest margins of underselling for all four pricing products occurred during ***; underselling margins during *** ranged from *** percent (product ***) to *** percent (product ***).

[28] ***.

Table V-9
Cast iron soil pipe: Instances of underselling/overselling and the range and average of margins, by country, January 2015-June 2018

Source	Underselling				
	Number of quarters	Quantity[1] (pounds)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	14	***	***	***	***
Product 2	14	***	***	***	***
Product 3	14	***	***	***	***
Product 4	14	***	***	***	***
Total, underselling	56	49,764,624	26.2	7.5	50.4
Source	**(Overselling)**				
	Number of quarters	Quantity[1] (pounds)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	---	---	---	---	---
Product 2	---	---	---	---	---
Product 3	---	---	---	---	---
Product 4	---	---	---	---	---
Total, overselling	---	---	---	---	---

[1] These data include only quarters in which there is a comparison between the U.S. and subject product.

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

LOST SALES AND LOST REVENUE

In the preliminary phase of these investigations, the Commission requested that U.S. producers of CISP provide a list of purchasers with which they experienced instances of lost sales or revenue due to competition from imports of CISP from China during January 2014-June 2017. *** submitted lost sales and lost revenue allegations, and identified 60 firms where they lost sales or revenue (78 consisting lost sales allegations and 25 consisting of lost revenue allegations). The time frame for the allegations ranged from 2014 to 2017, and no method of sale was listed.

In the final phase of these investigations, the Commission requested that U.S. producers of CISP report data concerning purchasers with which they experienced instances of lost sales or revenue due to competition from imports of CISP from China during January 2015-June 2018. Both U.S. producers submitted lost sales and lost revenue allegations. *** reported that *** reduce prices and roll back announced price increases, and *** reported that *** lost sales.

Staff contacted 44 purchasers and received responses from 17 purchasers.[29] Responding purchasers reported purchasing $*** of CISP during 2015-17 (table V-10). During 2017, responding purchasers purchased 98.2 percent of their CISP from U.S. producers and 1.8

[29] All six purchasers that submitted lost sales/lost revenue survey responses in the preliminary phase also submitted purchaser questionnaire responses in the final phase.

percent from China. Of the responding purchasers, 2 reported decreasing purchases from domestic producers, 1 reported increasing purchases, 1 reported fluctuating purchases, 9 reported constant purchases, and 1 (***) did not purchase any domestic product.[30]

Table V-10
Cast iron soil pipe: Purchasers' responses to purchasing patterns

Purchaser	Purchases during 2015-17 (Value)			Change in domestic share[2] (pp, 2015-17)	Change in subject country share[2] (pp, 2015-17)
	Domestic	Subject	All other[1]		
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	518,052,792	6,207,603	---	(1.0)	1.0

[1] All other includes unknown sources.
[2] Percentage points (pp) change: Change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

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

Of the 17 responding purchasers, 3 reported that, since 2015, they had purchased imported CISP from China instead of U.S.-produced product. All three of these purchasers reported that subject import prices were lower than U.S.-produced product (including one that reported "both yes and no"), and one of them (***) again reported both "yes and no" when asked whether price was a primary reason for the decision to purchase imported product rather than U.S.-produced product. *** estimated the total value of the CISP from China purchased instead of domestic product; the estimated value was $*** (table V-11). Purchasers identified epoxy coating and an inability to make a profit by selling domestic product as non-price reasons for purchasing imported rather than U.S.-produced product.

[30] One firm indicated that it did not know the source of the cast iron soil pipe it purchased.

Table V-11
Cast iron soil pipe: Purchasers' responses to purchasing subject instead of domestic, by firm

Purchaser	Subject imports purchased instead of domestic (Y/N)	Imports priced lower (Y/N)	If purchased subject imports instead of domestic, was price a primary reason		
			Y/N	If Yes, value (dollars)	If No, non-price reason
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	Yes—3; No—14	Yes—3; No—1	Yes—1; No—3	***	---

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

When asked whether U.S. producers had reduced their prices in order to compete with lower-priced imports of CISP from China since January 2015, seven of the 17 responding firms reported that they had, while four reported that they had not, and six reported that they did not know (table V-12). Among the seven firms reporting U.S. price reductions, six firms estimated specific percentages in amounts ranging from *** percent, for an average of 23.3 percent.

