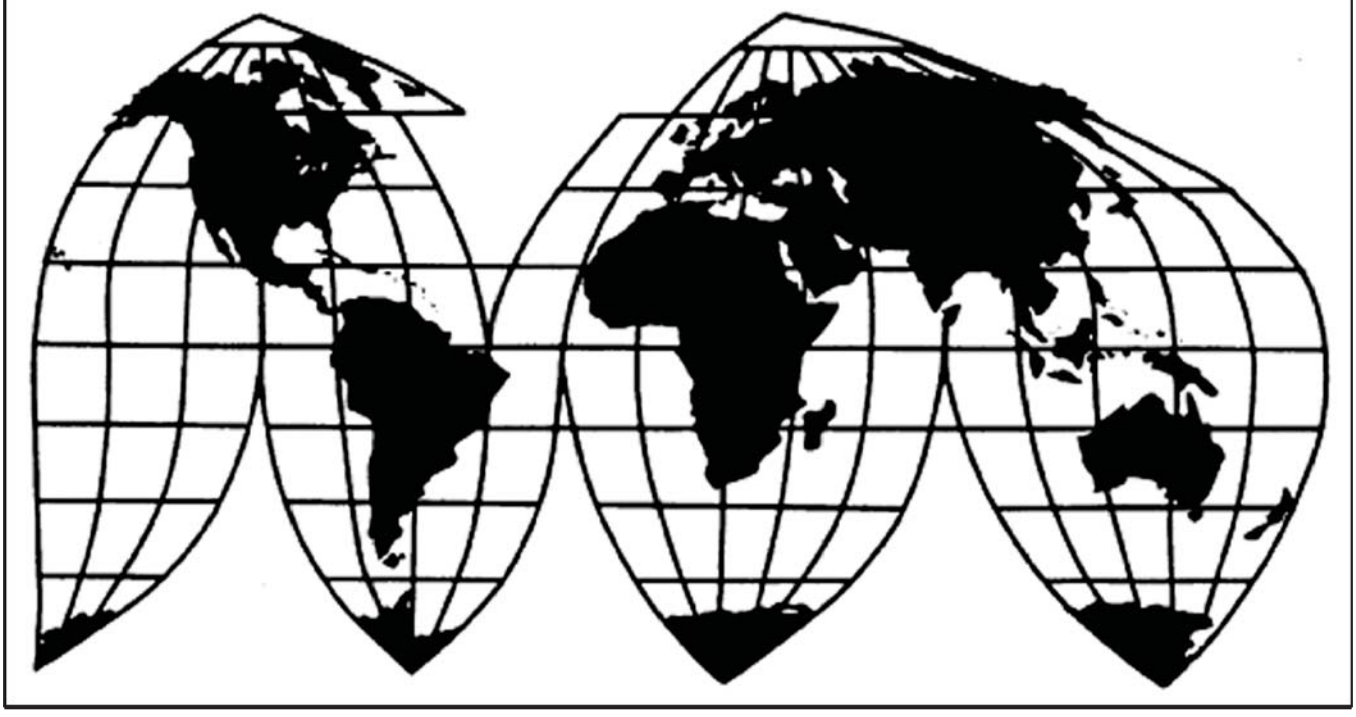
Hardwood Plywood from China

Investigation Nos. 701-TA-565 and 731-TA-1341 (Final)

Publication 4747 **December 2017**

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

COMMISSIONERS

Rhonda K. Schmidtlein, Chairman
David S. Johanson, Vice Chairman
Irving A. Williamson
Meredith M. Broadbent

Catherine DeFilippo
Director of Operations

Staff assigned

Drew Dushkes, Investigator
Sarah Scott, Industry Analyst
Lauren Gamache, Economist
Emily Kim, Accountant
KaDeadra McNealy, Statistician
Onslow Hall, Statistician
Benjamin Allen, Attorney
Mary Messer, 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

Hardwood Plywood from China

Investigation Nos. 701-TA-565 and 731-TA-1341 (Final)

Publication 4747

December 2017

CONTENTS

CONTENTS

CONTENTS

CONTENTS

Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted. Such deletions are indicated by asterisks.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-565 and 731-TA-1341 (Final)
Hardwood Plywood 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 hardwood plywood from China, provided for in subheadings 4412.10, 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99 of the Harmonized Tariff Schedule of the United States, that have been found by the 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.[2]

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 November 18, 2016, following receipt of a petition filed with the Commission and Commerce by the Coalition for Fair Trade of Hardwood Plywood and its individual members.[3] The final phase of the investigations was scheduled by the Commission following notification of a preliminary determinations by Commerce that imports of hardwood plywood 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 July 11, 2017 (82 FR 32011). The hearing was held in Washington, DC, on October 26, 2017, 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)).

[2] The Commission also finds that imports subject to Commerce's affirmative critical circumstances determinations are not likely to undermine seriously the remedial effect of the antidumping duty order or the countervailing duty order on hardwood plywood from China.

[3] Columbia Forest Products, Greensboro, North Carolina; Commonwealth Plywood Inc., Whitehall, New York; Murphy Plywood Co., Eugene, Oregon; Roseburg Forest Products Co., Roseburg, Oregon; States Industries, Inc., Eugene, Oregon; and Timber Products Company, Springfield, Oregon.

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 hardwood plywood from China found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value and to be subsidized by the government of China. We also find that critical circumstances do not exist with respect to the imports for which Commerce made affirmative critical circumstances determinations.

I. Background

On November 18, 2016, the Coalition for Fair Trade of Hardwood Plywood ("petitioner"), which is comprised of domestic producers of hardwood plywood, filed the petitions in these investigations.[1] Representatives for the petitioners appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs. The Commission also received letters on behalf of the Carpenter's Industrial Counsel and the International Association of Machinists and Aerospace Workers in favor of affirmative determinations.[2]

Two respondent groups participated actively in these investigations. Representatives and counsel for producers and exporters of subject merchandise that are members of the China National Forest Products Industry Association ("CNFA"),[3] appeared at the hearing and submitted prehearing and posthearing briefs, as did representatives and counsel for the American Alliance for Hardwood Plywood ("AAHP"), a coalition of importers of hardwood and decorative plywood. Far East American, Inc. ("FEA"), an importer of subject merchandise, and its affiliated producers and exporters in China, which are represented by CNFA in these proceedings, filed a separate brief with respect to critical circumstances, but did not appear at the hearing.[4] The Commission also received a joint letter on behalf of the International Wood Products Association, the National Association of Home Builders, and the Recreational Vehicle Industry Association in favor of negative determinations.[5] U.S. industry data are based on the questionnaire responses from nine domestic producers that accounted for nearly all domestic production of hardwood plywood in 2016. U.S. import data are based on the questionnaire responses of 74 U.S. importers of hardwood plywood from China over the January 1, 2014 to

[1] The coalition consists of Columbia Forest Products, Commonwealth Plywood, Inc., Murphy Company, Roseburg Forest Products Co., States Industries, Inc., and Timber Products Company, all of which are domestic producers of hardwood plywood.

[2] Letter from Tony Hadley and Jerry King to the Commission, EDIS Doc. 626108; Letter from Robert Martinez, Jr. to the Commission, EDIS Doc. 628374.

[3] The CNFA did not itself enter an appearance.

[4] On the date of the record closing, November 22, 2017, FEA filed additional information with the Commission not requested by the Commission or its staff without indicating good cause as required by Commission rule 201.12. This submission was inadvertently accepted into the record. However, we have not considered this submission in reaching our final determinations.

[5] Letter from International Wood Products Association, National Association of Home Builders, and the Recreational Vehicle Industry Association to the Commission, EDIS Doc. 626072.

June 30, 2017, period of investigation, which accounted for 94 percent subject imports from China in 2016, and 92 firms (53 producers and 39 resellers) that accounted for less than half of all production of subject merchandise from China in 2016.[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

---

[6] Confidential Report, Memorandum INV-PP-149 (Nov. 16, 2017) ("CR") at I-5-6, Public Report ("PR") at I-4-5.

[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 (Continued...)

Commerce's determination as to the scope of the imported merchandise that is subsidized or 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:

> [. . .] hardwood and decorative plywood, and certain veneered panels as described below. For purposes of this proceeding, hardwood and decorative plywood is defined as a generally flat, multilayered plywood or other veneered panel, consisting of two or more layers or plies of wood veneers and a core, with the face and/or back veneer made of non-coniferous wood (hardwood) or bamboo. The veneers, along with the core may be glued or otherwise bonded together. Hardwood and decorative plywood may include products that meet the American National Standard for Hardwood and Decorative Plywood, ANSI/HPVA HP-1-2016 (including any revisions to that standard).
>
> For purposes of this investigation a "veneer" is a slice of wood regardless of thickness which is cut, sliced or sawed from a log, bolt, or flitch. The face and back veneers are the outermost veneer of wood on either side of the core irrespective of additional surface coatings or covers as described below.
>
> The core of hardwood and decorative plywood consists of the layer or layers of one or more material(s) that are situated between the face and back veneers. The core may be composed

---

(…Continued)
interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

[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).

of a range of materials, including but not limited to hardwood, softwood, particleboard, or medium-density fiberboard (MDF).

All hardwood plywood is included within the scope of this investigation regardless of whether or not the face and/or back veneers are surface coated or covered and whether or not such surface coating(s) or covers obscures the grain, textures, or markings of the wood. Examples of surface coatings and covers include, but are not limited to: ultra violet light cured polyurethanes; oil or oil-modified or water based polyurethanes; wax; epoxy-ester finishes; moisture-cured urethanes; paints; stains; paper; aluminum; high pressure laminate; MDF; medium density overlay (MDO); and phenolic film. Additionally, the face veneer of hardwood plywood may be sanded; smoothed or given a "distressed" appearance through such methods as hand-scraping or wire brushing. All hardwood plywood is included within the scope even if it is trimmed; cut-to-size; notched; punched; drilled; or has underwent other forms of minor processing.

All hardwood and decorative plywood is included within the scope of this investigation, without regard to dimension (overall thickness, thickness of face veneer, thickness of back veneer, thickness of core, thickness of inner veneers, width, or length). However, the most common panel sizes of hardwood and decorative plywood are 1219 x 1829 mm (48 x 72 inches), 1219 x 2438 mm (48 x 96 inches), and 1219 x 3048 mm (48 x 120 inches).

Subject merchandise also includes hardwood and decorative plywood that has been further processed in a third country, including but not limited to trimming, cutting, notching, punching, drilling, or any other processing that would not otherwise remove the merchandise from the scope of the investigation if performed in the country of manufacture of the in-scope product.

The scope of the investigation excludes the following items: (1) structural plywood (also known as "industrial plywood" or "industrial panels") that is manufactured to meet U.S. Products Standard PS 1-09, PS 2-09, or PS 2-10 for Structural Plywood (including any revisions to that standard or any substantially equivalent international standard intended for structural plywood), and which has both a face and a back veneer of coniferous wood; (2) products which have a face and back veneer

of cork; (3) multilayered wood flooring, as described in the antidumping duty and countervailing duty orders on Multilayered Wood Flooring from the People's Republic of China, Import Administration, International Trade Administration. See Multilayered Wood Flooring from the People's Republic of China, 76 FR 76690 (December 8, 2011) (amended final determination of sales at less than fair value and antidumping duty order), and Multilayered Wood Flooring from the People's Republic of China, 76 FR 76693 (December 8, 2011) (countervailing duty order), as amended by Multilayered Wood Flooring from the People's Republic of China: Amended Antidumping and Countervailing Duty Orders, 77 FR 5484 (February 3, 2012); (4) multilayered wood flooring with a face veneer of bamboo or composed entirely of bamboo; (5) plywood which has a shape or design other than a flat panel, with the exception of any minor processing described above; (6) products made entirely from bamboo and adhesives (also known as "solid bamboo"); and (7) Phenolic Film Faced Plyform (PFF), also known as Phenolic Surface Film Plywood (PSF), defined as a panel with an "Exterior" or "Exposure 1" bond classification as is defined by The Engineered Wood Association, having an opaque phenolic film layer with a weight equal to or greater than 90g/m3 permanently bonded on both the face and back veneers and an opaque, moisture resistant coating applied to the edges.

Excluded from the scope of this investigation are wooden furniture goods that, at the time of importation, are fully assembled and are ready for their intended uses. Also excluded from the scope of this investigation is "ready to assemble" (RTA) furniture. RTA furniture is defined as (A) furniture packaged for sale for ultimate purchase by an end-user that, at the time of importation, includes (1) all wooden components (in finished form) required to assemble a finished unit of furniture, (2) all accessory parts (e.g., screws, washers, dowels, nails, handles, knobs, adhesive glues) required to assemble a finished unit of furniture, and (3) instructions providing guidance on the assembly of a finished unit of furniture; (B) unassembled bathroom vanity cabinets, having a space for one or more sinks, that are imported with all unassembled hardwood and hardwood plywood components that have been cut-to-final dimensional component shape/size, painted or stained prior to importation, and stacked within a singled shipping package, except for furniture feet which may be packed and shipped separately; or (C) unassembled bathroom vanity linen closets that are imported with all

unassembled hardwood and hardwood plywood components that have been cut-to-final dimensional shape/size, painted or stained prior to importation, and stacked within a single shipping package, except for furniture feet which may be packed and shipped separately.

Excluded from the scope of this investigation are kitchen cabinets that, at the time of importation, are fully assembled and are ready for their intended uses. Also excluded from the scope of this investigation are RTA kitchen cabinets. RTA kitchen cabinets are defined as kitchen cabinets packaged for sale for ultimate purchase by an end-user that, at the time of importation, includes (1) all wooden components (in finished form) required to assemble a finished unit of cabinetry, (2) all accessory parts (e.g., screws, washers, dowels, nails, handles, knobs, hooks, adhesive glues) required to assemble a finished unit of cabinetry, and (3) instructions providing guidance on the assembly of a finished unit of cabinetry.

Excluded from the scope of this investigation are finished table tops, which are table tops imported in finished form with pre-cut or drilled openings to attach the underframe or legs. The table tops are ready for use at the time of import and require no further finishing or processing.

Excluded from the scope of this investigation are finished countertops that are imported in finished form and require no further finishing or manufacturing.

Excluded from the scope of this investigation are laminated veneer lumber door and window components with (1) a maximum width of 44 millimeters, a thickness from 30 millimeters to 72 millimeters, and a length of less than 2413 millimeters (2) water boiling point exterior adhesive, (3) a modulus of elasticity of 1,500,000 pounds per square inch or higher, (4) finger-jointed or lap-jointed core veneer with all layers oriented so that the grain is running parallel or with no more than 3 dispersed layers of veneer oriented with the grain running perpendicular to the other layers; and (5) top layer machined with a curved edge and one or more profile channels throughout.[15]

[15] *Certain Hardwood Plywood Products From the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part,* 82
(Continued...)

Hardwood and decorative plywood is a wood panel product made from gluing two or more layers of wood veneer to a core which may itself be composed of veneers or other type of wood material such as medium density fiberboard ("MDF"), particleboard, lumber, or oriented strand board. The outer ply or face veneer is typically the identifying species for the hardwood plywood product and is the side of the product that will be visible in most uses. Many hardwood species are used in hardwood plywood manufacturing including oak, birch, maple, poplar, cherry, and tropical varieties. Hardwood plywood includes at least one face or back veneer that is a hardwood species, but may have a face or back veneer and/or other layers of veneer of softwood species.[16] Hardwood plywood is manufactured in a variety of thicknesses and dimensions.[17]

Hardwood plywood products are differentiated by species, quality of veneer, overall thickness, number of plies, type of core (veneer, particleboard, MDF, or other), and the type of adhesive used in the manufacturing process. Grades of hardwood plywood are determined by criteria such as number and size of knots, visible decay, splits or insect holes, surface roughness, and other defects. Grades are assigned to both the face and back veneers. Plywood with the highest face grades is used in applications where appearance is a primary consideration. Most hardwood plywood produced in the United States is graded according to a consensus-based voluntary standard developed by the Hardwood Plywood and Veneer Association ("HPVA").[18]

C. Domestic Like Product Analysis

In our preliminary determinations, we defined a single domestic like product, coextensive with the scope of these investigations.[19] We found that all hardwood plywood consisted of two or more layers of wood veneer glued to a core and was used in a range of interior applications.[20] Hardwood plywood was made using either a one-step or a two-step

---

(…Continued)
Fed. Reg. 53460, 53470 (Nov. 16, 2017); *Countervailing Duty Investigation of Certain Hardwood Plywood Products From the People's Republic of China: Final Affirmative Determination, and Final Affirmative Critical Circumstances Determination, in Part,* 82 Fed. Reg. 53473, 53476 (Nov. 16, 2017).

[16] CR at I-15, PR at I-13.

[17] CR at I-15-16, PR at I-13. The most common thicknesses range from 1/8 inch (3.2 mm) to 1 inch (25.4 mm), depending upon customer requirements and the intended end use. The most common panel dimensions are 48 inches by 72 inches (1219 mm x 1829 mm), 48 inches by 96 inches (1219 mm x 2438 mm), and 48 inches by 120 inches (1219 mm x 3048 mm), but hardwood plywood is also sold in smaller and larger sheet sizes. *Id.*

[18] CR at I-15-16, PR at I-14. The highest and clearest grades of hardwood plywood carry an "AA" or "A" face grade, followed by "B," "C," "D," and "E" as more knots, blemishes or other defects are considered in the grading process. The HPVA standard also assigns back veneers numerical grades from "1" to "4," and certain other letter grades to internal veneers. However, not all hardwood plywood sold in the United States conforms to the HPVA standard. *Id.*

[19] *Hardwood Plywood from China*, Inv. Nos. 701-TA-565 and 731-TA-1341, USITC Pub. 4661 (January 2017) ("Preliminary Determinations") at 9.

[20] Preliminary Determinations, USITC Pub. 4661 at 8.

process.[21] It was sold predominantly to distributors, with the remainder sold directly to end users.[22] Hardwood plywood was sold on the basis of grade, type of core, overall panel thickness, and face species.[23] It could be characterized by species, veneer quality, thickness, number of plies, type of core, and the type of adhesive used in the manufacturing process.[24] Most hardwood plywood produced in the United States was graded according to the voluntary consensus-based HPVA standard.[25] We found that price was a function of the quality or grade of the veneer and the composition of the core.[26]

In these final phase investigations, petitioners argue that the Commission should define a single domestic like product coextensive with the scope of the investigations.[27] Respondents do not contest this domestic like product definition.[28] Information in the final phase of these investigations about the characteristics of hardwood plywood is the same as that in the preliminary phase.[29] Accordingly, we again define a single domestic like product corresponding to 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."[30] 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.

We must determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise or which are themselves importers.[31] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[32]

---

[21] Preliminary Determinations, USITC Pub. 4661 at 8-9.

[22] Preliminary Determinations, USITC Pub. 4661 at 9.

[23] Preliminary Determinations, USITC Pub. 4661 at 9.

[24] Preliminary Determinations, USITC Pub. 4661 at 9.

[25] Preliminary Determinations, USITC Pub. 4661 at 9.

[26] Preliminary Determinations, USITC Pub. 4661 at 9.

[27] *Prehearing Br. of the Coalition for Fair Trade of Hardwood Plywood* (Oct. 18, 2017) ("Petitioner's Prehearing Br.") at 3.

[28] *Prehearing Br. of the American Alliance for Hardwood Plywood* (Oct. 18, 2017) ("AAHP Prehearing Br.") at 10-11; *Prehearing Br. on Behalf of the China National Forest Products Industry Association* (Oct. 18, 2017) at 5.

[29] *See generally* CR at I-16-25, PR at I-13-18.

[30] 19 U.S.C. § 1677(4)(A).

[31] *See Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Continued...)

In our preliminary determinations, we examined whether appropriate circumstances existed to exclude domestic producers *** pursuant to the statutory related parties provision.[33] We found that *** was not a related party.[34] We found that *** were related parties, but that appropriate circumstances did not exist to warrant their exclusion from the domestic industry.[35]

In these final phase investigations, we first analyze which domestic producers are subject to potential exclusion from the domestic industry pursuant to the related parties provision. *** imported subject merchandise during the period of investigation.[36] Consequently, *** is a related party and we examine below whether appropriate circumstances exist to exclude it from the domestic industry. We find that ***, which purchased subject merchandise, are not related parties.[37]

(…Continued)
(Ct. Int'l Trade 1989), *aff'd mem*., 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

[32] The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

(1) the percentage of domestic production attributable to the importing producer;

(2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);

(3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;

(4) the ratio of import shipments to U.S. production for the imported product; and

(5) whether the primary interest of the importing producer lies in domestic production or importation. *Changzhou Trina Solar Energy Co. v. USITC*, 100 F. Supp.3d 1314, 1326-31 (Ct. Int'l. Trade 2015); see *also Torrington Co. v. United States*, 790 F. Supp. at 1168.

[33] Confidential Preliminary Determinations, EDIS Doc. 600751 at 12-15; Preliminary Determinations, USITC Pub. 4661 at 10.

[34] Confidential Preliminary Determinations, EDIS Doc. 600751 at 14-15; Preliminary Determinations, USITC Pub. 4661 at 10.

[35] Confidential Preliminary Determinations, EDIS Doc. 600751 at 14-15; Preliminary Determinations, USITC Pub. 4661 at 10-11.

[36] CR/PR at Table III-15. The record also indicates that *** purchased subject merchandise from U.S. importers during the period of investigation. CR/PR at Table III-16.

[37] The Commission has previously concluded that a purchaser may be treated as a related party if it controls large volumes of subject imports. The Commission has found such control to exist when the domestic producer was responsible for a predominant proportion of an importer's purchases and these purchases were substantial. *See Chlorinated Isocyanurates from China and Spain*, Inv. Nos. 731-TA-1082-1083 (Second Review), USITC Pub. 4646 at 12 (Nov. 2016).

Domestic producer ***, while ***. CR/PR at Table III-16. Although *** purchased subject imports throughout the period of investigation, those purchases were small on an annual basis. *Compare* CR/PR at Table III-16 *with* CR/PR at Table IV-6. In view of the fact that *** did not engage in substantial purchases of subject imports, we find that it is not a related party.

With respect to ***, we observe that in the preliminary phase of these investigations it ***. CR at III-24 n.15, PR at III-16 n.15. Its purchases of subject imports were relatively modest on an annual (Continued...)

*** is *** and the *** domestic producer of hardwood plywood, accounting for *** percent of domestic production in 2016.[38] It imported *** square feet in 2014, *** square feet in 2015, and *** square feet in 2016.[39] It imported *** square feet of subject merchandise from January to June ("interim") 2016 and *** square feet in interim 2017.[40] *** reported importing subject merchandise because of its lower cost.[41] The ratio of its subject imports to production was *** percent in 2014, *** percent in 2015, and *** percent in 2016. It was *** percent in interim 2016 and *** percent in interim 2017.[42] Consequently, its principal interest appears to be in domestic production.[43] In view of ***, the fact that its domestic production was far larger than its subject imports, and the fact that no party has argued for its exclusion from the domestic industry, we find that appropriate circumstances do not exist to exclude *** from the domestic industry as a related party.

In light of the definition of the domestic like product, we define the domestic industry to include all U.S. producers of hardwood plywood.

IV. Material Injury by Reason of Subject Imports

Based on the record in the final phase of these investigations, we find that an industry in the United States is materially injured by reason of imports of hardwood plywood from China that Commerce has found to be to be sold in the United States at less than fair value and to be subsidized by the government of China.

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.[44] In making this determination, the Commission must consider the volume of subject imports, their effect on

---

(…Continued)
basis and decreased over the period of investigation. *Compare* CR/PR at Table III-16 *with* CR/PR at Table IV-6. In view of the fact that *** did not engage in substantial purchases of subject imports, we find that it is not a related party.

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

[39] CR/PR at Table III-15.

[40] CR/PR at Table III-15.

[41] CR/PR at Tables III-15-16.

[42] CR/PR at Table III-15.

[43] Its operating income margin was *** throughout the period of investigation and was *** percent in 2014, *** percent in 2015, and *** percent in 2016; it was *** percent in interim 2016 and *** percent in interim 2017. CR/PR at Table VI-3.

[44] 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. We have applied these amendments here.

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.[45] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[46] 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.[47] 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."[48]

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,[49] 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.[50] 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.[51]

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

---

[45] 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).

[46] 19 U.S.C. § 1677(7)(A).

[47] 19 U.S.C. § 1677(7)(C)(iii).

[48] 19 U.S.C. § 1677(7)(C)(iii).

[49] 19 U.S.C. §§ 1671d(a), 1673d(a).

[50] *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).

[51] 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).

inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[52] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[53] 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.[54] It is clear that the existence of injury caused by other factors does not compel a negative determination.[55]

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

---

[52] Uruguay Round Agreements Act Statement of Administrative Action (SAA), H.R. Rep. 103-316, vol. I at 851-52 (1994) ("{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports."); S. Rep. 96-249 at 75 (1979) (the Commission "will consider information which indicates that harm is caused by factors other than less-than-fair-value imports."); H.R. Rep. 96-317 at 47 (1979) ("in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;" those factors include "the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry"); *accord Mittal Steel*, 542 F.3d at 877.

[53] 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.").

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

[55] *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."[56] Indeed, the Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[57]

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.[58] 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.[59] 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.[60]

---

[56] *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*.

[57] *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.").

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

[59] *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).

[60] 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 (Continued...)

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.[61] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[62]

B. Conditions of Competition and the Business Cycle[63]

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

1. Demand Considerations

U.S. demand for hardwood plywood depends on the demand for U.S.-produced downstream products in which it is used, including kitchen cabinets, recreational vehicles ("RVs"), manufactured homes, fixtures, underlayment, and furniture.[64] Cabinets are a particularly important end use, with large shares of both domestic and subject hardwood plywood going toward that purpose.[65] The main industries that drive demand for hardwood plywood generally reflect U.S. economic activity.[66] Demand for hardwood plywood is closely tied to new home construction and remodeling activity.[67] Nearly all producers, a sizeable share of importers, and some purchasers indicated that the market for hardwood plywood is subject to business cycles or distinctive conditions of competition, including a strong seasonal

---

(…Continued)
information in the final phase of investigations in which there are substantial levels of nonsubject imports.

[61] We provide in our respective discussions of volume, price effects, and impact a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

[62] *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.").

[63] Pursuant to section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to the domestic like product that account for less than 3 percent of all such merchandise imported into the United States in the most recent 12-month period for which data are available preceding the filing of the petition shall be deemed negligible. 19 U.S.C. § 1677(24)(A)(i).

Negligibility is not an issue in these investigations. Based on questionnaire data, U.S. imports from China accounted for 49.2 percent of total imports of hardwood plywood by quantity from November 2015 to October 2016, the most recent 12-month period preceding the filing of the petitions. CR/PR at Table IV-16.

[64] CR at II-13, PR at II-10.

[65] CR at II-13, 15, PR at II-10, 11. Fourteen of 37 responding purchasers reported that at least some of their purchases were for cabinetry applications. CR at II-14, PR at II-11.

[66] CR at II-10, PR at II-7.

[67] CR at II-10, PR at II-7.

component.[68] Most purchasers responding to the Commission's questionnaire indicated that demand for hardwood plywood end-use applications had increased since 2014.[69]

Demand as measured by apparent U.S. consumption increased throughout the period of investigation.[70] It was 3.3 billion square feet in 2014, 3.5 billion square feet in 2015, and 3.8 billion square feet in 2016.[71] It was 1.9 billion square feet in interim 2016 and 2.0 billion square feet in interim 2017.[72]

2. Supply Considerations

Domestic shipments, subject imports, and nonsubject imports all supplied the U.S. market over the period of investigation. The domestic industry was the smallest source of supply. Its market share decreased from 21.0 percent in 2014 to 19.3 percent in 2015, and then to 17.3 percent in 2016.[73] Its market share was higher in interim 2016, at 17.0 percent, than in interim 2017, at 16.5 percent.[74] Its capacity decreased slightly from 2014 to 2016 and was slightly lower in interim 2016 than in interim 2017.[75] Domestic producers' capacity was less than apparent U.S. consumption throughout the period of investigation.[76] The largest end use for domestically produced hardwood plywood is the manufacture of cabinets, which accounted for 50.8 percent of domestic producers' shipments in 2016.[77] The second largest share of domestic producers' shipments was for miscellaneous and unknown applications, which accounted for 24.1 percent of domestic producers' shipments in 2016.[78] The record indicates that domestic shipments in a number of end-use categories were limited, with underlayment the smallest end-use category for domestic producers.[79]

---

[68] CR at II-20, PR at II-15.

[69] CR at II-14, PR at II-11.

[70] CR at II-2, PR at II-1.

[71] CR/PR at Table IV-14.

[72] CR/PR at Table IV-14.

[73] CR/PR at Table IV-14.

[74] CR/PR at Table IV-14.

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

[76] *Compare* CR/PR at Table III-4 *with* CR/PR at Table IV-14.

[77] CR/PR at Table III-12.

[78] CR/PR at Table III-12. The record indicates that miscellaneous and unknown uses for domestic hardwood plywood include shipments to big box retailers as well as use by original equipment manufacturers (including producers of cabinets, furniture, and recreational vehicles ("RVs")), architectural workers, wholesalers, and contract yards. CR at III-20, PR at III-14; Hearing Tr. at 153 (Ms. Cribb), 153 (Mr. York), 153 (Mr. Taylor).

Other end-use categories, and their share of 2016 domestic producers' shipments, include furniture (*** percent), architectural use (6.6 percent), store and retail fixtures (4.2 percent), RV and mobile home applications (2.9) percent. CR/PR at Table III-12.

[79] CR/PR at Table III-12. Underlayment accounted for *** percent of domestic shipments in 2016. *Id.*

Subject imports were the second largest source of supply over the period of investigation.[80] Subject import market share increased from 37.9 percent in 2014 to 39.2 percent in 2015, and then to 40.1 percent in 2016.[81] Their market share was higher in interim 2016, at 37.9 percent, than in interim 2017, at 36.7 percent.[82] The largest known end use of subject imports was underlayment (*** percent) and the second largest was cabinets (21.2), while the largest share of shipments was for miscellaneous and unknown end uses (41.0 percent).[83]

Nonsubject imports were the largest source of supply over the period of investigation. Their market share increased from 41.1 percent in 2014 to 41.5 percent in 2015, and then to 42.6 percent in 2016.[84] Nonsubject import market share was lower in interim 2016, at 45.1 percent, than in interim 2017, at 46.7 percent.[85] Indonesia, Russia, Malaysia, and Ecuador were the largest nonsubject sources of supply to the U.S. market during the period of investigation.[86]

3. Substitutability and Other Conditions

Based on the record in the final phase of these investigations, we find that subject imports and the domestic like product are moderately substitutable.[87] Purchasers most frequently reported price, quality, and availability as being among the three most important factors in purchasing decisions, with quality the most cited first-most important factor and price the most cited second-most important factor.[88] Accordingly, we find that price is an important factor in purchasing decisions.

Market participants expressed disparate views as to the degree of interchangeability between subject imports and the domestic like product.[89] The majority of U.S. producers reported that subject and domestic hardwood plywood are always interchangeable, while most importers and purchasers reported that subject and domestic hardwood plywood can always,

---

[80] CR/PR at Table IV-14. Subject imports from China were the single largest source of supply on a per country basis. *Compare* CR/PR at Table IV-14 *with* CR/PR at Table IV-3.

[81] CR/PR at Table IV-14.

[82] CR/PR at Table IV-14.

[83] CR/PR at Table IV-12. Other reported end-use categories for subject imports include RV and mobile home applications (6.3 percent), furniture (*** percent), store and retail fixtures (2.0 percent), and architectural work (1.1 percent). CR/PR at Table IV-12.

Reported miscellaneous end uses of imports from China included crating, packaging, cut-to-size products, arts and crafts products, molds, patterns, industrial stencils, ISO container flooring, carpet tack strip, cargo trailer lining, pallets, scaffolding, concrete forming panels, wire reels, ammunition boxes, appliances, fruit boxes, doors, toys, graphic wooden displays, and doghouses. CR at IV-34, PR at IV-25.

[84] CR/PR at Table IV-14.

[85] CR/PR at Table IV-14.

[86] CR at IV-8, PR at IV-6, CR/PR at Table IV-3.

[87] CR at II-26, PR at II-20.

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

[89] CR/PR at Table II-14.

frequently, or sometimes be used interchangeably.[90] Of 20 factors pertinent to purchasing decisions, a majority of purchasers identified ten to be very important.[91] In comparing subject and domestic hardwood plywood, purchasers rated domestic hardwood plywood as superior to subject merchandise with respect to four of these factors, comparable with respect to five, and inferior with respect to one (price).[92]

The record indicates that subject imports and the domestic like product overlap with respect to numerous product characteristics. Subject and domestic hardwood plywood are sold in the United States in every category of overall plywood thickness.[93] Subject imports overwhelmingly used cores composed of hardwood, and *** of domestically produced product also used hardwood cores.[94]

Moreover, domestic producers and U.S. importers shipped virtually every combination of face veneer species and grade.[95] Over half of domestic producers' 2016 shipments of hardwood plywood were grade B (26.5 percent) or grade C (32.3 percent), while almost one quarter of U.S. importers' shipments of subject imports were grade B (6.6 percent) or grade C (16.7 percent).[96] We observe that the majority of subject imports (77.7 percent) and an appreciable share of domestically produced product (20.8 percent) had birch face veneers. The record indicates that hardwood plywood with birch face veneers is generally interchangeable with hardwood plywood with maple face veneers.[97] Hardwood plywood with either birch or maple face veneers accounted for 79.4 percent of U.S. importers' shipments of subject imports and 65.1 percent of domestic producers' shipments in 2016.[98]

With respect to end uses, as previously discussed, cabinetry was the largest end-use category for domestic producers' shipments of hardwood plywood and was the second-largest

---

[90] CR/PR at Table II-14. An equal number of U.S. importers (24 each) indicated that domestic and subject hardwood plywood are sometimes or never interchangeable. *Id.*

[91] These were availability, delivery time, face veneer thickness, face veneer grade, face veneer species, price, product consistency, quality meets industry standards, quality exceeds industry standards, and reliability of supply. CR/PR at Table II-11.

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

[93] CR/PR at Tables III-8, IV-8. A majority of the domestic like product and a large portion of subject imports were sold in overall thicknesses between 6.5 mm and 19.99 mm. In 2016, 76.2 percent of domestic producers' shipments were in thicknesses between 6.5 mm and 19.99 mm, compared to 44.7 percent of subject imports. The majority of subject imports were sold in overall thicknesses below 6.5 mm, as was an appreciable share of domestic producers' shipments. In 2016, 55.0 percent of subject imports were sold in thicknesses below 6.5 mm, compared to 22.6 percent of domestic producers' shipments. *Id.*

[94] CR/PR at Tables III-9, IV-9.

[95] CR/PR at Tables III-11, IV-11.

[96] CR/PR at Tables III-11, IV-11.

[97] Both maple and birch are light woods, have neutral colors, and relatively restrained grain patterns. Hearing Tr. at 43 (Mr. Brightbill); *Petitioners Postconference Brief* at 13-14. Moreover, we observe that demand for hardwood plywood with birch or maple face veneers appears to move in the same direction suggesting that maple and birch may have similar attributes. CR/PR at Table II-8.

[98] CR/PR at Tables III-11, IV-11.

known end-use category for shipments of the subject merchandise.[99] The record indicates that purchasers use subject and domestic hardwood plywood in overlapping applications for cabinetry with exposed uses as the dominant application for the domestic product and a substantial application for subject imports.[100] Moreover, there is some overlap with respect to the finishing applied to subject and domestic hardwood plywood used in exposed applications.[101] By contrast, underlayment was a substantial end-use category for subject imports in which the domestic industry had only a small presence.[102]

We acknowledge that there is little overlap between subject imports and the domestic like product with respect to face veneer thickness. Throughout the period of investigation, the majority of U.S. importers' shipments of subject imports had face veneers thinner than 0.4 mm, whereas nearly all of domestic producers' shipments had face veneers 0.4 mm or thicker.[103] Hardwood plywood with face veneers thinner than 0.4 mm accounted for 93.9 percent of subject imports in 2016, compared to *** percent of domestic producers' shipments.[104]

There is mixed evidence concerning the importance of face veneer thickness. Although a majority of purchasers identified face veneer thickness as a very important purchasing factor, nearly half rated face veneer thickness as either somewhat or not important as a purchasing factor.[105] Moreover, a majority of responding purchasers reported that hardwood plywood with face veneers thinner than 0.5 mm and hardwood plywood with face veneers thicker than 0.5 mm were at least sometimes interchangeable in front and side cabinetry applications.[106] We observe that face veneer thickness appears to be less important in painted applications as compared to sanded and stained applications.[107] With respect to non-exposed cabinet

---

[99] CR/PR at Tables III-12, IV-12.