Table V-12
Cast iron soil pipe: Purchasers' responses to U.S. producer price reductions, by firm

Purchaser	Producers reduced price (Y/N)	If produced reduced prices:	
		Estimated U.S. price reduction (percent)	Additional information, if available
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
Total / average	Yes--7; No--4; Don't Know--6	23.3	---

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

In additional comments, *** stated the following:

"Before any imported products were introduced, Charlotte and Tyler essentially had a monopoly on selling a commodity product and we could not compete or make a profit with their product and buying programs, so we tried an alternative. Charlotte used to sell us plastic products whether we bought soil pipe from them or from Tyler in the past, but refuses to sell us anything as long as we do buy NewAge product."[31]

[31] ***.

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

INTRODUCTION

Charlotte and McWane[1] [2] responded to the trade and financial sections of the Commission's U.S. producer questionnaire and provided usable data on their operations on cast iron soil pipe (CISP). Charlotte accounted for *** percent of total net sales value in 2017 and McWane for *** percent. Both U.S. producers reported a fiscal year end of December 31 and reported their financial data based on U.S. generally accepted accounting principles.

OPERATIONS ON CISP

Table VI-1 presents aggregated data on U.S. producers' operations in relation to CISP during 2015-17, January-June 2017 ("interim 2017"), and January-June 2018 ("interim 2018"). Table VI-2 shows the changes in average unit values of select financial indicators. Table VI-3 presents selected company-specific financial data. Both firms reported only commercial sales.

Net sales

As shown in table VI-1, the quantity of net sales increased from 2015 to 2017 and were greater in interim 2018 compared with interim 2017. The net sales value increased from 2015 to 2016, but fell in 2017; sales value was higher in interim 2018 than in interim 2017.[3] This was largely due to a *** in the average unit value of sales in 2016 from 2015 but a higher volume of sales in 2016, followed by a larger decrease in the average unit value of sales in 2017. Similarly, unit sales values were lower in interim 2018 than in interim 2017. As shown in table VI-3, ***. *** reported higher net sales by quantity and value in January-June 2018 than in January-June 2017.

[1] Charlotte reported data on CISP on behalf of itself. McWane combined data for its two CISP subsidiaries, AB&I, Inc. (Oakland, California) and Tyler Pipe (Houston, Texas), and reported the operations on a consolidated basis.

[2] Commission staff performed a limited-scope verification and tied the questionnaire response of McWane to the firm's internal balance sheets, income statements, and other financial reports of AB&I and Tyler. McWane revised its questionnaire response prior to verification, ***.

[3] According to petitioners, demand for CISP peaked in 2016 and commercial construction, which rose *** from 2015 to 2016, ***. Whereas apparent consumption of CISP generally followed these trends, apparent consumption of CISP in interim 2018 was *** percent higher than in interim 2017. Petitioners' postconference brief, answers to staff questions number 6, p. 6, citing a report by ***, exh. 13 and 14.

Table VI-1
CISP: Results of operations of U.S. producers, 2015-17, January-June 2017, and January-June 2018

* * * * * * *

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

* * * * * * *

Table VI-3
CISP: Selected results of operations of U.S. producers, by firm, 2015-17, January-June 2017, and January-June 2018

* * * * * * *

Cost of goods sold and gross profit or (loss)

As shown in table VI-1, the ratio of cost of goods sold ("COGS") to net sales fell from *** percent in 2015 to *** percent in 2016 before increasing to *** percent in 2017. The ratio was *** percent in interim 2017 and *** percent in interim 2018. On a company-specific basis, ***.

Total COGS consist of raw materials, direct labor, and other factory costs ("OFC"). Raw materials represented the largest component of COGS, accounting for between *** percent in 2016 and *** percent in interim 2018. On a per-short ton basis, raw material costs fell from $*** in 2015 to $*** in 2016, and increased to $*** in 2017; raw material costs were higher in interim 2018, $***, than in interim 2017, $***. As shown in table VI-3, ***.[4] ***.[5]

OFC are the next largest category, ranging from *** percent of total COGS in 2017 to *** percent in 2016 and declining from $*** per ton in 2015 to $*** per ton in 2017. ***.[6]

Direct labor is the smallest of the three categories, averaging between ***. ***.[7] As implied by testimony at the staff conference, these two categories of cost are considered fixed costs for the most part. A spokesman for Charlotte indicated that the effect on his company of a lower volume of production and sales would be higher per-unit fixed costs.[8]

The industry's gross profit decreased by *** percent from $*** in 2015 to $*** in 2017 after an increase from 2015 to 2016 of ***. As depicted in table VI-2, the decrease in total net sales value was greater than the decrease in total COGS from 2015 to 2017, while per-unit sales declined less than did total COGS between 2015 and 2016. Gross profit was lower by ***

---

[4] According to petitioners, raw material costs were at a "historic low" level in 2016 but increased in 2017, as measured by the producer price index for cast iron scrap from the St. Louis Federal Reserve. Petitioners suggest that the ***. Petitioner's postconference brief, answer to staff questions number 6, pp. 7-8 and exh. 7, 13, and 14.