[100] CR/PR at Table II-3. Exposed applications accounted for *** percent of reported purchases of the domestic like product and *** percent of reported purchases of subject imports in 2016. *Id.*

[101] CR/PR at Table II-4. Of the *** percent share of reported purchases of the domestic like product used in exterior cabinetry applications, *** percent was sanded and stained and *** percent was painted. Of the *** percent share of subject hardwood plywood used in exterior cabinetry applications, *** percent was sanded and stained and *** percent was painted. *Id.*

For all cabinetry applications, hardwood plywood with sanded and stained finishes accounted for *** percent of reported purchases of domestic hardwood plywood and *** percent of reported purchases of subject hardwood plywood. Hardwood plywood with a painted finish accounted for *** percent of purchases of domestic hardwood plywood and *** percent of purchases of subject hardwood plywood. *Id.*

[102] CR/PR at Tables III-12, IV-12.

[103] *Compare* CR/PR at Table III-7 *with* CR/PR at Table IV-7.

[104] CR/PR at Tables III-7, IV-7.

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

[106] CR at II-43, PR at II-31, CR/PR at Table II-15.

[107] The record indicates that hardwood plywood with thick face veneers may be desirable in applications where the product is to be sanded and stained to reveal the wood grain, whereas thickness is a less important attribute in painted applications, as the most popular painted cabinets are painted in such a manner as to completely obscure the wood grain. Hearing Tr. at 175 (Mr. Randich), 177 (Mr. Bressler); *Posthearing Br. of the American Alliance for Hardwood Plywood* (Nov. 2, 2017) ("AAHP Posthearing Br."), Ex. B at 10.

surfaces, respondents did not identify veneer thickness as a characteristic that limits the use of hardwood plywood for interior cabinet uses.[108]

The major raw material costs for hardwood plywood are the hardwood veneer and other plywood used in its production.[109] Raw material costs showed minor variations, decreasing from 79.4 percent of COGS in 2014 to 78.8 percent in 2016, but increasing on a per-unit basis.[110]

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."[111]

The volume of subject imports increased over the period of investigation from 1.3 billion square feet in 2014 to 1.4 billion square feet in 2015 and 1.5 billion square feet in 2016.[112] The volume of subject imports was higher in interim 2016, at 753 million square feet, than in interim 2017, at 734 million square feet.[113] As noted above, subject import market share increased from 37.9 percent in 2014 to 39.2 percent in 2015 and 40.1 percent in 2016.[114] It was higher in interim 2016, at 37.9 percent, than in interim 2017, at 36.7 percent.[115]

Subject imports gained market share largely at the expense of the domestic industry. The domestic industry's market share declined from 21.0 percent in 2014 to 19.3 percent in 2015 and then to 17.3 percent in 2016.[116] Its market share was higher in interim 2016, at 17.0 percent, than in interim 2017, at 16.5 percent.[117] The ratio of subject imports to U.S. production increased from 2014 to 2016 and was higher in interim 2017 than in interim 2016. As a share of total U.S. production, subject imports increased from 168.0 percent in 2014 to 213.8 percent in 2015 and 223.8 percent in 2016. This share was 188.8 percent in interim 2016 and 244.6 percent in interim 2017.[118]

While we acknowledge that some of the increase in subject import volume occurred in the underlayment segment, subject imports gained substantial volume and market share in

---

[108] *See* Hearing Tr. at 249-250 (Mr. Bressler). When asked to indicate non-price factors that would lead cabinet makers to use subject rather than domestic hardwood plywood for interior applications respondents identified only core composition. *Id*.

[109] CR at V-1, PR at V-1.

[110] CR at V-1, PR at V-1, CR/PR at Figure V-1, Table VI-1.

[111] 19 U.S.C. § 1677(7)(C)(i).

[112] CR/PR at Table IV-14.

[113] CR/PR at Table IV-14.

[114] CR/PR at Table IV-14.

[115] CR/PR at Table IV-14.

[116] CR/PR at Table IV-14.

[117] CR/PR at Table IV-14.

[118] CR/PR at Table IV-2. In light of these increases, we discount respondents' arguments that compliance with the Lacey Act and CARB requirements presents a barrier to entry to the U.S. market for subject producers and restrains subject imports.

end-use segments where there is substantial domestic industry participation.[119] Excluding shipments of underlayment, subject import volume increased from *** square feet in 2014 to *** square feet in 2015 and then to *** square feet in 2016. Subject import shipments excluding underlayment were higher in interim 2016, at *** square feet, than in interim 2017, at *** square feet.[120] Subject imports' market share excluding underlayment increased by *** percentage points from 2014 to 2016, while the domestic industry's market share decreased by *** percentage points over the same period. Moreover, within the cabinetry end-use, the largest end use market for the domestic industry, subject import volume increased from 244.1 million square feet in 2014 to 301.0 million square feet in 2016; it was 151.0 million square feet in interim 2016 and higher at 152.1 million square feet, in interim 2017.[121] From 2014 to 2016, subject import market share in the cabinetry end use increased by 6.9 percentage points, while the domestic industry's market share declined by 5.1 percentage points.[122]

In light of the foregoing, we find that the volume of subject imports and the increase in that volume are significant in both absolute terms and relative to production and 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.[123]

The Commission collected quarterly pricing data on six pricing products.[124] Seven domestic producers and 42 U.S. importers provided usable pricing data for sales

---

[119] CR/PR at Table IV-16.

[120] CR/PR at Table IV-16.

[121] CR/PR at Table IV-12.

[122] Derived from CR/PR at Tables III-12, IV-12, and IV-14.

[123] 19 U.S.C. § 1677(7)(C)(ii).

[124] CR at V-6-7, PR at V-4-5. The six pricing products are as follows:

> ***Product 1***.-- 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.
>
> ***Product 2***.-- 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, prefinished.
>
> ***Product 3***.-- 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch

(Continued...)

of the requested products, although not all firms reported pricing for all pricing products for all quarters.[125] Pricing data reported by these firms accounted for approximately 9.2 percent of domestic producers' U.S. shipments of hardwood plywood and 27.1 percent of U.S. shipments of subject imports from China in 2016.[126]

We find that subject imports significantly undersold the domestic like product during during the period of investigation. The pricing data show that the subject imports undersold undersold the domestic like product in all 84 quarterly price comparisons, involving 1.2 billion billion square feet of subject imports.[127] The margins of underselling were high over the period period of investigation, ranging from 27.4 percent to 57.1 percent.[128]

The record indicates that a substantial number of purchasers purchased subject hardwood plywood instead of the domestic product because it was lower priced. Of the 23 23 purchasers which reported that they had purchased subject imports instead of domestic domestic hardwood plywood since 2014, 22 reported than subject imports were priced lower lower than the domestically produced product.[129] Moreover, 13 of these purchasers reported reported that price was a primary reason for the decision to purchase imported rather than than domestically produced product.[130] Although not all purchases were based on price, these price, these purchaser responses indicate that the underselling observed during the period of period of investigation is not solely reflective of differences in product quality or characteristics. characteristics.

As previously discussed, U.S. demand for hardwood plywood increased during the period of investigation.[131] Raw materials costs and cost of goods sold ("COGS") showed modest

---

(…Continued)

back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

***Product 4*.--** 5.2 mm (1/4") thickness (actual or nominal), 4x8 panel size, Maple face (whether plain or rotary sliced), face Grade B or substantially equivalent, Maple back (whether plain or rotary sliced), back grade 2/3 or substantially equivalent, veneer core, unfinished.

***Product 5*.--** 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, prefinished.

***Product 6*.--** 5.2 mm (1/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether plain or rotary sliced), face Grade C or substantially equivalent, back face of Birch or other, Grade 2/3 or substantially equivalent, veneer core, unfinished.

[125] CR at V-7, PR at V-5.

[126] CR at V-7, PR at V-5.

[127] CR at V-21, PR at V-15.

[128] CR/PR at Table V-10.

[129] CR at V-24, PR at V-17.

[130] CR at V-24, PR at V-17. Of the 13 purchasers that reported price was a primary reason to purchase subject rather than domestic hardwood plywood, ***. Derived from CR/PR Table V-12.

[131] CR/PR at Table IV-14.

increases on a per-unit basis during the period of investigation.[132] Notwithstanding these conditions, which normally would have justified at least modest price increases, there was little movement in prices for the domestic like product; prices for the six domestically produced pricing products displayed small declines from the first quarter of 2014 to the second quarter of 2017,[133] and the average unit value ("AUV") of the domestic industry's net sales remained flat over the period of investigation.[134] Consequently, the domestic industry's ratio of COGS to net sales deteriorated. It increased from 88.2 percent in 2014 to 89.8 percent in 2015 and to 91.1 percent in 2016, and was higher in interim 2017, at 90.9 percent, than in interim 2016, at 89.5 percent. [135] We find that price is important to purchasing decisions, that the large and increasing volume of low-priced subject imports that competed with and took market share away from the domestic like product in the end-use segments where there is substantial domestic industry participation had a restraining effect on prices of the domestic like product, and that the domestic industry's inability to increase prices commensurately with costs in a period of rising demand was due in significant part to the subject imports.

We accordingly find that there was significant underselling of the domestic like product by the subject imports. Additionally, the significant and increasing volume of low-priced subject imports prevented price increases, which otherwise would have occurred, to a significant degree.

---

[132] CR/PR at Table VI-1. We are not persuaded by respondents' arguments that the deterioration of the domestic industry's COGS to net sales ratio does not correlate with subject import market share. Respondents' Posthearing Br., Ex. A at 9. We observe that within the cabinet end use, increases in subject import market share tracked increases in the domestic industry's COGS to net sales ratio from 2014 to 2016. *See* CR/PR at Tables III-16, IV-16, VI-1.

Similarly, we do not find that the domestic industry was unable to increase its prices due to intra-industry competition, nonsubject imports, or out-of-scope merchandise. Respondents' Posthearing Br., Ex. A at 9. Respondents predicate their argument regarding intra-industry competition on out-of-context hearing testimony that states that "domestic plywood producers compete with each other." Respondents Posthearing Br., Ex. B at 2. However, this statement addresses competition between domestic producers on the basis of veneer thickness, not price. Hearing Tr. at 171-172 (Mr. Simon). With respect to nonsubject imports, as discussed in greater detail in section IV.E. below, we find that they were not the cause of significant price effects in light of the limited competition between them. As for competition from out-of-scope merchandise, we observe that half of responding U.S. producers (4 of 8), most importers (38 of 64), and some purchasers (13 of 36) reported that there are no substitutes for hardwood plywood. CR at II-25, PR at II-20. Of these 108 firms, only 17 reported that changes in price for substitute products have affected prices for hardwood plywood. CR at II-25, PR at II-20.

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

[134] CR/PR at Table VI-1. Domestic producers' AUVs remained constant at $1.21 throughout the period of investigation. CR/PR at Table C-1.

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

E. Impact of the Subject Imports[136]

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission "shall evaluate all relevant economic factors which have a bearing on the state of the industry."[137] 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."[138]

Despite an increase in apparent U.S. consumption over the period of investigation, many of the domestic industry's performance indicators suffered declines. Production decreased from 723.5 million square feet in 2014 to 692.1 million square feet in 2015 and then to 660.5 million square feet in 2016; production was 347.0 million square feet in interim 2016 and 336.9 million square feet in interim 2017.[139] Capacity remained stable at 1.4 billion square feet from 2014 to 2016; it was 715.5 million square feet in interim 2016 and 718.7 million square feet in interim 2017.[140] Consequently, capacity utilization declined from 50.4 percent in 2014 to 48.3 percent in 2015 and then to 46.2 percent in 2016; it was 48.5 percent in interim 2016 and 46.9 percent in interim 2017.[141]

U.S. shipments declined from 700.7 million square feet in 2014 to 680.0 million square feet in 2015 and then to 651.6 million square feet in 2016; shipments were 337.4 million square feet in interim 2016 and 330.3 million square feet in interim 2017.[142] The domestic industry's

---

[136] 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 value Commerce found antidumping duty margins of 183.36 percent for imports for all exporters and producers. *Certain Hardwood Plywood Products From the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part,* 82 Fed. Reg. 53460, 53462 (Nov. 16, 2017). 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 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.

[137] 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.").

[138] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

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

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

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

[142] CR/PR at Table IV-14.

market share declined from 21.0 percent in 2014 to 19.3 percent in 2015 and then to 17.3 percent in 2016; it was lower in interim 2017, at 16.5 percent, than in interim 2016, at 17.0 percent.[143] Domestic producers' end-of-period ("EOP") inventories decreased over the period of investigation from 42.4 million square feet in 2014 to 41.6 million square feet in 2015 and then to 39.9 million square feet in 2016; they were 45.7 million square feet in interim 2016 and 41.2 million square feet in interim 2017.[144]

Employment-related data showed mixed trends. The number of production and production related workers ("PRWs") declined over the period of investigation.[145] Total hours worked and productivity both fluctuated but declined from 2014 to 2016; with total hours worked roughly the same in interim 2016 and interim 2017 and productivity lower in interim 2017 than in interim 2016.[146] Hours worked per PRW and wages paid both fluctuated but increased over the period of investigation.[147] Hourly wages and unit labor costs both increased over the period of investigation.[148]

The domestic industry's total net sales revenues declined over the period of investigation.[149] Its COGS decreased from 2014 to 2016 and was higher in interim 2017 than in interim 2016, while selling, general, and administrative ("SG&A") expenses decreased throughout the period of investigation.[150] Gross profit, operating income, and net income also

---

[143] CR/PR at Table IV-14.

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

[145] CR/PR at Table III-17. The number of PRWs decreased from 2,430 in 2014 to 2,368 in 2015, and then to 2,294 in 2016; it was lower in interim 2017, at 2,264, than in interim 2016, at 2,311. *Id.*

[146] CR/PR at Table III-17. Total hours worked increased from 4.9 million hours in 2014 to 5.0 million hours in 2015 and then decreased to 4.6 million hours in 2016; they were 2.3 million hours in interim 2016 and interim 2017. Productivity decreased from 138.9 square feet per hour in 2014 to 128.7 square feet per hour in 2015 and then increased to 133.2 square feet per hour in 2016; it was 140.0 square feet per hour in interim 2016 and 136.1 square feet per hour in interim 2017. *Id.*

[147] CR/PR at Table III-17. Hours worked per PRW increased from 2,006 hours in 2014 to 2,127 hours in 2015 and then decreased to 2,026 hours in 2016; they were 1,002 hours in interim 2016 and 1,030 hours in interim 2017. Wages paid increased from $94.1 million in 2014 to $99.6 million in 2015 and then decreased to $97.5 million in 2016; they were $47.3 million in interim 2016 and $49.6 million in interim 2017. *Id.*

[148] CR/PR at Table III-14. Hourly wages increased from $19.30 in 2014 to $19.77 in 2015 and then to $20.97 in 2016; they were $20.43 in interim 2016 and $21.26 in interim 2017. Unit labor costs increased from $0.14 in 2014 to $0.15 in 2015 and then to $0.16 in 2016; they were $0.15 in interim 2016 and $0.16 in interim 2017. *Id.*

[149] CR/PR at Table VI-1. Total net sales declined from $812.6 million in 2014 to $788.7 million in 2015 and then to $749.0 million in 2016; they were $388.5 million in interim 2016 and $383.5 million in interim 2017. *Id.*

[150] CR/PR at Table VI-1. COGS decreased from $716.5 million in 2014 to $708.5 million in 2015 and then to $682.1 million in 2016; it was $347.7 million in interim 2016 and $348.6 million in interim 2017. SG&A expenses decreased from $62.6 million in 2014 to $61.5 million in 2015 and 2016; they were $31.4 million in interim 2016 and $30.8 million in interim 2017. *Id.* The decreases in total COGS and SG&A expenses was coincident with declines in sales quantities and revenues; on a unit basis, both COGS and SG&A expenses increased over the period of investigation. *Id*.

declined throughout the period of investigation.[151] The domestic industry's ratio of operating income to net sales decreased from 4.1 percent in 2014 to 2.4 percent in 2015 and then to 0.7 percent in 2016; it was lower in interim 2017, at 1.1 percent, than in interim 2016, at 2.4 percent.[152] Capital expenditures fluctuated, increasing slightly overall from 2014 to 2016, but were higher in interim 2016 than in interim 2017.[153]

We find that the significant and increased volumes of subject imports that significantly undersold the domestic like product led to declines in the domestic industry's market share from 2014 to 2016. Because of its loss of market share, the domestic industry's indicia of output were worse than they would have been in the absence of subject imports. In addition, the domestic industry experienced price suppression over the period of investigation as a result of low-priced subject imports, which further reduced revenues and profitability from what they would have been otherwise.

We have also examined the role of nonsubject imports, to ensure that we have not attributed to the subject imports injury caused by other factors. We acknowledge that nonsubject imports were sold at lower AUVs than the domestic like product throughout the period of investigation.[154] Nevertheless, the record indicates that there is limited competition between nonsubject imports, on the one hand, and subject imports and the domestically produced product, on the other hand. Nonsubject imports are overwhelmingly sold with face veneers of tropical species, whereas relatively little subject and domestic hardwood plywood is sold with face veneers of tropical species.[155] Additionally, most nonsubject imports were sold for recreational vehicle/mobile home uses, which constituted a very small market for the domestic industry and a relatively small market for subject imports.[156] Conversely, cabinetry, which we have identified as a principal area of competition between the domestic industry and subject imports, accounted for less than 6 percent of U.S. shipments of nonsubject imports

---

[151] CR/PR at Table VI-1. Gross profit declined from $96.1 million in 2014 to $80.2 million in 2015 and then to $66.9 million in 2016; it was $40.9 million in interim 2016 and $34.9 million in interim 2017. Operating income declined from $33.5 million in 2014 to $18.7 million in 2015 and then to $5.4 million in 2016; it was $9.5 million in interim 2016 and $4.1 million in interim 2017. Net income declined from $31.6 million in 2014 to $15.5 million in 2015 and $5.0 million in 2016, it was $8.8 million in interim 2016 and $3.6 million in interim 2017. *Id.*

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

[153] CR/PR at Table VI-5. Capital expenditures increased from $15.2 million in 2014 to $21.9 million in 2015 and then decreased to $16.5 million in 2016; it was $9.5 million in interim 2016 and $4.6 million in interim 2017. *Id.*

[154] CR/PR at Table C-1. The domestic industry's AUVs remained constant at $1.21 over the period of investigation. Nonsubject imports' unit values declined over the period of investigation from $0.35 in 2014 to $0.34 in 2015 and then to $0.32 in 2016; they were $0.32 in interim 2016 and $0.31 in interim 2017. *Id.*

[155] CR/PR at Tables III-1, IV-11. Across all grades, hardwood plywood with face veneers of tropical wood accounted for 81.3 percent of nonsubject imports, 13.0 percent of subject imports, and *** percent of domestic shipments. *Id.*

[156] CR/PR at Tables III-12, IV-12.

throughout the period of investigation.[157] Furthermore, nonsubject imports were more highly concentrated in very thin plywood than either subject imports or the domestic like product.[158] In light of these considerations, we find that nonsubject imports cannot explain the magnitude of the domestic industry's loss of market share or the price effects we have attributed to subject imports.

We accordingly conclude that the subject imports had a significant impact on the domestic industry.

V. Critical Circumstances

A. Legal Standards and Party Arguments

In its final antidumping and countervailing duty determinations concerning hardwood plywood from China, Commerce found that critical circumstances exist with respect to certain subject producers/exporters. Because we have determined that the domestic industry is materially injured by reason of subject imports from China, we must further determine "whether the imports subject to the affirmative {Commerce critical circumstances} determination ... are likely to undermine seriously the remedial effect of the antidumping {and/or countervailing duty} order{s} to be issued."[159] The SAA indicates that the Commission is to determine "whether, by massively increasing imports prior to the effective date of relief, the importers have seriously undermined the remedial effect of the order" and specifically "whether the surge in imports prior to the suspension of liquidation, rather than the failure to provide retroactive relief, is likely to seriously undermine the remedial effect of the order."[160] The legislative history for the critical circumstances provision indicates that the provision was designed "to deter exporters whose merchandise is subject to an investigation from circumventing the intent of the law by increasing their exports to the United States during the period between initiation of an investigation and a preliminary determination by {Commerce}."[161] An affirmative critical circumstances determination by the Commission, in conjunction with an affirmative determination of material injury by reason of subject imports, would normally result in the retroactive imposition of duties for those imports subject to the affirmative Commerce critical circumstances determination for a period 90 days prior to the suspension of liquidation.

The statute provides that, in making this determination, the Commission shall consider, among other factors it considers relevant,

---

[157] CR/PR at Table IV-12.

[158] CR/PR at Tables III-8, IV-8. In 2016, 81.8 percent of nonsubject imports had an overall thickness of less than 6.5 mm, as compared to 55.0 percent of subject imports and 22.6 percent of shipments of the domestic like product. *Id.*

[159] 19 U.S.C. §§ 1671d(b)(4)(A)(ii), 1673d(b)(4)(A)(ii).

[160] SAA at 877.

[161] *ICC Industries, Inc. v United States,* 812 F.2d 694, 700 (Fed. Cir. 1987), *quoting* H.R. Rep. No. 96-317 at 63 (1979), *aff'g* 632 F. Supp. 36 (Ct. Int'l Trade 1986). *See* 19 U.S.C. §§ 1671b(e)(2), 1673b(e)(2).

(I) the timing and the volume of the imports,

(II) a rapid increase in inventories of the imports, and

(III) any other circumstances indicating that the remedial effect of the {order} will be be seriously undermined.[162]

In considering the timing and volume of subject imports, the Commission's practice is to consider import quantities prior to the filing of the petition with those subsequent to the filing of the petition using monthly statistics on the record regarding those firms for which Commerce has made an affirmative critical circumstances determination.[163]

B. Analysis

1. Choice of Time Period

We first consider the appropriate period for comparison of pre-petition and post-petition levels of subject imports from China. In previous investigations, the Commission has relied on a shorter comparison period when a Commerce preliminary determination applicable to imports from a particular subject country fell within the six-month post-petition period the Commission typically considers.[164] That situation arises here with respect to hardwood plywood from China,[165] and we have thus determined to compare the volume of subject imports five months prior to the filing of the petition with the volume of subject imports five months after the filing of the petition in our critical circumstances analyses regarding subject imports from these countries.[166]

Antidumping Duty. In its final antidumping duty critical circumstances determination, Commerce determined that critical circumstances exist with regard to imports of hardwood plywood for the PRC-wide entity.[167] The volume of subject imports from exporters subject to Commerce's affirmative antidumping duty critical circumstances finding increased from ***

---

[162] 19 U.S.C. §§ 1671d(b)(4)(A)(ii), 1673d(b)(4)(A)(ii).

[163] *See Lined Paper School Supplies from China, India, and Indonesia,* Inv. Nos. 701-TA-442-43, 731-TA-1095-97**,** USITC Pub. 3884 at 46-48 (Sept. 2006); *Carbazole Violet Pigment from China and India,* Inv. Nos. 701-TA-437 and 731-TA-1060-61 (Final), USITC Pub. 3744 at 26 (Dec. 2004); *Certain Frozen Fish Fillets from Vietnam,* Inv. No. 731-TA-1012 (Final), USITC Pub. 3617 at 20-22 (Aug. 2003).

[164] *Certain Hot-Rolled Steel Flat Products from Australia, Brazil, Japan, Korea, the Netherlands, Turkey, and the United Kingdom*, Inv. Nos. 701-TA-545-547, 731-TA-1291-1297 (Final), USITC Pub. 4638 at 49-50 (Sept. 2016); *Certain Corrosion-Resistance Steel Products from China, India, Italy, Korea, and Taiwan,* Inv. No. 701-TA-534-537 and 731-TA-1274-1278 (Final), USITC Pub. 4630 at 35-40 (July 2016); *Carbon and Certain Steel Wire Rod from China*, Inv. Nos. 701-TA-512, 731-TA-1248 (Final), USITC Pub. 4509 at 25-26 (Jan. 2015) (using five-month periods because preliminary Commerce countervailing duty determination was during the sixth month after the petition).

[165] Commerce issued its preliminary countervailing duty determination on April 25, 2017, which was less than six months after filing of the petitions. 82 Fed. Reg. 19022 (Apr. 25, 2017).

[166] These periods are July 2016 through November 2016 and December 2016 through April 2017.

[167] *Issues and Decision Memorandum for the Final Determination of the Antidumping Duty Investigation of Certain Hardwood Plywood Products from People's Republic of China* (Nov. 6, 2017), EDIS Doc. 628820.

square feet for the five-month pre-petition period to *** square feet for the five-month post-petition period for a percentage increase of *** percent.[168] Available inventory data are for all subject imports from China: EOP inventories were 416.3 million in December 2016 and 480.1 million square feet in June 2017.[169] To the extent that inventories of subject imports increased in interim 2017, we observe that they did not depress prices for the domestic like product.[170] Therefore, in light of the small percentage increase in subject imports, the lack of a negative impact by increased inventories on domestic producers' pricing, and in the absence of any other circumstances indicating that the remedial effect of the antidumping duty order will be seriously undermined, we make a negative critical circumstances determination with regard to subject imports in the antidumping investigation of hardwood plywood from China.

Countervailing Duty. In its final countervailing duty critical circumstances determination, Commerce determined that critical circumstances exist for the firm Bayley Wood and for companies that received the adverse facts available rate.[171] The volume of subject imports from entities subject to Commerce's affirmative countervailing duty critical circumstances finding increased from *** square feet for the five-month pre-petition period to *** square feet for the five-month post-petition period for a percentage increase of *** percent.[172] Available inventory data are for all subject imports from China: EOP inventories were 416.3 million in December 2016 and 480.1 million square feet in June 2017.[173] To the extent that inventories of subject imports increased in interim 2017, we observe that they did not depress prices for the domestic like product.[174] Therefore, in light of the small percentage increase in subject imports, the lack of a negative impact by increased inventories on domestic producers' prices, and in the absence of any other circumstances indicating that the remedial effect of the countervailing duty order will be seriously undermined, we make a negative critical circumstances determination with regard to subject imports in the countervailing duty investigation of hardwood plywood from China.

VI. Conclusion

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of subject imports of hardwood plywood from China that are

[168] Derived from CR/PR at Table IV-5.

[169] CR/PR at Table VII-7.

[170] As observed above, the domestic industry's AUVs remained constant throughout the period of investigation. CR/PR at Table C-1. Of the six domestically produced pricing products, prices for one increased, two were unchanged, and three declined in interim 2017. CR/PR at Tables V-3-8.

[171] *Countervailing Duty Investigation of Certain Hardwood Plywood Products from the People's Republic of China: Issues and Decision Memorandum for the Final Affirmative Determination* (Nov. 6, 2017), EDIS Doc. 628823.

[172] Derived from CR/PR at Table IV-5.

[173] CR/PR at Table VII-7.

[174] As observed above, the domestic industry's AUVs remained constant throughout the period of investigation. CR/PR at Table C-1. Of the six domestically produced pricing products, prices for one increased, two were unchanged, and three declined in interim 2017. CR/PR at Tables V-3-8.

subsidized and sold in the United States at less than fair value. We also find that critical circumstances do not exist with respect to those imports for which Commerce made affirmative critical circumstances determinations.

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 Columbia Forest Products ("Columbia Forest Products"), Greensboro, North Carolina; Commonwealth Plywood Inc. ("Commonwealth Plywood"), Whitehall, New York; Murphy Plywood Co. ("Murphy Plywood"), Eugene, Oregon; Roseburg Forest Products Co. ("Roseburg Forest Products"), Roseburg, Oregon; States Industries, Inc. ("States Industries"), Eugene, Oregon; and Timber Products Company ("Timber Products"), Springfield, Oregon, combined as the Coalition for Fair Trade of Hardwood Plywood, on November 18, 2016, 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 certain hardwood and decorative plywood products ("hardwood plywood")[1] from China. The following tabulation provides information relating to the background of these investigations.[2] [3]

[1] See the section entitled "The Subject Merchandise" in *Part I* of this report for a complete description of the merchandise subject to these investigations.

[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 Commission's hearing is presented in appendix B.

Effective date	Action
November 18, 2016	Petitions filed with Commerce and the Commission; institution of Commission investigations (81 FR 85639, November 28, 2016)
December 8, 2016	Commerce's notice of antidumping duty initiation (81 FR 91125, December 16, 2016); Commerce's notice of countervailing duty initiation (81 FR 91131, December 16, 2016)
January 3, 2017	Commission's preliminary determinations (82 FR 2393, January 9, 2017)
April 25, 2017	Commerce's preliminary countervailing duty determination and preliminary determination of critical circumstances (82 FR 19022)
June 23, 2017	Commerce's preliminary antidumping duty determination and preliminary determination of critical circumstances (82 FR 28629); scheduling of final phase of Commission investigations (82 FR 32012, July 11, 2017)
October 26, 2017	Commission's hearing
November 16, 2017	Commerce's final antidumping duty determination and final determination of critical circumstances (82 FR 53460); Commerce's final countervailing duty determination and final determination of critical circumstances (82 FR 53473)
December 1, 2017	Commission's vote
December 20, 2017	Commission's determinations and views

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 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.*

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

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

Hardwood plywood is generally used in the manufacture of furniture, cabinetry, wall paneling, and similar products. The leading U.S. producers of hardwood plywood are ***, while leading producers of hardwood plywood in China include ***. The primary nonsubject source of hardwood plywood imports is Indonesia, followed by Russia, Malaysia, Ecuador, and Canada. *** are the leading importers of nonsubject merchandise. U.S. purchasers of hardwood plywood are distributors, cabinet manufacturers, big box retailers, and laminators; leading purchasers, in order of size, include ***.

Apparent U.S. consumption of hardwood plywood totaled approximately 3.8 billion square feet ($2.0 billion) in 2016. Currently, nine firms are known to produce hardwood plywood in the United States. U.S. producers' U.S. shipments of hardwood plywood totaled 652 million square feet ($791 million) in 2016, and accounted for 17.3 percent of apparent U.S. consumption by quantity and 39.1 percent by value. U.S. imports from China totaled 1.5 billion square feet ($716 million) in 2016 and accounted for 40.1 percent of apparent U.S. consumption by quantity and 35.3 percent by value. U.S. imports from nonsubject sources totaled 1.6 billion square feet ($519 million) in 2016 and accounted for 42.6 percent of apparent U.S. consumption by quantity and 25.6 percent by value.

SUMMARY DATA AND DATA SOURCES

A summary of data collected in these investigations is presented in appendix C, table C-1; official import statistics are presented in appendix D; nonsubject country price data is presented in appendix E; and a comparison of U.S. producers' and importers' U.S. shipments, by attribute, is presented in appendix F. Except as noted, U.S. industry data are based on questionnaire responses of nine firms that are believed to account for nearly all U.S. production of hardwood plywood during 2016. U.S. import data are based on the questionnaire responses of 74 importers that accounted for approximately 94 percent of imports from China and

virtually all imports from nonsubject sources (by quantity) in 2016.[6] Foreign industry data are based on the questionnaire responses of 53 producers and 39 resellers in China that are believed to account for less than half of all production of hardwood plywood in China[7] and the vast majority of U.S.-bound exports of hardwood plywood from China in 2016.

PREVIOUS AND RELATED INVESTIGATIONS

Hardwood plywood has been the subject of two prior Commission proceedings. In 2013, the Commission conducted a countervailing duty investigation and an antidumping duty investigation on *Hardwood Plywood from China* (Inv. Nos. 701-TA-490 and 731-TA-1204).[8] In the 2013 investigations, the Commission determined that a U.S. industry was not materially injured or threatened with material injury by reason of subject imports.[9] Hardwood plywood was also subject to a Section 332 investigation in 2007-08, *Wood Flooring and Hardwood Plywood: Competitive Conditions Affecting the U.S. Industries* (Inv. No. 332-487).[10]

In 2011, the Commission conducted related investigations[11] on *Multilayered Wood Flooring from China* (Inv. Nos. 701-TA-476 and 731-TA-1179).[12] In the 2011 investigations, the Commission determined that the domestic industry producing multilayered wood flooring ("MLWF") was materially injured by reason of subject imports from China.[13] The Commission is currently conducting five-year reviews regarding MLWF and is scheduled to make its determinations regarding these reviews on December 13, 2017.

---

[6] Coverage calculations are based on official Commerce statistics using the HTS statistical reporting numbers provided in Commerce's preliminary determinations, minus six disputed digits that appear to refer exclusively to wood flooring.

[7] Counsel for Chinese respondents provided the Commission with 2016 capacity and production data for 90 producers in China that did not provide questionnaire responses, and whose subject merchandise is exported to the United States primarily by resellers. Reported production of hardwood plywood for these 90 producers totaled 1.5 billion square feet in 2016, as compared to the 1.4 billion square feet of hardwood plywood production reported by responding producers in China in 2016.

[8] *Hardwood Plywood from China, Inv. Nos. 701-TA-490 and 731-TA-1204 (Final)*, USITC Publication 4434, November 2013.

[9] Ibid., p. 30.

[10] *Wood Flooring and Hardwood Plywood: Competitive Conditions Affecting the U.S. Industries, Inv. No. 332-487*, USITC Publication 4032, August 2008.

[11] Merchandise covered under the scope of the multilayered wood flooring investigations may enter the United States under HTS statistical reporting numbers included in Commerce's scope definition for this current hardwood plywood proceeding.

[12] *Multilayered Wood Flooring from China, Inv. Nos. 701-TA-476 and 731-TA-1179 (Final)*, USITC Publication 4278, November 2011.

[13] Ibid., p. 36. Chairman Deanna Tanner Okun and Commissioner Daniel R. Pearson dissented, determining that the domestic industry producing MLWF was neither materially injured nor threatened with material injury by reason of subject imports from China. Ibid., p. 57.

NATURE AND EXTENT OF SUBSIDIES AND SALES AT LTFV

Subsidies

On April 25, 2017, Commerce published a notice in the *Federal Register* of its preliminary determination of countervailable subsidies for producers and exporters of hardwood plywood from China,[14] and on November 16, 2017, it Commerce published a notice in the *Federal Register* of its final determination.[15] Table I-1 presents Commerce's findings of subsidization of hardwood plywood in China.

Table I-1
Hardwood plywood: Commerce's preliminary and final subsidy margins with respect to imports from China

Company	Preliminary countervailable subsidy margin (*percent*)	Final countervailable subsidy margin (*percent*)
Linyi Sanfortune Wood Co., Ltd.	9.89	22.98
61 other separate rate firms specifically named in Commerce's order	111.09	194.90
All others	9.89	22.98

Source: *Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination, Preliminary Affirmative Critical Circumstances Determination, in Part, and Alignment of Final Determination With Final Antidumping Duty Determination*, 82 FR 19022, April 25, 2017; *Countervailing Duty Investigation of Certain Hardwood Plywood Products from the People's Republic of China: Final Affirmative Determination, and Final Affirmative Critical Circumstances Determination, in Part*, 82 FR 53473, November 16, 2017.

[14] *Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination, Preliminary Affirmative Critical Circumstances Determination, in Part, and Alignment of Final Determination With Final Antidumping Duty Determination*, 82 FR 19022, April 25, 2017.

[15] *Countervailing Duty Investigation of Certain Hardwood Plywood Products from the People's Republic of China: Final Affirmative Determination, and Final Affirmative Critical Circumstances Determination, in Part*, 82 FR 53473, November 16, 2017.