[5] In 2017, metal costs accounted for ***. Responses to U.S. producers' questionnaire, section III-9c.

[6] ***. Emails from ***.

[7] ***.

[8] Preliminary conference transcript, pp. 75-77 (Dowd).

percent in interim 2018, $***, compared with $*** in interim 2017 as per-unit sales fell but per-unit COGS rose. On a company-specific basis, ***.

SG&A expenses and operating income or (loss)

As shown in table VI-1, the industry's selling, general and administrative ("SG&A") expense ratio (i.e., total SG&A expenses divided by total net sales value) moved within a relatively narrow range, from *** percent in 2015 to *** percent in 2017 (the ratio was *** percent in interim 2017 and interim 2018, respectively. As shown in table VI-3, per-unit SG&A expenses varied ***.

The industry's operating income increased from $*** in 2015 to $*** in 2016 before falling to $*** in 2017; operating income was lower in interim 2018, $*** compared with interim 2017, $***. On a company-specific basis, ***.

Other expenses and net income

Classified below the operating income levels are other expense and other income, which are usually allocated to the product line from high levels in the corporation. The Commission's questionnaire requested U.S. producers break out their legal fees and expenses associated with an antitrust settlement agreement from other expenses. Charlotte and McWane allocated such settlement between CISP and CISP fittings.[9] These amounts are shown in table VI-1 (***). Other expenses included ***. These other expenses decreased from $*** in 2015 to $*** in 2017 and were approximately $*** in both interim periods and were mostly reported by ***.[10] Other income irregularly fell from $*** in 2015[11] to $*** in 2017.

By definition, items classified at this level in the income statement only affect net income or (loss). Net income was $*** in 2015 (***), $*** in 2016 (***), and $*** in 2017 (***; net income was lower in interim 2018 at $*** than in interim 2017 when it was $***. Cash flow, defined as net income plus depreciation, followed the same trend, falling from $***.

---

[9] ***. These are related to a direct purchaser class action antitrust lawsuit against both firms that included both cast iron soil pipe and fittings. The settlement agreement approved by the court mandated a payment of $30 million by October 29, 2016. See, Settlement Agreement In RE: Cast Iron Soil Pipe and Fittings Antitrust Litigation, U.S. District Court Eastern District of Tennessee at Chattanooga, No. 1:14-md-2508-HSM-CHS, Document 466-2 filed 10/21/16, retrieved February 6, 2018. Also, see Order and Final Judgment, document 504, filed 05/26/17, retrieved February 6, 2018.

[10] ***.

[11] The 2015 data are attributable to ***. *** U.S. producers' questionnaire response, question III-10.

Variance analysis

The variance analysis presented in table VI-4 is based on the data in table VI-1.[12] The analysis shows that the operating income increased from 2015 to 2016 because ***. The analysis also indicates that operating income fell from 2016 to 2017 attributable to ***.

Table VI-4
CISP: Variance analysis for U.S. producers, 2015-17, January-June 2017, and January-June 2018

* * * * * * *

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-5 presents capital expenditures and research and development ("R&D") expenses by firm and the narrative responses on the nature and focus of spending by the two responding firms. Capital expenditures irregularly decreased from $*** in 2015 to $*** in 2017, due in part to ***.[13] ***.[14] Total capital expenditures were *** lower in interim 2018 than in interim 2017. R&D expenses increased from 2015 to 2017 and were higher in interim 2018 than in the same period one year earlier.

Table VI-5
CISP: Capital expenditures and R&D expenses for U.S. producers, by firm, 2015-17, January-June 2017, and January-June 2018

* * * * * * *

[12] The Commission's variance analysis is calculated in three parts: sales variance, cost of sales variance (COGS variance), and SG&A expense variance. Each part consists of a price variance (in the case of the sales variance) or a cost variance (in the case of the COGS and SG&A expense variance), and a volume variance. The sales or cost variance is calculated as the change in unit price or unit cost/expense times the new volume, while the volume variance is calculated as the change in volume times the old unit price or unit cost. Summarized at the bottom of the table, the price variance is from sales; the cost/expense variance is the sum of those items from COGS and SG&A expense variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances.

[13] *** U.S. producers' questionnaire response, section III-13. See Petitioners' postconference brief, answers to staff questions number 4, p. 4 and exh. 15 (***).

[14] *** U.S. producers' questionnaire response, question II-2.

ASSETS AND RETURN ON ASSETS

Table VI-6 presents data on the U.S. producers' total assets and their operating return on assets.[15] Total assets increased irregularly from $*** in 2015 to $*** in 2017. The return on assets decreased irregularly from *** percent in 2015 to *** percent in 2017. ***.[16] ***.[17]

Table VI-6
CISP: Value of assets used in production, warehousing, and sales, and return on assets for U.S. producers, by firm, 2015-17

* * * * * * *

CAPITAL AND INVESTMENT

The Commission requested U.S. producers of CISP to describe actual or potential negative effects of imports of CISP from the subject countries on their firms' growth, investment, ability to raise capital, development and production efforts, or on the scale of capital investments. Table VI-7 presents U.S. producers' responses in a tabulated format and table VI-8 provides the narrative responses.

Table VI-7
CISP: Actual and anticipated negative effects of imports from China on investment and growth and development since January 1, 2015

* * * * * * *

.

Table VI-8
CISP: Narrative responses relating to actual and anticipated negative effects of imports from China on investment and growth and development since January 1, 2015

* * * * * * *

[15] With respect to a company's overall operations, staff notes that a 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 allocation factors were required in order to report a total asset value for CISP.

[16] *** U.S. producers' questionnaire response, question III-13. According to information provided in a related investigation, ***. Email from ***, August 5, 2017.

[17] *** U.S. producers' questionnaire response, question III-13.

PART VII: THREAT CONSIDERATIONS AND INFORMATION ON NONSUBJECT COUNTRIES

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

> *In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors*[1]*--*
>
> *(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
>
> *(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
>
> *(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
>
> *(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
>
> *(V) inventories of the subject merchandise,*

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

(VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),

(VIII) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Information on the nature of the subsidies was presented earlier in this report; information on the volume of subject imports and pricing of domestic and imported products is presented in Parts IV and V, respectively; 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.

THE INDUSTRY IN CHINA

The Commission issued foreign producers' or exporters' questionnaires to 27 firms believed to produce and/or export CISP from China.[3] Usable responses to the Commission's questionnaire were received from nine firms: Hebei Metals & Engineering Products Trading Co.,

[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."

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

Ltd. ("Hebei Metals"), Kingway, Qinshui County Shunshida Casting Co., Ltd. ("Sunshida"), Shanxi Chen Xin Da Castings & Forgings Co., Ltd. ("Chen Xin Da"), Shanxi Xuanshi Industrial Group Co., Ltd. ("Shanxi Xuanshi"), Shanxi Zhongrui Tianyue Trading Co., Ltd. ("Zhongrui Tianyue"), Yuncheng Jiangxian Economic Development Zone Hengtong Casting Co., Ltd ("Hengtong"), Yangcheng County Huawang Universal Spun Cast Pipe Foundry ("Huawang"), and Zezhou Golden Autumn Foundry Co., Ltd. ("Golden Autumn").[4] These firms' exports to the United States accounted for approximately *** of U.S. imports of CISP from China in 2017. Of the nine responding firms, five reported production of CISP, accounting for at least 38.0 of overall production of CISP in China in 2017.[5]

Tables VII-1 and VII-2 present information on the CISP operations of the responding producers and exporters in China.

Table VII-1
CISP: Summary data for producers in China, 2017

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)
Golden Autumn	***	***	***	***	***	***
Hengtong	***	***	***	***	***	***
Huawang	***	***	***	***	***	***
Shanxi Xuanshi	***	***	***	***	***	***
Sunshida	***	***	***	***	***	***
Total	180,936	100.0	9,650	100.0	185,187	5.2

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

Table VII-2
CISP: Summary data on resellers exports to United States, 2017

* * * * * * *

[4] The following companies which responded in the preliminary phase of investigations did not submit questions in this final phase: Dalian Lino F.T.Z. Co., Ltd., Dalian Metal I/E Co., Ltd., Dinggin Hardware (Dalian) Co., Ltd.; Huawang, Kingway; and Shanxi Xuanshi. Responses to the preliminary phase by Huawang, Kingway and Shanxi Xuanshi have been included in this report.