Commerce determined the following four government programs in China to be countervailable:[16]

1. Policy Loans to the Hardwood Plywood Industry
2. Provision of Electricity for Less than Adequate Remuneration ("LTAR")
3. Provision of Land-Use Rights by the Government of China for LTAR
4. Grant Programs
    a. Enterprise Innovation Loan Interest Grant
    b. Foreign Trade Regional Coordination Development Promotion Fund
    c. Linyi Mart Development Special Fund
    d. Forest Certification Pilot Special Fund
5. Provision of Urea for LTAR
6. Provision of Formaldehyde for LTAR
7. Provision of Export Credits – Export Buyers' Credit

Sales at LTFV

On June 23, 2017, Commerce published a notice in the *Federal Register* of its preliminary determination of sales at LTFV with respect to imports from China,[17] on July 17, 2017 it published an amended preliminary determination,[18] and on November 16, 2017, it published a notice in the *Federal Register* of its final determination.[19] Table I-2 presents Commerce's dumping margins with respect to imports of hardwood plywood from China.

[16] *Department of Commerce, Decision Memorandum for the Final Affirmative Determination: Countervailing Duty Investigation of Certain Hardwood Plywood Products from the People's Republic of China*, Inv. No. C-570-052, November 13, 2017.

[17] *Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Affirmative Determination of Critical Circumstances, in Part*, 82 FR 28629, June 23, 2017.

[18] *Certain Hardwood Plywood Products From the People's Republic of China: Amended Preliminary Determination of Sales at Less Than Fair Value*, 82 FR 32683, July 17, 2017.

[19] *Certain Hardwood Plywood Products from the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part*, 82 FR 53460, November 16, 2017.

Table I-2
Hardwood plywood: Commerce's preliminary and final weighted-average LTFV margins with respect to imports from China

Exporter	Producer	Preliminary dumping margin (*percent*)	Final dumping margin (*percent*)
Linyi Chengen Import and Export Co., Ltd.	Linyi Dongfangjuxin Wood Co., Ltd.	0.00 (*de minimis*)	183.36
83 other separate rate firms specifically named in Commerce's order	Other separate rate firms specifically named in Commerce's order	57.36	183.36
All others	All others	114.72	183.36

Source: *Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Affirmative Determination of Critical Circumstances, in Part*, 82 FR 28630, June 23, 2017; *Certain Hardwood Plywood Products From the People's Republic of China: Amended Preliminary Determination of Sales at Less Than Fair Value*, 82 FR 32683, July 17, 2017; *Certain Hardwood Plywood Products from the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part*, 82 FR 53460, November 16, 2017.

THE SUBJECT MERCHANDISE

Commerce's scope

Commerce has defined the scope of these investigations as follows:

> *The merchandise subject to this investigation is hardwood and decorative plywood, and certain veneered panels as described below. For purposes of this proceeding, hardwood and decorative plywood is defined as a generally flat, multilayered plywood or other veneered panel, consisting of two or more layers or plies of wood veneers and a core, with the face and/or back veneer made of non-coniferous wood (hardwood) or bamboo. The veneers, along with the core, may be glued or otherwise bonded together. Hardwood and decorative plywood may include products that meet the American National Standard for Hardwood and Decorative Plywood, ANSI/HPVA HP-1-2016 (including any revisions to that standard).*
>
> *For purposes of these investigations, a "veneer" is a slice of wood regardless of thickness which is cut, sliced or sawed from a log, bolt, or flitch. The face and back veneers are the outermost veneer of wood on either side of the core irrespective of additional surface coatings or covers as described below.*
>
> *The core of hardwood and decorative plywood consists of the layer or layers of one or more material(s) that are situated between the face and back veneers. The core may be composed of a range of materials, including but not limited to hardwood, softwood, particleboard, or medium-density fiberboard (MDF).*

All hardwood plywood is included within the scope of these investigations regardless of whether or not the face and/or back veneers are surface coated or covered and whether or not such surface coating(s) or covers obscures the grain, textures, or markings of the wood. Examples of surface coatings and covers include, but are not limited to: ultra-violet light cured polyurethanes; oil or oil-modified or water based polyurethanes; wax; epoxy-ester finishes; moisture-cured urethanes; paints; stains; paper; aluminum; high pressure laminate; MDF; medium density overlay (MDO); and phenolic film. Additionally, the face veneer of hardwood plywood may be sanded; smoothed; or given a "distressed" appearance through such methods as hand-scraping or wire brushing. All hardwood plywood is included within the scope even if it is trimmed; cut-to-size; notched; punched; drilled; or has underwent other forms of minor processing.

All hardwood and decorative plywood is included within the scope of these investigations, without regard to dimension (overall thickness, thickness of face veneer, thickness of back veneer, thickness of core, thickness of inner veneers, width, or length). However, the most common panel sizes of hardwood and decorative plywood are 1219 x 1829 mm (48 x 72 inches), 1219 x 2438 mm (48 x 96 inches), and 1219 x 3048 mm (48 x 120 inches).

Subject merchandise also includes hardwood and decorative plywood that has been further processed in a third country, including but not limited to trimming, cutting, notching, punching, drilling, or any other processing that would not otherwise remove the merchandise from the scope of the investigations if performed in the country of manufacture of the in-scope product.

The scope of the investigation excludes the following items:

1. *Structural plywood (also known as "industrial plywood" or "industrial panels") that is manufactured to meet U.S. Products Standard PS 1-09, PS 2-09, or PS 2-10 for Structural Plywood (including any revisions to that standard or any substantially equivalent international standard intended for structural plywood), and which has both a face and a back veneer of coniferous wood;*
2. *Products which have a face and back veneer of cork;*
3. *Multilayered wood flooring, as described in the antidumping duty and countervailing duty orders on Multilayered Wood Flooring from the People's Republic of China, Import Administration, International Trade Administration. See Multilayered Wood Flooring from the People's Republic of China, 76 FR 76,690 (Dec. 8, 2011) (amended final determination of sales at less than fair value and antidumping duty order), and Multilayered Wood Flooring from the People's Republic of China, 76 FR 76.693 (Dec. 8, 2011) (countervailing duty order), as amended by Multilayered Wood Flooring from the People's Republic of China: Amended Antidumping and Countervailing Duty Orders, 77 FR 5,484 (Feb. 3, 2012);*

4. *Multilayered wood flooring with a face veneer of bamboo or composed entirely of bamboo;*
5. *Plywood which has a shape or design other than a flat panel, with the exception of any minor processing described above;*
6. *Products made entirely from bamboo and adhesives (also known as "solid bamboo"); and*
7. *Phenolic Film Faced Plyform (PFF), also known as Phenolic Surface Film Plywood (PSF), defined as a panel with an "Exterior" or "Exposure 1" bond classification as is defined by The Engineered Wood Association, having an opaque phenolic film layer with a weight equal to or greater than 90g/m3 permanently bonded on both the face and back veneers and an opaque, moisture resistant coating applied to the edges.*

Excluded from the scope of this investigation are wooden furniture goods that, at the time of importation, are fully assembled and are ready for their intended uses. Also excluded from the scope of these investigations is "ready to assemble" ("RTA") furniture. RTA furniture is defined as:

A. *Furniture packaged for sale for ultimate purchase by an end-user that, at the time of importation, includes:*
    1. *All wooden components (in finished form) required to assemble a finished unit of furniture,*
    2. *All accessory parts (e.g., screws, washers, dowels, nails, handles, knobs, adhesive glues) required to assemble a finished unit of furniture, and*
    3. *Instructions providing guidance on the assembly of a finished unit of furniture;*
B. *Unassembled bathroom vanity cabinets, having a space for one or more sinks, that are imported with all unassembled hardwood and hardwood plywood components that have been cut-to-final dimensional component shape/size, painted or stained prior to importation, and stacked within a single shipping package, except for furniture feet which may be packed and shipped separately; or*
C. *Unassembled bathroom vanity linen closets that are imported with all unassembled hardwood and hardwood plywood components that have been cut-to-final dimensional shape/size, painted or stained prior to importation, and stacked within a single shipping package, except for furniture feet which may be packed and shipped separately.*

Excluded from the scope of this investigation are kitchen cabinets that, at the time of importation, are fully assembled and are ready for their intended uses. Also excluded from the scope of the investigations are RTA kitchen cabinets. RTA kitchen cabinets are defined as kitchen cabinets packaged for sale for ultimate purchase by an end-user that, at the time of importation, includes:

1. *All wooden components (in finished form) required to assemble a finished unit of cabinetry,*
2. *All accessory parts (e.g., screws, washers, dowels, nails, handles, knobs, hooks, adhesive glues) required to assemble a finished unit of cabinetry, and*
3. *Instructions providing guidance on the assembly of a finished unit of cabinetry.*

Excluded from the scope of this investigation are finished table tops, which are table tops imported in finished form with pre-cut or drilled openings to attach the underframe or legs. The table tops are ready for use at the time of import and require no further finishing or processing.

Excluded from the scope of this investigation are finished countertops that are imported in finished form and require no further finishing or manufacturing. Excluded from the scope of this investigation are laminated veneer lumber door and window components with:

1. *A maximum width of 44 millimeters, a thickness from 30 millimeters to 72 millimeters, and a length of less than 2413 millimeters,*
2. *Water boiling point exterior adhesive,*
3. *A modulus of elasticity of 1,500,000 pounds per square inch or higher,*
4. *Finger-jointed or lap-jointed core veneer with all layers oriented so that the grain is running parallel or with no more than 3 dispersed layers of veneer oriented with the grain running perpendicular to the other layers; and*
5. *Top layer machined with a curved edge and one or more profile channels throughout.*

Imports of hardwood plywood are primarily entered under the following Harmonized Tariff Schedule of the United States (HTSUS) subheadings: 4412.10.0500; 4412.31.0520; 4412.31.0540; 4412.31.0560; 4412.31.0620; 4412.31.0640; 4412.31.0660; 4412.31.2510; 4412.31.2520; 4412.31.2610; 4412.31.2620; 4412.31.4040; 4412.31.4050; 4412.31.4060; 4412.31.4075; 4412.31.4080; 4412.31.4140; 4412.31.4150; 4412.31.4160; 4412.31.4180; 4412.31.5125; 4412.31.5135; 4412.31.5155; 4412.31.5165; 4412.31.5175; 4412.31.5235; 4412.31.5255; 4412.31.5265; 4412.31.5275; 4412.31.6000; 4412.31.6100; 4412.31.9100; 4412.31.9200; 4412.32.0520; 4412.32.0540; 4412.32.0565; 4412.32.0570; 4412.32.0620; 4412.32.0640; 4412.32.0670; 4412.32.2510; 4412.32.2525; 4412.32.2530; 4412.32.2610; 4412.32.2630; 4412.32.3125; 4412.32.3135; 4412.32.3155; 4412.32.3165; 4412.32.3175; 4412.32.3185; 4412.32.3235; 4412.32.3255; 4412.32.3265; 4412.32.3275; 4412.32.3285; 4412.32.5600; 4412.32.5700; 4412.94.1030; 4412.94.1050; 4412.94.3105; 4412.94.3111; 4412.94.3121; 4412.94.3141; 4412.94.3161; 4412.94.3175; 4412.94.4100; 4412.99.0600; 4412.99.1020; 4412.99.1030; 4412.99.1040; 4412.99.3110; 4412.99.3120; 4412.99.3130; 4412.99.3140; 4412.99.3150; 4412.99.3160; 4412.99.3170; 4412.99.4100; 4412.99.5115; and 4412.99.5710.

Imports of hardwood plywood may also enter under HTSUS subheadings 4412.39.4011; 4412.39.4012; 4412.39.4019; 4412.39.4031; 4412.39.4032; 4412.39.4039; 4412.39.4051; 4412.39.4052; 4412.39.4059; 4412.39.4061; 4412.39.4062; 4412.39.4069; 4412.39.5010; 4412.39.5030; 4412.39.5050; 4412.99.6000; 4412.99.7000; 4412.99.8000; 4412.99.9000; 4412.10.9000; 4412.94.5100; 4412.94.9500; and 4412.99.9500.

While the HTSUS subheadings are provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.[20]

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations is primarily imported under the provisions of the 2016 HTS listed below.[21] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

4412.10: Plywood, veneered panels, and similar laminated wood, of bamboo (general rates of duty free or 8 percent ad valorem).

4412.31:[22] Other plywood {not of bamboo}, consisting solely of sheets of wood, each ply not exceeding 6 mm in thickness; with at least one outer ply of tropical wood (general rates of duty free or 8 percent ad valorem).

4412.32:[23] Other plywood {not of bamboo or in 4412.31} consisting solely of sheets of wood, each ply not exceeding 6 mm in thickness; with at least one outer ply of nonconiferous wood (general rates of duty free, 5.1 percent, or 8 percent ad valorem).

---

[20] *Certain Hardwood Plywood Products from the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part*, Barcode 3639788-01, November 6, 2017.

[21] Respondents dispute the petitioners' use of import data based on HTS statistical reporting numbers 4412.31.4075, 4412.31.5125, 4412.32.0565, 4412.32.2525, 4412.32.3125, and 4412.94.3105. American Alliance for Hardwood Plywood ("AAHP") respondents' postconference brief, December 14, 2016, pp. 32-33 and exh. 1.

[22] Changes to the HTS statistical reporting numbers in this subheading took effect beginning January 1, 2017.

[23] Changes to the HTS statistical reporting numbers in this subheading took effect beginning January 1, 2017.

4412.39: Other plywood {not of bamboo or in 4412.31-4412.32} consisting solely of sheets of wood, each ply not exceeding 6 mm in thickness; with both outer plies of coniferous wood (general rates of duty free, 3.4 percent, 5.1 percent, or 8 percent ad valorem).

4412.94: Blockboard, laminboard and battenboard (general rates of duty free, 3.4 percent, 5.1 percent, or 8 percent ad valorem).

4412.99: Other {plywood, veneered panels and similar laminated wood} (general rates of duty free, 3.4 percent, 5.1 percent, or 8 percent ad valorem).

THE PRODUCT

Description and applications

Hardwood plywood is a wood panel product made from gluing two or more layers of wood veneer[24] to a core[25] which may itself be composed of veneers or other type of wood material such as medium density fiberboard ("MDF"), particleboard, lumber, or oriented strand board ("OSB").[26] The outer ply or face veneer is typically the identifying species for the hardwood plywood product and is the side of the product that will be visible in most uses. A wide variety of hardwood species is used in hardwood plywood manufacturing including oak, birch, maple, poplar, cherry, and tropical varieties. Hardwood plywood includes at least a face or back veneer that is of a hardwood species. However, it may have a face or back veneer and/or other layers of veneer of softwood species.

Hardwood plywood is manufactured in a variety of thicknesses, with the most common ranging from 1/8 inch (3.2 mm) to 1 inch (25.4 mm), depending upon customer requirements and the intended end use. The most common panel dimensions are 48 inches by 72 inches (1219 x 1829 mm), 48 inches by 96 inches (1219 x 2438 mm), and 48 inches by 120 inches (1219 x 3048 mm), but hardwood plywood is also sold in smaller and larger sheet sizes.[27]

The distinguishing characteristic of hardwood plywood products is that they are used in interior and non-structural applications. Hardwood plywood is commonly chosen for decorative and aesthetic reasons, for use in products such as furniture, kitchen cabinets, architectural woodwork, wall paneling, manufactured homes, and recreational vehicles ("RVs"). The product is almost always used in interior applications where moisture exposure is not an issue, although some hardwood plywood is made specifically for marine applications. Its construction process gives it dimensional stability and makes it resistant to expansion and contraction caused by humidity. Hardwood plywood is also used in some construction-related applications where

[24] Hardwood plywood includes at least a face or back veneer that is of a hardwood species.

[25] A plywood substrate is commonly referred to as the core, blank, or platform.

[26] Depending on the application, the configuration of the core may take structural requirements, thickness, screw-holding ability, surface smoothness, and other characteristics into account.

[27] Petitions, pp. 6-7.

structural strength is not a requirement, such as for providing a flat, stable underlayment for a finished flooring product.

Hardwood plywood products are differentiated by species, quality of veneer (e.g. grade), thickness, number of plies, type of core (veneer, particleboard, MDF, or other), and the type of adhesive used in the manufacturing process. Grades of hardwood plywood are determined by such things as number and size of knots, visible decay, splits or insect holes, surface roughness, and other defects. Grades are assigned to both the face and back veneer. Plywood with the highest face grades is used in applications where appearance is a primary consideration. Most hardwood plywood produced in the United States is graded according to a consensus-based voluntary standard developed by the Hardwood Plywood and Veneer Association ("HPVA"); an American National Standard Institute ("ANSI") accredited standards developer.[28] The highest and clearest face grades of hardwood plywood carry an "AA" or "A" grade, followed by "B," "C," "D," and "E" as more knots, blemishes, or other defects are considered in the grading process. The HPVA standard also assigns back veneers numerical grades from "1" to "4," and certain other letter grades to internal veneers. End use and specie dictates veneer thickness.[29] However, not all hardwood plywood sold in the United States conforms to the HPVA standard. [30] [31]

Manufacturing processes

The production of hardwood plywood begins with the conditioning and debarking of logs of a size and quality suitable for cutting or slicing to make veneer. Veneer is a thin sheet of wood that has been rotary cut, sliced, or sawed from a log, round bolt, or flitch (unfinished plank). Veneer quality logs (commonly called "peeler logs"[32]) are generally of higher quality and value than those used for other wood products. Wood is a natural material, so the quality of veneer will vary by species and by any given log. Each tree–even within the same specie–is influenced by many factors, including weather, soil quality, and the presence of insects. Approximately *** percent of a log that is rotary cut for veneer in the United States will yield C

[28] The current consensus-based ANSI/HPVA standard for Hardwood and Decorative Plywood is labeled "American National Standard for Hardwood and Decorative Plywood ANSI/HPVA HP-1-2016." Petitions, p. 8 and exh. I-18.

[29] The HPVA standard states that *** American National Standard for Hardwood and Decorative Plywood ANSI/HPVA HP-1-2016, app. C. Petitioners', post conference brief, exh. 11.

[30] Respondents state that there is no standard grading system used by the Chinese producers. AAHP posthearing brief, p. 15.

[31] The International Wood Products Association ("IWPA")—an international trade association representing North American companies and trade organizations engaged in importing hardwoods and softwoods from sustainably managed forests—has designed voluntary international grading rules and standards intended to be used by North American buyers, distributors, and world suppliers on imported veneer products and platforms. The current IWPA standard is labeled "Imported Rotary Cut Veneer and Platforms Standard (IWPA-2010)."