[5] Utilizing the estimate of Chinese production of CISP of 476,700 short tons in 2017 as provided by the Chinese Foundry Association, reported production accounts for 38.0 of overall production of CISP in China in 2017. See Respondent Chinese Foundry Association's prehearing brief, p. 2.

Changes in operations

*** in China reported *** operational and organizational changes since January 1, 2015.[6]

[6] Since 2017, China has been implementing widespread factory shutdowns due to a national effort to address pollution and other environmental concerns. ***. Nace Trever, "China Shuts Down Tens Of Thousands Of Factories In Widespread Pollution Crackdown," *Forbes*, 24 October 2017, https://www.forbes.com/sites/trevornace/2017/10/24/china-shuts-down-tens-of-thousands-of-factories-in-widespread-pollution-crackdown/, retrieved June 11, 2018; "China plans tougher goals, beefed-up inspections in war on smog," *Reuters*, 17 March 2018, https://www.reuters.com/article/us-china-parliament-environment/china-plans-tougher-goals-beefed-up-inspections-in-war-on-smog-idUSKCN1GT08H, retrieved June 11, 2018.

Operations on CISP

Table VII-3 presents information on the CISP operations of the responding producers and exporters in China for 2015-17, interim periods (January to June 2017 and January to June 2018), as well as projections for 2018-19 based on questionnaire responses. Foreign producers reported no changes in annual capacity, remaining at 218,1118 short tons during 2015-17. End-of-period inventories decreased between 2015 and 2017 (though they increased in 2016), while production and export shipments increased. End-of-period inventories increased from *** in 2015 to *** in 2016 before declining to *** in 2017, an overall reduction of ***. In contrast, production increased from 147,582 short tons in 2015 to 180,936 short tons in 2017.[7] Total exports increased from 27,188 short tons in 2015 to 33,472 short tons in 2016 before decreasing to 29,582 short tons in 2017.[8] Export shipments to all other markets increased slightly between 2015 and 2017, while export shipments to the U.S. increased from 9,009 short tons in 2015 to 13,878 short tons in 2016 before retreating to 9,650 short tons in 2017. Of exports of CISP to the United States, the share by resellers decreased by *** during 2015-17, from *** in 2015 to *** in 2017. Conversely, home market shipments increased ***, from *** in 2015 to *** of CISP in 2017.

[7] Total Chinese production of CISP is estimated to have been 601,000 short tons in 2015, 501,700 short tons in 2016 and 476,700 short tons in 2017 as provided by the Chinese Foundry Association. See Respondent Chinese Foundry Association's prehearing brief, p. 2.

[8] Total Chinese exports of CISP are estimated to have been 96,000 short tons in 2015, 97,000 short tons in 2016 and 70,300 short tons in 2017 as provided by the Chinese Foundry Association. Exports to the United States are estimated to have accounted for only 15-20 percent of total Chinese exports over the last five years. See Respondent Chinese Foundry Association's prehearing brief, pp. 2, 3.

Table VII-3
CISP: Data on industry in China, 2015-17, January to June 2017, and January to June 2018 and projected calendar years 2018 and 2019

Item	Actual experience					Projections	
	Calendar year			January to June		Calendar year	
	2015	2016	2017	2017	2018	2018	2019
	Quantity (short tons)						
Capacity	218,118	218,118	218,118	118,581	118,581	218,118	218,118
Production	147,582	172,500	180,936	97,644	97,809	184,610	187,610
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	9,009	13,878	9,650	4,995	4,248	8,007	8,287
All other markets	18,179	19,594	19,932	10,232	10,822	19,077	20,017
Total exports	27,188	33,472	29,582	15,227	15,070	27,084	28,304
Total shipments	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Capacity utilization	67.7	79.1	83.0	82.3	82.5	84.6	86.0
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	***	***	***	***	***	***	***
	Quantity (short tons)						
Resales exported to the United States	***	***	***	***	***	***	***
Total exports to the United States	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Share of total exports to the United States.--							
Exported by producers	***	***	***	***	***	***	***
Exported by resellers	***	***	***	***	***	***	***
Adjusted share of total shipments exported to the United States	***	***	***	***	***	***	***

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

Capacity utilization expanded by 15.3 percent during 2015-17, from 67.7 percent in 2015 to 83.0 percent in 2017. Inventories relative to production and total shipments both fell by *** and remained below *** between 2015 and 2017. Over this period, the majority of the foreign producers' shipments of CISP, ***, went to home markets as internal consumption or transfers (*** in 2017) or commercial shipments (*** in 2017) during 2015-17. Furthermore, 59 to 67 percent of exports from Chinese producers were to markets other than the United States during that same period.[9] Chinese producers' exports to the United States as a share of total shipments increased from *** in 2015 to *** in 2016 before decreasing to *** in 2017. Throughout 2015-17, resellers' shipments of CISP accounted for *** of all exports to the United States, declining from *** of exports in 2015 to *** in 2017.

Comparing interim periods, there were few notable differences among the data in the Chinese industry. The exception is Chinese producers' exports to the United States were 15.0 percent lower in interim 2018 compared with interim 2017. In addition, foreign producers' exports to other markets were 5.8 percent higher in interim 2018 than in interim 2017. The share of exports by resellers were *** higher, *** in interim 2017 compared with *** in interim 2018.

In relation to actual 2017, the capacity, production, end-of-period inventories, and capacity utilization for 2018 and 2019 are projected to remain relatively consistent with previous years. Home market shipments are expected to increase slightly to *** in 2018 and *** in 2019, while export shipments to the United States are expected to remain at about *** percent of all shipments. Exports by resellers are projected to *** by 2019, with only *** of exports to the United States by resellers in 2018 and *** in 2019.

Alternative products

According to responding Chinese producers, *** of the responding Chinese firms, ***, produced other products on the same equipment and machinery used to produce CISP, as shown in table VII-4. ***.

Table VII-4
CISP: Overall capacity and production on the same equipment as in-scope production by producers in China, 2015-17, January to June 2017, January to June 2018

* * * * * * *

Exports

According to GTA, the leading export markets for cast iron tubes, pipes, and hollow profiles of internal diameter less than 500mm ("CITPH") from China are Hong Kong, the United

[9] Exports to the United States are estimated to account for only 15-20 percent of total Chinese exports over the last five years. See Respondent Chinese Foundry Association's prehearing brief, p. 3.

States, Australia, Vietnam, Singapore, Turkey, South Korea, Djibouti, and Jordan (table VII-5). During 2017, Hong Kong was the largest export market for CITPH from China, accounting for 12.0 percent of China's exports of that product. The next two largest export markets were the United States and Australia, which accounted for 8.8 percent and 7.0 percent, respectively.

Table VII-5
Cast iron tubes, pipes, and hollow profiles of internal diameter less than 500mm: Exports from China by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Quantity (short tons)		
Exports from China to the United States	24,519	31,762	24,975
Exports from China to other major destination markets.--			
Hong Kong	25,371	28,234	33,785
Australia	16,376	11,173	19,812
Vietnam	16,773	14,293	15,695
Singapore	19,274	21,069	14,964
Turkey	3,204	13,668	9,051
South Korea	8,918	7,861	8,848
Djibouti	3,093	1,307	7,687
Jordan	10,576	12,430	6,236
All other destination markets	221,855	184,391	141,530
Total exports from China	349,958	326,188	282,582
	Value (1,000 dollars)		
China's exports to the United States	18,472	19,209	17,503
Exports from China to other major destination markets.--			
Hong Kong	22,544	21,946	26,915
Australia	10,468	6,598	13,284
Vietnam	9,788	7,426	8,366
Singapore	13,442	12,075	10,048
Turkey	2,265	7,340	4,389
South Korea	5,665	4,459	5,961
Djibouti	3,095	1,096	11,166
Jordan	6,620	6,669	3,667
All other destination markets	160,976	116,976	97,384
Total exports from China	253,336	203,793	198,683

Table continued on next page.

Table VII-5–Continued
Cast iron tubes, pipes, and hollow profiles of internal diameter less than 500mm: Exports from China by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Unit value (dollars per short ton)		
Exports from China to the United States	753	605	701
Exports from China to other major destination markets.-- Hong Kong	889	777	797
Australia	639	591	670
Vietnam	584	520	533
Singapore	697	573	672
Turkey	707	537	485
South Korea	635	567	674
Djibouti	1,001	838	1,453
Jordan	626	537	588
All other destination markets	726	634	688
Total exports from China	724	625	703
	Share of quantity (percent)		
Exports from China to the United States	7.0	9.7	8.8
Exports from China to other major destination markets.-- Hong Kong	7.2	8.7	12.0
Australia	4.7	3.4	7.0
Vietnam	4.8	4.4	5.6
Singapore	5.5	6.5	5.3
Turkey	0.9	4.2	3.2
South Korea	2.5	2.4	3.1
Djibouti	0.9	0.4	2.7
Jordan	3.0	3.8	2.2
All other destination markets	63.4	56.5	50.1
Total exports from China	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 7303.00.90 as reported by China Customs in the Global Trade Atlas database, accessed November 27, 2018.