[32] Logs from which veneer is rotary cut on a lathe, intended for the production of plywood.

grade or below, *** percent will yield A or AA grade veneer, and the balance will yield B grade material.[33] The average amount of rotary cut face grade yield differs by species.[34] *** U.S. birch logs are rotary cut, whereas *** percent of maple and *** percent of red oak are rotary cut. Respondents stated that Chinese hardwood plywood producers primarily rotary cut Chinese birch logs, which have a smaller diameter than U.S. birch logs, and consequently yield a much higher percentage of lower grade veneers.[35]

Harvested logs, bolts, and flitches are kept moist while they are stored in a yard to prevent dry out and end checking.[36] The heating of veneer logs in a vat or steam chamber temporarily softens wood, making it more pliable. This also smooths the surface and reduces the likelihood of knife checks. The logs are then sawn to the desired length and debarked.

The quality and yield changes based upon the decision to rotary cut or use one of several slicing techniques. Rotary-cut veneer is made by transferring the conditioned (moist and warm) log to a lathe charger that positions it mechanically for optimal slicing. The charger holds the log as it is placed into the lathe that spins the log against a blade at very high speed. This makes a continuous layer of thin veneer that is then cut to the desired length and width. Rotary cutting produces a variegated grain pattern, yields the most veneer per log, and is generally the least expensive of wood veneers.[37] In 2016, approximately *** percent of unfinished U.S. hardwood plywood panel production was manufactured using rotary-cut veneer.[38] [39]

In contrast, sliced or sawed veneers are thin sheets that are cut from conditioned lumber, flitches, or blocks of wood. Slicing yields less per log than the rotary-cut method, results in a more distinct repeating pattern—the cathedral and straight grain patterns—and is often used to make higher grades and specialty plywood. Sliced or sawed veneers are cut into variable lengths and widths depending upon the form and dimension of the wood's raw material.

Whether rotary-produced or sliced, veneer is cut to thicknesses ranging from as thin as 0.01 inch (0.25 mm) to greater than 0.25 inch (6.35 mm). The sheets are loaded into dryers with forced hot air which gradually lowers the moisture content of the veneer to 6 to 12 percent. Veneer is graded and sorted by quality prior to use in hardwood plywood manufacturing. Face

---

[33] For birch, the average yield of AA and A grade is *** percent and C grade and below is *** percent; for maple, the average yield of AA and A grade is *** percent and C grade and below is *** percent; and for red oak, the average yield of AA and A grade is *** percent and C grade and below is *** percent. Staff telephone interview with ***.

[34] For birch, the average face grade yield is *** percent; for maple, the average face grade yield is *** percent; for red oak, the average face grade yield is *** percent; for cherry, the average face grade yield is *** percent; and for other (including ash, pine, alder, poplar, and others), the average face grade yield is *** percent. Staff telephone interview with ***.

[35] Hearing transcript, pp. 164-165 (Dougherty).

[36] End checking and splitting are related to the reduction of the surface moisture content to a value so low that it causes drying stresses that will pull the wood apart.

[37] HPVA, "Hardwood Plywood Handbook," 2004, pp. 8-11.

[38] HPVA Annual Statistical Report for Calendar Year 2016.

[39] Most U.S. plywood panels (***) are unfinished. Staff telephone interview with ***.

veneers are often, but not always, produced at a separate facility or by a different company than the manufacturer of hardwood plywood.

U.S. producers generally employ a "one-step" process, which is a continuous system from the log to the finished product. In the one-step process, face and back veneers are glued and pressed at the same time as the core veneers. The other prevalent system is referred to as a "two-step" process. The core is manufactured separately in the first step, after which it is patched and sanded. In the second step, the face and back veneers are applied to the core using a press. Hearing testimony indicates that because the two-step process requires double the handling to that of the one-step process, the one-step process is less costly.[40] Some U.S. producers use the two-step process and others use either process, depending on the product ordered.[41] Chinese producers use the two-step process.[42]

Generally, the basic steps in the manufacturing process are similar for both imported and domestic hardwood plywood. The U.S. producers use both the one-step and two-step processes, while the Chinese producers usually use the two-step process.

In many cases, face veneers that are of a particular species and grade are purchased from other veneer producers and are then glued onto the core material to complete the manufacturing process. Prior to pressing, the face and core veneers are dried, sorted for defects, repaired or patched, taped or stitched to make larger sheets from smaller pieces, and trimmed. The veneers are stacked with their grain in alternating directions—crossbands—in order to provide strength and stability to the finished product.[43] The thickness of each layer must balance around the center, but the core, crossbands, and the face and back can be different thicknesses and materials.[44] Depending on the manufacturing process, a cold press may be used to fabricate the several plies of veneer together prior to being hot pressed to glue the veneers together.[45] The thickness and number of plies depends upon the product ordered.

After pressing and trimming, panels are sanded and, in some cases, finished depending on the end use. Finishing can involve some degree of texturing for a particular appearance, grooving, and/or staining or coloring. Typical finishes include ultra-violet light cured

---

[40] Hearing transcript, pp. 65 and 101 (Caine).

[41] ***. Hearing transcript, pp. 49-50 (Thompson).

[42] Respondents confirm that since Chinese hardwood plywood producers use veneers that are too thin to use the one-step method, it is typically made using the two-step process. Posthearing brief, AAHP, p. 40, and exh. B, pp.7-8; Chinese respondents, posthearing brief, p. 5; Hearing transcript, pp. 167-169 (Simon) and pp. 202-204 (Ran).

[43] The crossbands are the stacked veneer sheets whose grain is at alternating directions to one another (when there are multiple crossband layers) and the face veneer. Plywood involves an odd number of layers. Its balanced construction and crossband layers provide dimensional stability; hardwood plywood does not warp, shrink or swell as much as lumber and has uniform strength both with and across the grain.

[44] Each layer from the core must be of equal thickness. For example, the top and bottom crossbands must be of equal thickness and so must the face and back veneers.

[45] See Colombia Forest Products, "Hardwood Plywood: How It's Made" at: https://www.youtube.com/watch?v=LrCt5kJwcyw.

polyurethanes, oil or oil-modified or water-based polyurethanes, wax, epoxy-ester finishes, and moisture-cured urethanes.[46] The process will vary somewhat if a core of composite wood (e.g., MDF or particleboard) or other material is used. In the U.S. industry, in 2016, veneer cores were used in approximately *** percent of unfinished panel production, MDF cores in *** percent, particleboard in *** percent, and lumber, OSB, or combinations of materials in *** percent.[47] Respondents stated that Chinese hardwood plywood producers primarily use fast-growing species of poplar and eucalyptus for the veneer cores of their hardwood plywood.[48] These two species are generally harvested from plantations and farms in China. The logs are relatively small.[49]

The adhesive formulation is a key factor in hardwood plywood manufacturing and performance. Thermosetting adhesives are used to bond the veneer plies and/or core material. Urea-formaldehyde ("UF") based resins are the most common type of adhesives used in hardwood plywood manufacture because they are suitable for interior use, have relatively fast cure times, and do not bleed color through the plies. Currently, under California law, formaldehyde emissions from hardwood plywood and other wood panel products sold in that state are regulated under what is commonly called the CARB rule.[50] Similar Federal regulations restricting formaldehyde emissions from hardwood plywood and other composite wood products became effective on October 25, 2017.[51] To meet regulations limiting formaldehyde emissions, manufacturers have changed the formulation of adhesives through the use of various additives or by using no added UF, soy-based alternatives. These are referred to as ultra-low-emitting formaldehyde ("ULEF")[52] or no added formaldehyde ("NAF") resins.[53] Another type of adhesive formulated with phenol-formaldehyde ("PF") resins emits less

---

[46] ***.

[47] HPVA Annual Statistical Report for Calendar Year 2016, p. 28.

[48] Respondents argue that because hardwoods are denser than softwoods, hardwood cores are superior to softwood cores on strength, dimensional stability, and fastener holding properties. AAHP posthearing brief, exh. B, p. 8. Petitioner indicated that both domestic and Chinese product use hardwood veneer cores. Petitioners' posthearing brief, pp. 8-9.

[49] AAHP posthearing brief, exh. B, p. 9.

[50] California regulations, enacted by the California Air Resource Board ("CARB"), regulate formaldehyde emissions on products sold in California. In addition, Formaldehyde has been categorized as a carcinogenic and toxic material.

[51] The U.S. Environmental Protection Agency has finalized a rule that is identical to the California "Phase 2" formaldehyde emission standards (other than record keeping and disclosure requirements), for certain wood products, as regulated under TSCA Title VI. *Compliance Date Extension; Formaldehyde Emission Standards for Composite Wood Products*, 82 FR 44533, September 25, 2017. The EPA has proposed an amendment to the final rule to align it with multiple voluntary consensus standards quality control test methods. *Voluntary Consensus Standards Update; Formaldehyde Emission Standards for Composite Wood Products*, 82 FR 49302, October 25, 2017.

[52] ULEF resins contain formaldehyde but are formulated so that the formaldehyde emissions from the product are below applicable CARB Phase 2 emission standards.

[53] These are resins made from soy, polyvinyl acetate, or methylene diisocyanate.

formaldehyde (also referred to as non-added urea formaldehyde ("NAUF")) and is more moisture resistant, but PF resins have color disadvantages and are typically used only if the plywood product is made for exterior applications.

DOMESTIC LIKE PRODUCT ISSUES

In the preliminary phase of these investigations, petitioners proposed defining a single domestic like product, co-extensive with the scope of these investigations.[54] AAHP and Chinese respondents raised no objections regarding petitioners' proposed domestic like product definition in the preliminary phase of the investigations, but reserved the right to comment further during the final phase.[55] In its preliminary determinations, the Commission defined a single domestic like product consisting of hardwood plywood corresponding to the scope of the investigations.[56] No party requested that the Commission collect data concerning other possible domestic like products in their comments on the Commission's draft questionnaires. Accordingly, the Commission collected data and other information based on a single domestic like product coextensive with Commerce's scope. In this final phase, petitioners argue that the Commission should continue to define a single domestic like product, co-extensive with the scope of the investigations.[57] AAHP respondents continue to accept a single like product that is co-extensive with the scope.[58] However, they note that after changing the scope to remove plywood having a face and back of coniferous (softwood) veneer, petitioners requested that Commerce expand the scope to add back that language. On October 16, 2017, Commerce initially determined not to allow the requested expansion, but because the decision is still subject to briefing and change, AAHP respondents argue that a change to the scope could raise new issues for which the Commission did not collect information, specifically hardwood plywood made entirely of softwoods.[59] Chinese respondents do not challenge the Commission's preliminary determinations regarding the domestic like product, but caution the Commission to consider only import data for hardwood plywood and not multilayered wood flooring due to potential overlaps in coverage between the two products.[60]

---

[54] Petitioners' postconference brief, p. 4.

[55] AAHP respondents' postconference brief, p. 7, and Chinese respondents' postconference brief, pp. 1-2.

[56] *Hardwood Plywood from China, Inv. Nos. 701-TA-565 and 731-TA-1341 (Preliminary)*, USITC Publication 4661, January 2017, p. 9.

[57] Petitioners' prehearing brief, p. 3.

[58] AAHP respondents' prehearing brief, p. 11.

[59] Ibid.

[60] Chinese respondents prehearing brief, p. 5.

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

U.S. MARKET CHARACTERISTICS

Hardwood plywood is used in a variety of mostly indoor applications, particularly home remodeling applications such as kitchen cabinets, fixtures, underlayment, and furniture in RVs, manufactured homes, and commercial buildings. Domestic producers supply approximately one-fifth of the U.S. market, with a few domestic firms accounting for the large majority of U.S.-production of hardwood plywood.[1] Imports supply most of the U.S. market, with two-fifths coming from China alone, and two-fifths from other countries including Canada, Indonesia, and Russia.

Hardwood plywood is made from a variety of different wood species, in a variety of thicknesses, and in a variety of different grades (i.e., AA, A, B, C, D, and E). Grades AA, A, and B are used in visually important areas, while lower grades are often used as shelves and in the backs of cabinets. U.S.-produced hardwood plywood commonly consists of softwood cores and hardwood face veneers (particularly maple), are normally B/C grades, have a face veneer of 0.5mm or more, and have an overall thickness of 16mm or more. Imported hardwood plywood commonly consists of hardwood cores and hardwood face veneers (particularly birch or tropical), are normally B/C/D/other grades, have a face veneer of less than 0.4mm, and have an overall thickness of less than 6.5mm.

Apparent U.S. consumption of hardwood plywood increased during January 2014-June 2017. Overall, apparent U.S. consumption in 2016 was 12.7 percent higher than in 2014.[2]

U.S. PURCHASERS

The Commission received 39 usable questionnaire responses from firms that bought hardwood plywood during January 2014-June 2017.[3] Of these purchasers, 20 are distributors, 7 are cabinet manufacturers, 3 are big box retailers, 3 are laminators, and 5 are other end users, including ***.

In general, responding U.S. purchasers are located in all regions of the contiguous United States, with most purchasers concentrated in the Midwest, Southeast, and Northeast. The responding purchasers represented firms in a variety of industries, including cabinetry, furniture, retail fixtures, and underlayment. The largest purchasers of hardwood plywood

[1] The six petitioners' estimated share of U.S.-produced hardwood plywood was approximately 90 percent during 2013-15 (Petition, p. 3).

[2] Apparent U.S. consumption was 0.7 percent higher in January-June 2017 than in January-June 2016.

[3] Of the 39 responding purchasers, 35 purchased domestic hardwood plywood, 37 purchased imports of the subject merchandise from China, and 32 purchased imports of hardwood plywood from other sources. Staff received an almost entirely blank questionnaire from *** and chose to not include it in the report.

include ***. Fifteen of 34 purchasers reported competing directly with their suppliers for sales to customers.

CHANNELS OF DISTRIBUTION

U.S. producers sold mainly to distributors. While importers sold a large share of subject imports to distributors, they also sold substantial shares of imports to retailers as shown in table II-1. Nonsubject imports were sold primarily to end users.

Table II-1
Hardwood plywood: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, January 2014-June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Share of commercial U.S. shipments (percent)				
U.S. producers: to distributors	68.5	68.0	67.3	67.2	67.8
to retailers, subtotal	14.9	15.1	15.0	15.5	14.2
to big box retailers	14.9	15.1	15.0	15.0	14.2
to other retailers	0.0	0.0	0.1	0.5	---
to end users, subtotal	16.6	16.8	17.7	17.4	18.0
to builders	---	---	---	---	---
to other end users	16.6	16.8	17.7	17.4	18.0
total, all channels	100.0	100.0	100.0	100.0	100.0
U.S. importers: China: to distributors	45.4	46.4	46.5	47.2	43.9
to retailers, subtotal	34.2	33.4	33.3	32.9	33.8
to big box retailers	23.2	23.2	24.3	23.7	24.8
to other retailers	11.1	10.3	9.0	9.2	9.0
to end users, subtotal	20.4	20.2	20.2	20.0	22.3
to builders	0.0	0.0	0.0	0.0	0.0
to other end users	20.4	20.2	20.2	20.0	22.2
total, all channels	100.0	100.0	100.0	100.0	100.0
U.S. importers: All other sources: to distributors	31.3	29.6	30.3	30.0	29.2
to retailers, subtotal	5.7	5.5	6.0	5.7	6.3
to big box retailers	2.9	3.0	4.2	3.8	3.7
to other retailers	2.8	2.5	1.8	1.9	2.7
to end users, subtotal	63.0	64.9	63.7	64.3	64.4
to builders	0.1	0.1	0.1	0.0	0.1
to other end users	62.9	64.8	63.6	64.3	64.4
total, all channels	100.0	100.0	100.0	100.0	100.0

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

GEOGRAPHIC DISTRIBUTION

U.S. producers and importers reported selling hardwood plywood to all regions in the contiguous United States (table II-2). For U.S. producers, 6 percent of sales were within 100 miles of their production facility, 61 percent were between 101 and 1,000 miles, and 34 percent were over 1,000 miles. Importers sold 35 percent within 100 miles of their U.S. point of shipment, 57 percent between 101 and 1,000 miles, and 8 percent over 1,000 miles.

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

Region	U.S. producers	Subject U.S. importers
Northeast	8	36
Midwest	7	43
Southeast	7	45
Central Southwest	7	40
Mountains	6	30
Pacific Coast	6	41
Other[1]	5	19
All regions (except Other)	6	24
Reporting firms	8	63

[1] All other U.S. markets, including AK, HI, PR, and VI.

Source: Compiled from data submitted in response to Commission questionnaire

SUPPLY AND DEMAND CONSIDERATIONS

U.S. supply

Domestic production

Based on available information, U.S. producers of hardwood plywood have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of U.S.-produced hardwood plywood to the U.S. market. The main contributing factor to this degree of responsiveness of supply is the availability of unused capacity. Factors mitigating responsiveness of supply include limited ability to shift shipments from alternate markets, low inventory levels, and the inability to produce alternate products.

Industry capacity

Domestic capacity remained steady at almost 1.5 billion square feet during 2014-16. Domestic capacity utilization decreased from 50.6 percent in 2014 to 47.3 percent in 2016.[4] This relatively low level of capacity utilization suggests that U.S. producers may have substantial ability to increase production of hardwood plywood in response to an increase in prices.

Alternative markets

U.S. producers' exports, as a percentage of total shipments by quantity, decreased from 2.4 percent in 2014 to 1.6 percent in 2016, indicating that U.S. producers may have a limited ability to shift shipments between the U.S. market and other markets in response to price changes. [5]

Inventory levels

U.S. producers' inventories decreased slightly from 42 million square feet in 2014 to 40 million square feet in 2016. Relative to total shipments, U.S. producers' inventory remained fairly constant around 6 percent of total shipments during 2014-16. [6] These inventory levels suggest that U.S. producers may have a limited ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

Three of nine responding U.S. producers (***) stated that they could switch production from hardwood plywood to other products. Other products that producers reportedly can produce on the same equipment as hardwood plywood are ***. U.S. producer *** reported that its facilities have augmented production of standard hardwood plywood with ***, but that there are limited returns and volume potential for these products.