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-6 presents data on U.S. importers' reported inventories of CISP.

Table VII-6
CISP: U.S. importers' end-of-period inventories of imports by source, 2015-17, January to June 2017, and January to June 2018

Item	Calendar year			January to June	
	2015	2016	2017	2017	2018
	Inventories (short tons); Ratios (percent)				
Imports from China					
Inventories	2,278	***	3,331	***	2,192
Ratio to U.S. imports	22.1	***	24.5	***	30.5
Ratio to U.S. shipments of imports	22.8	***	24.0	***	23.1
Ratio to total shipments of imports	22.8	***	24.0	***	23.1
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 CISP from China after June 30, 2018. *** reported imports or arranged imports of CISP from China during that period.

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

There are no known trade remedy actions on CISP from China in third-country markets.

INFORMATION ON NONSUBJECT COUNTRIES

According to GTA data, the five leading exporters of tubes, pipes, and hollow profiles of cast iron in 2017 were China, Germany, India, Singapore, and Spain. These five countries accounted for approximately 80 percent of total global exports of tubes, pipes, and hollow

profiles of cast iron.[10] Because GTA data only provides data to the six-digit HTS level, it includes products outside of Commerce's scope and may not be representative of global CISP exports.

[10] Total exports from China reported under HTS subheading 7303.00.90 in 2017 accounted for less than half of exports in quantity and value from China reported under HTS subheading 7303.00, according to GTA data.

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
83 FR 4684, January 26, 2018	*Cast Iron Soil Pipe From China; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2018-02-01/pdf/2018-01965.pdf
83 FR 8047, February 23, 2018	*Cast Iron Soil Pipe From the People's Republic of China: Initiation of Countervailing Duty Investigation*	https://www.gpo.gov/fdsys/pkg/FR-2018-02-23/pdf/2018-03746.pdf
83 FR 8053, February 23, 2018	*Cast Iron Soil Pipe From the People's Republic of China: Initiation of Less-Than-Fair Value Investigation*	https://www.gpo.gov/fdsys/pkg/FR-2018-02-23/pdf/2018-03751.pdf
83 FR 12025, March 19, 2018	*Cast Iron Soil Pipe From China*	https://www.gpo.gov/fdsys/pkg/FR-2018-03-19/pdf/2018-05536.pdf
83 FR 30914, July 2, 2018	*Cast Iron Soil Pipe From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination*	https://www.gpo.gov/fdsys/pkg/FR-2018-07-02/pdf/2018-14180.pdf
83 FR 44567, August 31, 2018	*Cast Iron Soil Pipe From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value and Postponement of Final Determination*	https://www.gpo.gov/fdsys/pkg/FR-2018-08-31/pdf/2018-18968.pdf

Citation	Title	Link
83 FR 46519, September 13, 2018	*Cast Iron Soil Pipe From China; Scheduling of the Final Phase of Countervailing Duty and Anti-Dumping Duty Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2018-09-13/pdf/2018-19948.pdf
84 FR 2248, February 6, 2019	*Cast Iron Soil Pipe From China; Revised Scheduling of the Final Phase of Countervailing Duty and Antidumping Duty Investigations*	https://www.govinfo.gov/content/pkg/FR-2019-02-06/pdf/2019-01233.pdf
84 FR 6767, February 28, 2019	*Cast Iron Soil Pipe From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value and Postponement of Final Determination*	https://www.govinfo.gov/content/pkg/FR-2019-02-28/pdf/2019-03531.pdf
84 FR 6770, February 28, 2019	*Cast Iron Soil Pipe From the People's Republic of China: Final Affirmative Countervailing Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2019-02-28/pdf/2019-03538.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

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

Subject: Cast Iron Soil Pipe from China

Inv. Nos.: 701-TA-597 and 731-TA-1407 (Final)

Date and Time: February 12, 2019 - 9:30 a.m.