U.S. producers *** reported that shifting production to non-hardwood plywood requires different materials and processes, such as the types of resin used, finishes added, types of machines needed, and space considerations. U.S. producer *** reported that additional equipment changes are required to shift production to alternative products.

---

[4] Capacity utilization was 1.2 percentage points lower in January-June 2017 than in January-June 2016. See table III-5.

[5] Export shipments were at the same level (1.6 percent) during January-June 2016 and January-June 2017.

[6] U.S. producers' inventories were nearly 5 million square feet less during January-June 2017 than in January-June 2016. Relative to total shipments, U.S. producers' inventory was less than 1 percent less in January-June 2017 than in January-June 2016.

Subject imports from China[7]

Based on available information, Chinese producers have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of hardwood plywood to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and existence of alternate markets.

Industry capacity

China's capacity for manufacturing hardwood plywood increased from about 1.7 billion square feet in 2014 to nearly 1.8 billion square feet in 2016. Capacity utilization also increased from 74.5 percent in 2014 to 79.9 percent in 2016.[8] This relatively moderate level of capacity utilization suggests that Chinese producers may have some ability to increase production of hardwood plywood in response to an increase in prices.

Alternative markets

Shipments of Chinese hardwood plywood to markets other than the United States increased from 2014 to 2016. Shipments to domestic markets, as a share of total shipments, declined from 54.8 percent to 52.7 percent and shipments to export markets other than the United States declined from 13.1 percent to 12.4 percent during 2014-16.[9] Chinese exports indicate that producers may have some ability to shift shipments between domestic or other markets and the U.S. market in response to price changes. Respondents stated that housing construction in China and its overall economy are strong and have led to increased home market demand for Chinese hardwood plywood.[10]

Inventory levels

Responding Chinese firms' inventories fluctuated, increasing from 83 million square feet of hardwood plywood in 2014 to nearly 91 million square feet in 2015, but falling to 78 million square feet in 2016. Relative to total shipments, inventory levels decreased from 6.7 percent in

---

[7] For data on the number of responding foreign firms and their share of U.S. imports from China, please refer to Part I, "Summary Data and Data Sources."

[8] China's capacity for manufacturing hardwood plywood was 5.3 million square feet less during January-June 2017 than in January-June 2016. Capacity utilization was 4.3 percentage points higher during January-June 2017 than in January-June 2016.

[9] Shipments, as a share of total shipments, to China's domestic market were 6.0 percentage points higher during January-June 2017 than in January-June 2016 and shipments to export markets other than the United States were 1.7 percentage points higher during January-June 2017 than in January-June 2016.

[10] Hearing transcript, p. 202 (Shengfu).

2014 to 5.4 percent in 2016.[11] These inventory levels suggest that responding foreign firms may have some ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

All responding foreign producers stated that they could not switch production from hardwood plywood to other products.

Nonsubject imports

Nonsubject imports remained relatively constant, between 51 percent to 53 percent of total imports during January 2014-June 2017. According to questionnaire responses, Indonesia, Russia, Malaysia, and Ecuador (in order of size) were the largest nonsubject sources for U.S. imports of hardwood plywood from 2014 to 2016.[12]

Supply constraints

Most firms reported that they have not experienced supply shortages since 2014. Some purchasers (14 of 37) reported diminished availability of domestic low-grade birch and maple. They also reported that exclusivity agreements with big box retailer ***, the longshoremen strike in 2014, and increased demand for domestic hardwood plywood due to the antidumping ("AD") and countervailing ("CVD") duties affected product availability. A large U.S. purchaser, ***, reported that domestic producers have been unable to supply certain types of products, such as plywood inserts and all-veneer core panels, because they either do not have the expertise in manufacturing them, or they do not see sufficient added value in the production of such products.

Some importers (10 of 73) reported shortages due to higher costs due to the AD/CVD preliminary determinations; log and veneer shortages (specifically for Russian birch, Ecuadorian sande, and Indonesian meranti); and weather issues.[13] Importers *** reported that there are some constraints on the supply of Chinese hardwood plywood due to seasonal logging constraints and cultural holidays, such as the Chinese New Year. Purchaser *** reported that most importers have limited their imports or stopped importing from China. Three purchasers of nonsubject hardwood plywood indicated that they had experienced shortages of Colombian, Indonesian, or Russian products.

[11] Inventories, relative to total shipments, were 0.8 percentage points less during January-June 2017 than in January-June 2016.

[12] See part IV for more information.

[13] One producer, (***), reported that it has declined to fill some orders when it will not lower its prices to compete with subject imports.

New suppliers

Most purchasers reported that no new suppliers have entered the U.S. market since 2014. Six of 37 purchasers indicated that new suppliers had entered the U.S. market and identified Garnica (Spain), Greenply (India), Panguaneta (Italy), Red Point (China), and Rockshield (Canada).

U.S. demand

Based on available information, the overall demand for hardwood plywood is likely to experience moderate changes in response to changes in price. The main contributing factors are the somewhat limited range of substitute products and the moderate cost share of hardwood plywood in most of its end-use products.

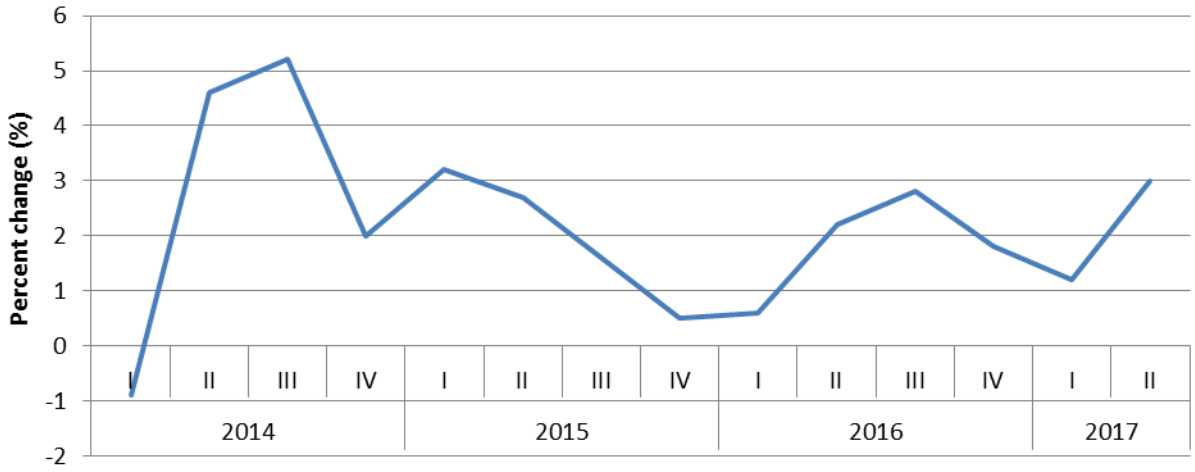
The main industries that drive demand for hardwood plywood generally reflect overall U.S. economic activity. Average quarterly U.S. GDP growth was 2.2 percent between January 2014 and June 2017 (figure II-1). Demand for hardwood plywood is closely tied to new home construction and remodeling activity. Homeowner improvements also increased over the period, with the rate of increase fluctuating during January 2014 to June 2017. Rates of increasing activity lessened over 2015-16, but rebounded in 2017 (figure II-2).[14] New housing starts increased by 28 percent between January 2014 and July 2017 (figure II-3). Shipments of newly manufactured homes and RVs also increased by 34 and 69 percent, respectively, during January 2014 to June 2017 (figure II-4).

Petitioners stated that while architectural and retail are smaller market segments, demand trends in these segments fit housing, remodeling, and RV demand trends.[15]

[14] The remodeling market index is based on a quarterly survey of National Association of Home Builders (NAHB) remodeler members in which remodelers indicate whether current and future demand is higher or lower than three months earlier. An index number of 50 indicates that equal numbers of remodelers report activity "higher" and "lower" than the previous quarter. For additional information, see https://www.nahb.org/en/research/housing-economics/housing-indexes/remodeling-market-index.aspx.

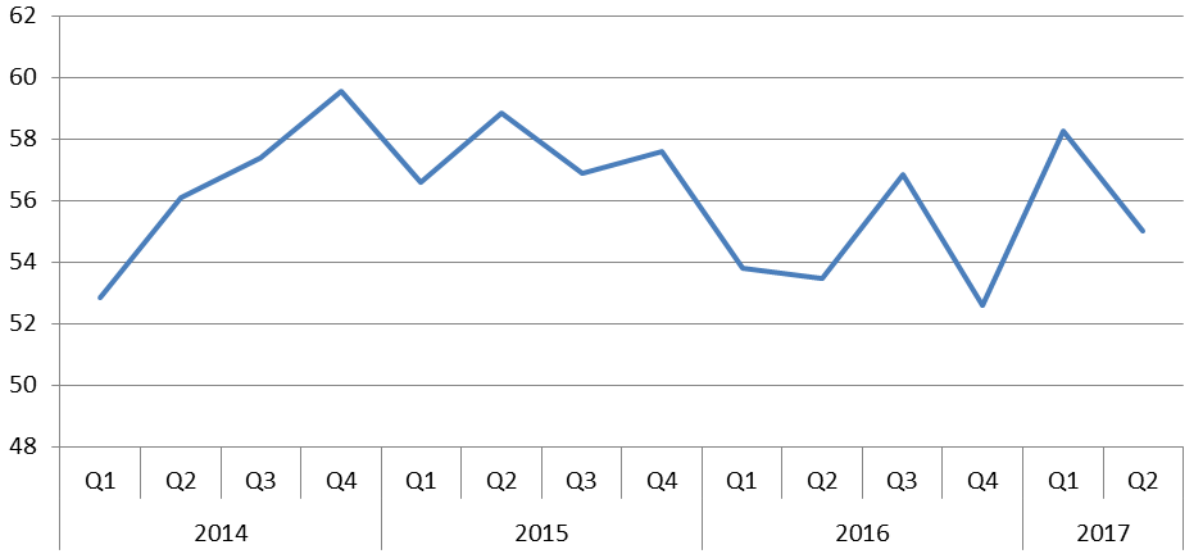
[15] Hearing transcript, p. 141 (Kaplan).

Figure II-1
Real U.S. GDP growth: Percentage change from the previous quarter, quarterly, seasonally adjusted, January 2014-June 2017



Source: National Income and Product Accounts-Table 1.1.1, Percent Change from Preceding Period in Real Gross Domestic Product, Bureau of Economic Analysis, http://www.bea.gov/iTable/index_nipa.cfm, retrieved September 13, 2017.

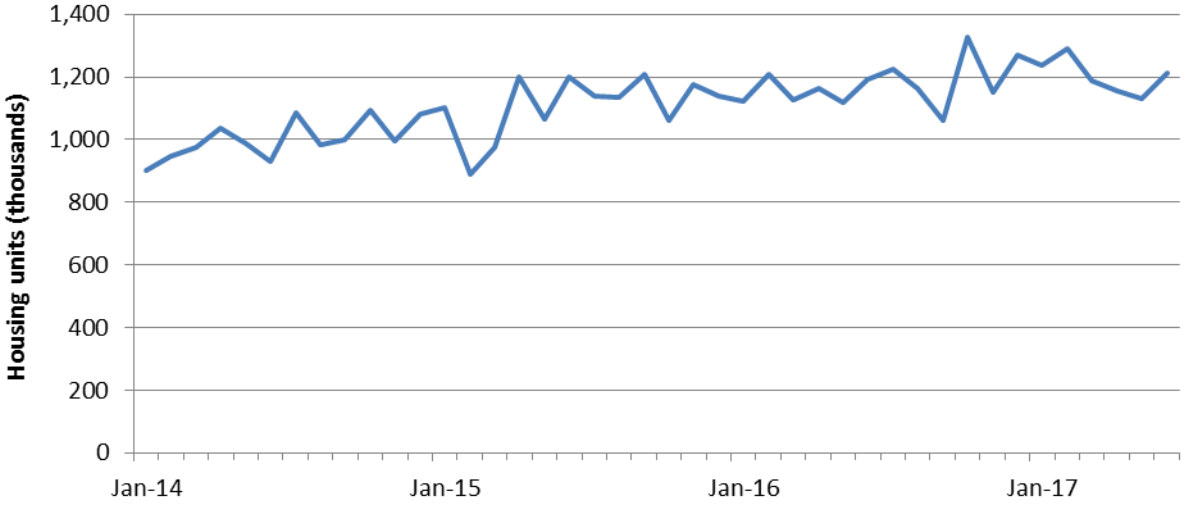
Figure II-2
Homeowner improvements: Remodeling market index, seasonally adjusted, January 2014-June 2017



Note.--An index of greater than 50 indicates an increase in remodeling activity. The largest numbers indicate the greatest rate of increase.

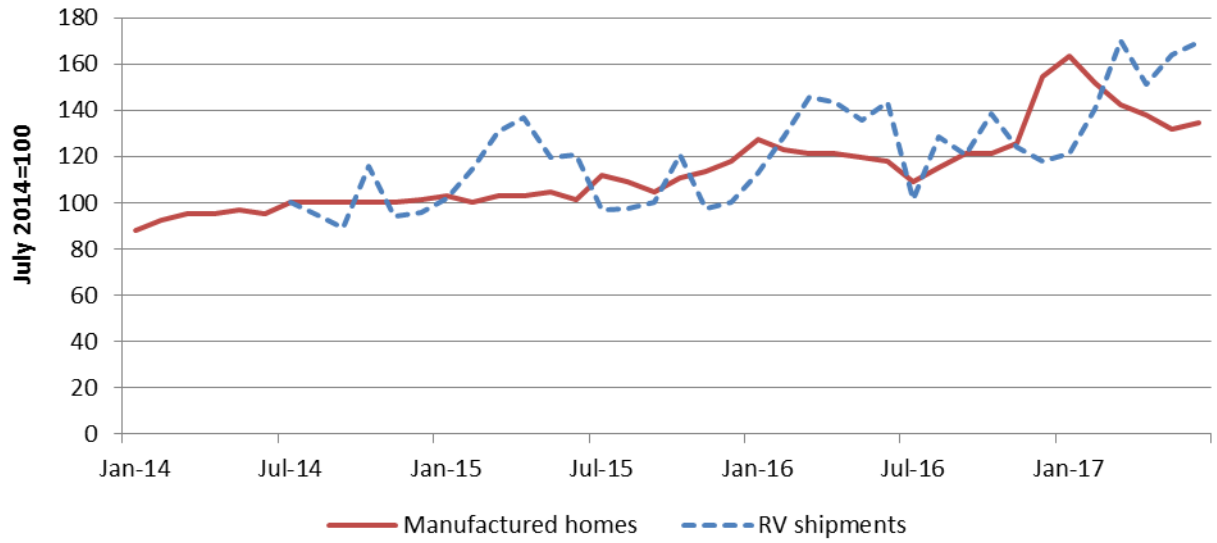
Source: National Association of Home Builders, Remodeling Market Index, Table 1, http://www.nahb.org/en/research/housing-economics/housing-indexes/remodeling-market-index.aspx, retrieved August 30, 2017.

Figure II-3
Housing: Seasonally adjusted new housing starts, monthly, January 2014-June 2017



Source: U.S. Census Bureau. https://www.census.gov/construction/nrc/historical_data/index.html , retrieved August 30, 2017.

Figure II-4
Manufactured homes and RVs: Index of monthly shipments, July 2014=100, January 2014-June 2017



Note.--Data were not available for RV shipments during January 2014-June 2014.

Source: Recreational Vehicle Industry Association and U.S. Census Bureau. http://www.rvia.org and http://www.census.gov/data/tables/time-series/econ/mhs/shipments.html, retrieved August 30, 2017.

End uses and cost share

U.S. demand for hardwood plywood depends on the demand for U.S.-produced downstream products in which it is used, including kitchen cabinets, RVs, manufactured homes, fixtures, underlayment, and furniture. Cabinets are a particularly important end use with large shares of commercial shipments for both domestically produced and Chinese hardwood plywood going towards this purpose. Large shares of U.S. commercial shipments of Chinese hardwood plywood also went towards flooring/underlayment, and other miscellaneous uses, such as flooring in shipping containers and other packing crates.[16] Similarly, large shares of reported 2016 purchases of both U.S.-produced and Chinese hardwood plywood were used in cabinetry and RV/mobile home applications.

[16] Parts III and IV of this report provide details on the intended end use of U.S. commercial shipments for U.S producers and importers, respectively.

Hardwood plywood accounts for a large share of the cost of direct downstream products in which it is used, such as cut-to-size products or flooring, but accounts for a small-to-moderate share of the cost of the final end-use products in which it is used. Reported cost shares for some end uses are as follows:

- Cut-to-size products for retail *(75 to 95 percent)*
- Cabinets and drawers *(10 to 90 percent)*
- Flooring and underlayment *(10 to 90 percent)*
- Laminated plywood *(12 to 75 percent)*
- RV/truck interior, siding, and flooring *(1 to 85 percent)*
- Architectural or custom mill work *(20 to 35 percent)*
- Wooden crates *(9 to 32 percent)*
- Store fixtures *(10 to 35 percent)*
- Furniture *(8 to 50 percent)*
- Door components *(12 percent)*

Fourteen of 20 responding purchasers reported that demand for these end-use products had increased, three purchasers reported that demand had fluctuated, and one reported that demand had decreased since 2014. Two purchasers reported that there had been no change. All 17 of these purchasers reported that changes in demand had affected their firm's demand for hardwood plywood. Most purchasers indicated that increased demand for their end-use products had led to their firm's increased demand for hardwood plywood. However, purchaser *** reported that while demand for cabinets has increased, its demand for hardwood plywood has not increased proportionately because demand for hardwood plywood is partially offset by the increase in demand for opaque finishes and laminate styles that generally use MDF and laminates (thermally fused, foils, and papers).

Cabinetry end uses

Fourteen (of 39) responding purchasers reported sizeable shares of their 2016 purchases of domestic and Chinese hardwood plywood, 24 percent and 31 percent respectively, were for cabinetry applications. Seven of those purchasers provided more detailed information regarding the sources for hardwood plywood used for the various cabinetry applications (table II-3). [17] [18] The vast majority of these reported purchases of U.S.-produced hardwood plywood used for cabinetry applications was used in exposed surface applications,

[17] These seven purchasers accounted for *** percent of reported U.S.-produced hardwood plywood purchases used in cabinetry applications, *** percent of reported Chinese hardwood plywood purchases, and *** percent of reported hardwood plywood purchases from other sources. Four purchasers (***) account for the majority of the data presented in tables II-3 and II-4.