Sessions were held in connection with these investigations in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

CONGRESSIONAL APPEARANCES:

The Honorable Peter J. Visclosky, United States Representative, 1st District, Indiana

The Honorable Richard Hudson, United States Representative, 8th District, North Carolina

The Honorable Ted Budd, United States Representative, 13th District, North Carolina

OPENING REMARKS:

Petitioner (**Christopher T. Cloutier**, Schagrin Associates)
Respondents (**David Craven**, Sandler, Travis & Rosenberg, P.A.)

In Support of the Imposition of
Antidumping and Countervailing Duty Orders:

Schagrin Associates
Washington, DC
on behalf of

Cast Iron Soil Pipe Institute

Roddey Dowd, Jr., Chief Executive Officer,
Charlotte Pipe and Foundry Company

Hooper Hardison, President, Charlotte Pipe
and Foundry Company

Greg Simmons, Senior Vice President, Cast Iron Division,
Charlotte Pipe and Foundry Company

John Biggers, Senior Vice President, Sales, Charlotte Pipe
and Foundry Company

Michael Lowe, General Manager and Vice President of Sales,
AB&I Foundry

In Support of the Imposition of
Antidumping and Countervailing Duty Orders (continued):

Steve Miller, Vice President, SOLCO

Roxanne D. Brown, Legislative Director, United Steelworkers

Roger B. Schagrin)
Christopher T. Cloutier) – OF COUNSEL
Elizabeth J. Drake)

In Opposition to the Imposition of
Antidumping and Countervailing Duty Orders:

Sandler, Travis & Rosenberg, P.A.
Washington, DC
on behalf of

Wells Plumbing and Heating Supplies

George Gao, Chief Executive Officer,
Wells Plumbing and Heating Supplies

David Craven) – OF COUNSEL

INTERESTED PARTIES IN OPPOSITION:

HengTong Casting
Shanxi, China

Jinyou Zhao, President, Heng Tong Casting Co. Ltd

Owen Zhao, Son of Jinyou Zhao

Bikram Singh, President and Chief Executive Officer,
NewAge Casting

China Foundry Association
Beijing, China

Boming Zhang, Director, Advisory Working Committee,
China Foundry Association

REBUTTAL/CLOSING REMARKS:

Petitioner (**Roger B. Schagrin**, Schagrin Associates)
Respondents (**David Craven**, Sandler, Travis & Rosenberg, P.A.)

-END-

APPENDIX C

SUMMARY DATA

Table C-1
CISP: Summary data concerning the U.S. market, 2015-17, January to June 2017, and January to June 2018
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to June		Calendar year			Jan-Jun
	2015	2016	2017	2017	2018	2015-17	2015-16	2016-17	2017-18
U.S. consumption quantity:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***	***
All import sources	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***	***
All import sources	***	***	***	***	***	***	***	***	***
U.S. imports from:									
China:									
Quantity	15,029	22,208	17,390	9,147	6,294	15.7	47.8	(21.7)	(31.2)
Value	11,951	15,647	13,167	6,528	5,784	10.2	30.9	(15.9)	(11.4)
Unit value	$795	$705	$757	$714	$919	(4.8)	(11.4)	7.5	28.7
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Nonsubject sources:									
Quantity	1,186	2,303	726	583	1,255	(38.8)	94.1	(68.5)	115.2
Value	1,372	5,382	757	627	1,337	(44.8)	292.3	(85.9)	113.2
Unit value	$1,156	$2,337	$1,042	$1,075	$1,065	(9.9)	102.1	(55.4)	(0.9)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All import sources:									
Quantity	16,216	24,511	18,116	9,730	7,549	11.7	51.2	(26.1)	(22.4)
Value	13,323	21,029	13,924	7,155	7,120	4.5	57.8	(33.8)	(0.5)
Unit value	$822	$858	$769	$735	$943	(6.5)	4.4	(10.4)	28.3
Ending inventory quantity	***	***	***	***	***	***	***	***	***
U.S. producers':									
Average capacity quantity	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***
U.S. shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***	***	***	***	***
Productivity (short tons per 1,000 hours)	***	***	***	***	***	***	***	***	***
Unit labor costs (dollars per short ton)	***	***	***	***	***	***	***	***	***
Net sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Net income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
Unit net income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***
Net income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***

Notes:
fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Undefined.
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 and from official U.S. import statistics for HTS statistical reporting number 7303.00.0030, accessed November 1, 2018.