[18] For information regarding U.S. commercial shipments of U.S.-produced hardwood plywood and Chinese hardwood plywood for cabinetry applications, see Parts III and IV.

and about one-third of reported Chinese hardwood plywood purchases was used for the same exterior applications. Another third of Chinese hardwood plywood was used for interior applications, and was mostly laminated. The last third of Chinese hardwood plywood was used for the tops, bottoms, backs, shelving, and other cabinet applications.

Table II-3
Hardwood plywood: Share of purchases for cabinetry applications by country source, 2016

Cabinetry applications	United States (Percent)	China (Share)	All other sources (Share)
Exposed	***	***	***
Interior	***	***	***
All other, subtotal	***	***	***
Top	***	***	***
Bottom	***	***	***
Back	***	***	***
Shelving	***	***	***
Other	***	***	***
Total	100.0	100.0	100.0

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

Five of nine responding purchasers that are cabinet manufacturers reported that the applications for hardwood plywood vary by country source. Two purchasers (***) reported that domestic suppliers generally provide more prefinished and exterior facing products while imported hardwood plywood is more generally used for laminated and interior facing components. Purchaser *** reported that it cannot use domestic plywood in its applications and *** reported that cabinet applications vary based on species availability and customer specifications.

Lamination and other finishing

About 3 percent of total 2016 purchases of hardwood plywood were already laminated when purchased.[19] Four small- or medium-sized purchasers (of 37 total purchasers) reported that nearly all of their 2016 purchases of hardwood plywood for cabinetry applications were laminated.

Nine of 22 responding purchasers reported that they laminate some of their hardwood plywood after purchase. These purchasers reported that less than 2 percent of U.S.-produced hardwood plywood and 10.5 percent of Chinese hardwood plywood was laminated by the purchaser. Nine purchasers[20] that reported purchases for cabinetry applications provided

[19] About *** percent of U.S.-produced hardwood plywood used in cabinetry applications were purchased already laminated, and about *** percent of Chinese hardwood plywood used in cabinetry applications were already laminated.

[20] These purchasers are ***, Purchasers questionnaire, III-1.

information regarding the finishing used for various cabinetry applications in 2016 (table II-4). No purchaser reported laminating their purchases of domestic hardwood plywood for these applications, but a sizeable share of Chinese hardwood plywood was laminated in cabinetry applications.

Table II-4
Hardwood plywood: Share of purchases for cabinetry applications by finishing and by country source, 2016

Cabinetry applications	United States (Percent)	China (Share)	All other sources (Share)
Exposed: Sanded stained	***	***	***
Exposed: Painted	***	***	***
Exposed: Laminated	***	***	***
Exposed, subtotal	***	***	***
Interior: Sanded stained	***	***	***
Interior: Painted	***	***	***
Interior: Laminated	***	***	***
Interior, subtotal	***	***	***
All other	***	***	***
Total	100.0	100.0	100.0

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

Importer and respondent Genesis stated that Chinese hardwood plywood panels are better for lamination because hardwood cores from China are tighter with fewer knots compared to the softwood cores in domestic plywood. Imperfections in the core can be forced to the surface when laminated.[21] Respondents also stated that Chinese hardwood plywood performs better in polyurethane resin coating systems than the domestic product.[22]

One *** U.S. purchaser, ***, reported that it outsources finishing, lamination, and other value-added processes to its suppliers. *** stated that its domestic suppliers provide prefinished panels that are used in exterior applications and, in some cases, provide a laminated interior component with the exterior prefinished side.[23] *** also noted that while Chinese birch has a better surface for lamination, it cannot be laminated once the panel has been otherwise finished or stained.

Demand trends by appearance

Cabinet manufacturers were asked about demand trends based on appearance of hardwood plywood (table II-5). Some responding firms (2 of 5) reported that demand for U.S.-produced painted-opaque hardwood plywood decreased, while the majority of responding

[21] Hearing transcript, pp. 186-187 (Hazelbaker); Respondent AAHP posthearing brief, Exhibit A, p. 7.
[22] Hearing transcript, p. 190 (Smucker).
[23] Petitioners stated that U.S. producers ***. Petitioners posthearing brief, p. 6.

firms (4 of 7) reported that Chinese painted-opaque hardwood plywood increased. Responses regarding demand for natural wood-grain stained hardwood plywood from both the United States and China were mixed, and most responding purchasers reported that demand for high-pressure laminate ("HPL") or thermal-fused laminate ("TFL") hardwood plywood from both the United States and China remained constant since 2014.

Table II-5
Hardwood plywood: Cabinet manufacturers' responses regarding U.S. demand in the United States by appearance

Source	Overall Increase	No Change	Overall decrease	Fluctuate with no clear trend
United States				
Painted/opaque	1	1	2	1
Natural wood-grain stained	2	0	4	1
HPL/TFL European-style laminated	0	4	0	1
China				
Painted/opaque	4	1	1	1
Natural wood-grain stained	3	1	3	1
HPL/TFL European-style laminated	0	3	0	1
All other sources				
Painted/opaque	0	4	1	1
Natural wood-grain stained	2	2	2	1
HPL/TFL European-style laminated	0	4	0	1

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

Underlayment end uses

Twenty of 35 responding purchasers reported that they did not know at the time of purchase if the hardwood plywood would be used for underlayment purposes. Five of the 35 purchasers reported that their purchases are not used for underlayment purposes. Purchasers including *** reported that their purchases of 5.0-5.2 mm birch veneers are used for underlayment and *** reported that it purchases *** for underlayment. Other purchasers reported that their purchases of meranti, lauan, and other tropical hardwoods of 4.8-5.5 mm veneer thicknesses are used for underlayment.

Importer and respondent Patriot Timber estimated that 20 percent to 30 percent of imported Chinese hardwood plywood panels go to the underlayment market and that this share has increased due to an increase in luxury vinyl tiles and vinyl tiles in multifamily units. It added that U.S. producers do not have their plywood approved or certified by vinyl flooring manufacturers or the Tile Council of North America as it does.[24]

[24] Hearing transcript, p. 183 (Gosnell).

Business cycles

Seven of eight U.S. producers, 33 of 75 importers, and 12 of 38 purchasers indicated that the market was subject to business cycles or conditions of competition distinct to this industry. A majority of firms indicating that the hardwood plywood market is subject to business cycles highlighted the seasonality of the building and remodeling industries and, as described by U.S. producer ***, demand usually increases during the first half of the year, slows down in the summer, picks up somewhat in the early fall, and drops off during November and December. Several firms also indicated that the Chinese New Year often affects supply and requires importers to anticipate the annual halt in Chinese production. Firms cited availability issues, changing consumer preferences in design, exchange rates, and improving production technology as other conditions of competition that are distinct to the hardwood plywood market.

Most U.S. producers, importers, and purchasers reported that there have not been changes to these conditions of competition or business cycles since 2014. Firms reporting that there had been a change indicated changing consumer preferences, large import volumes and low prices, decreasing transportation costs, and improved production technology and an increasing number of alternatives to hardwood plywood.[25]

Demand trends

Most firms reported an increase in U.S. demand for hardwood plywood since January 1, 2014 (table II-6). Many firms cited trends in the housing market, non-housing construction, institutional spending, and the overall health of the U.S. economy.

[25] Purchaser *** reported that there are more alternative options on the market that emulate hardwood plywood veneered panels, such as high resolution thermal fused melamine laminates, textured high pressure laminates, and high gloss acrylics and UV coatings over MDF cores. *** also reported that due to the growing popularity of painted cabinets, there has been increased use of MDF since "this is a preferred surface to paint."

Table II-6
Hardwood plywood: Firms' responses regarding U.S. demand and demand outside the United States

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Demand inside the United States:				
U.S. producers	7	0	0	1
Importers	26	14	10	15
Purchasers	23	5	2	6
Demand outside the United States:				
U.S. producers	2	0	0	4
Importers	9	14	7	12
Purchasers	7	6	0	3
Demand for purchasers' final products:				
Purchasers	14	2	1	3

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

Additionally, firms were asked about demand trends of hardwood plywood since 2014 in various sectors (table II-7). U.S. producers, importers, and purchasers most frequently reported that demand in the cabinetry and RV sectors had increased, citing increased demand in the housing and RV markets. Demand for other applications showed different demand patterns, and responses varied by firm type.

Table II-7
Hardwood plywood: Firms' responses regarding U.S. demand in the United States by sector

Sector	Number of firms reporting			
	Increased	No change	Decreased	Fluctuated
Cabinetry:				
U.S. producers	5	2	0	1
Importers	21	9	10	11
Purchasers	17	4	5	7
Fixture (store/retail):				
U.S. producers	3	3	1	1
Importers	9	10	5	14
Purchasers	5	5	6	6
Underlayment:				
U.S. producers	1	2	0	0
Importers	13	12	1	14
Purchasers	5	8	3	3
Furniture:				
U.S. producers	2	3	1	1
Importers	9	10	6	15
Purchasers	5	5	8	4
RV/Mobile homes				
U.S. producers	4	1	0	0
Importers	22	8	2	10
Purchasers	7	7	1	4
Architectural uses:				
U.S. producers	4	1	0	2
Importers	8	9	2	14
Purchasers	6	5	2	6
Other:				
Purchasers	3	1	0	3

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

Demand trends by species

Purchasers were asked to report the shares of their 2016 purchases of hardwood plywood produced in the United States, China, and all other countries by wood species. A majority of reported purchases of domestically produced hardwood plywood were either of maple or birch.[26] Most purchases of Chinese hardwood plywood were birch.[27] Purchases of

[26] Based on estimates of 34 responding purchasers, 38 percent of reported purchases of U.S.-produced hardwood plywood were maple, 27 percent were birch, 14 percent were red oak, 5 percent were cherry, and 1 percent were walnut. Other wood species accounted for about 16 percent of 2016 purchases of domestically produced product, including alder, beech, cedar, meranti, and poplar.

[27] Based on estimates of 36 responding purchasers, nearly 83 percent of reported purchases of Chinese hardwood plywood were birch, 7 percent were maple, and less than 3 percent were red oak or

(*continued*...)

nonsubject hardwood plywood were primarily of other species, including beech, white oak, and tropical hardwoods, such as bamboo. Purchaser *** reported that it *** three types of birch: U.S.-produced natural birch, Chinese white birch, and Russian Baltic birch. *** also reported that it *** a premium U.S. red oak and a lower grade of red oak from China.

As shown in table II-8, most U.S. producers, importers, and purchasers reported that demand for maple increased and most importers and purchasers reported that demand for birch had increased since 2014.[28] Most U.S. producers, importers, and purchasers reported that demand for red oak had decreased and U.S. producers and importers most frequently reported that demand for cherry had also decreased.[29] Firms reported that the increased demand for birch and maple and the decreased demand for red oak and cherry was largely driven by consumer tastes for painted and lighter woods.

(…*continued*)
cherry. About 8 percent were other species, including alder, beech, merani, bin tangor, lauan, and sapele.

[28] Most U.S. producers reported that demand for birch was constant since 2014.

[29] Purchasers most frequently reported that demand for cherry was constant since 2014.

Table II-8
Hardwood plywood: Firms' responses regarding U.S. demand in the United States by species

Species	Number of firms reporting			
	Increased	No change	Decreased	Fluctuated
Maple:				
U.S. producers	4	1	2	1
Importers	21	9	6	10
Purchasers	18	6	3	4
Red oak:				
U.S. producers	1	2	4	1
Importers	4	9	25	10
Purchasers	3	5	22	4
Birch:				
U.S. producers	1	5	0	2
Importers	31	9	4	9
Purchasers	21	8	0	5
Cherry:				
U.S. producers	1	2	4	1
Importers	4	10	20	10
Purchasers	3	12	11	5
Walnut:				
U.S. producers	5	1	1	1
Importers	8	9	12	12
Purchasers	4	14	4	5
Other:				
U.S. producers	4	2	0	1
Importers	4	11	2	9
Purchasers	9	4	1	4

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

Purchasers reporting increasing demand for maple and birch cited changes in design preferences for painted and light colors, increasing demand for stained or painted woods, such as maple and birch, and consumer trends toward tight grain products. Purchaser *** reported that the increase in its purchases of birch was driven primarily by the growth in "stock" cabinet brands, their use of laminated material, and launches of UV[30] interior programs. Purchaser *** reported that the demand for full hiding painted finishes drove increasing demand for maple and birch faces. Purchasers reporting decreased demand for red oak and cherry cited design preferences, and indicated that open grain and darker woods are out of fashion.

Nine purchasers reported increasing demand for other wood species, including beech, white oak, bamboo, meranti, and other tropical hardwoods. Purchasers cited consumer preferences for lighter colored woods and increased preference for laminated and painted finishes. Purchaser *** reported that its purchases of ***, a tropical hardwood ***, increased

[30] Ultraviolet curing ("UV curing") is a process in which UV light is used to instantly cure or dry coatings or adhesives.

in response to changing consumer demand for lighter colored, paint grade decorative hardwood.

Substitute products

Half of the responding U.S. producers (4 of 8) and most importers (38 of 64) reported that there are no substitutes for hardwood plywood, although the remaining U.S. producers, importers, and most purchasers (23 of 36) reported that there are. Reported substitutes for hardwood plywood include MDF, softwood plywood, hardwood lumber, azdel composite, melamine, particleboard, vinyl, OSB, and steel grates. Seventeen firms (including U.S. producers, importers, and purchasers) reported that changes in price for some of these substitute products have affected the prices of hardwood plywood.

Firms reported that MDF, OSB, particleboard, and softwood plywood are lower cost substitutes that can be used in cabinets, furniture, RVs, underlayment, and other casework. Importer *** reported that lower cost composites (such as particleboard) are used whenever possible instead of hardwood plywood, and that while there is still demand for cabinets made from hardwood plywood, manufacturers are using thinner and lower quality faces, backs, and cores. Purchaser *** reported that many of its customers have been using MDF substrates instead of hardwood plywood as the demand for painted cabinets has increased.

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported hardwood plywood depends upon such factors as relative prices, wood species, veneer thickness, quality (e.g., grade standards, reliability of supply, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, payment terms, product services, etc.). Based on available data, staff believes that there is a moderate degree of substitutability between domestically produced hardwood plywood and hardwood plywood imported from subject sources.

Lead times

Virtually all U.S.-produced hardwood plywood is produced to order while Chinese hardwood plywood is primarily sold from U.S. inventories. U.S. producers reported that 98.9 percent of their U.S. commercial shipments in 2016 were produced-to-order hardwood plywood, with lead times averaging about seven days, and the remaining U.S. commercial shipments were shipped from U.S. inventories, with lead times averaging six days. Importers of Chinese hardwood plywood reported that 78.8 percent of their U.S. commercial shipments were shipped from U.S. inventories and lead times averaged about nine days, and that 20.1

percent of their shipments were produced-to-order with lead times averaging 83 days.[31] U.S. producer State Industries stated that lead time is one of the "real competitive levers" that the domestic industry possesses.[32]

Veneer differences

Veneer thickness

Thin-faced veneers are produced using the two-step process, while thick-faced veneers are produced using the one-step process. U.S. producer and petitioner Columbia stated that it does not produce hardwood plywood using the two-step process used by Chinese producers because it costs more and stated that thicker veneers accomplish the same thing at a lower cost.[33] U.S. producer and petitioner Murphy stated that it does not produce thin-faced veneers because they do not provide any special advantage other than saving money on material costs.[34]

Petitioners stated that face veneer thickness is not an important factor and is thus not advertised, and also that to the extent that a customer does require a particular thickness, U.S. producers can produce thin and thick veneer.[35] However, several respondents indicated that thinner veneers are optimal for lamination and for use in robust structural applications because many thin layers of veneers create straighter and stronger hardwood plywood.[36] Respondents also stated that Chinese face veneer is typically so thin that it does not perform well when it is machine sanded, and is thus unsuitable for most decorative or stained applications.[37]

U.S. importer *** reported that the face veneers on its hardwood plywood are not designed to be sanded, whereas domestic face veneers are two-to-three times thicker and are designed for decorative applications where a quality sanding process is critical.[38] U.S. importer *** reported that the thickness of the veneer affects the cost of production and that Chinese producers are able to sell lower priced hardwood plywood because they are able to produce thinner veneers.[39]

---

[31] The remaining share of U.S. commercial shipments of Chinese hardwood plywood (1.1 percent) was shipped from foreign inventories with lead times averaging about 70 days.

[32] Hearing transcript, p. 116 (Taylor).

[33] Hearing transcript, pp. 50, 110 (Thompson).

[34] Hearing transcript, pp. 55-56 (York); Petitioners posthearing brief, Exhibit 1, p. 40.

[35] Hearing transcript, p. 109 (Thompson); Petitioners posthearing brief, Exhibit 1, p. 37.

[36] Hearing transcript, pp. 174 (Randich), 187 (Hazelbaker), and 191 (Caldwell).

[37] Hearing transcript, pp. 169-170 (Simon).

[38] *** importer questionnaire, III-2b.

[39] *** importer questionnaire, III-2b.

Veneer grade

Petitioners stated that some logs yield higher grades than others, and that the mix cannot be skewed towards higher or lower grades.[40] Respondents stated that large diameter veneer quality logs (such as red and white oak, cherry, walnut, birch, and hard maple from the United States) yield a higher percentage of higher grade veneers and are better suited for decorative applications, while Chinese birch, a smaller diameter log naturally generates lower grades.[41]

Standardized grading systems

All responding producers (8 of 8) and most importers (58 of 66) and purchasers (36 of 38) reported that there is a standardized grading system for U.S.-produced hardwood plywood. U.S.-produced hardwood plywood is most commonly standardized to the ANSI/HPVA standard. Most responding importers (42 of 69) reported that there is not a standardized grading system for Chinese hardwood plywood and purchasers' responses were mixed.[42]

Importer *** reported that there is no standard grading system for hardwood plywood in China, and that it is graded on a localized standard that is different than HPVA grades that are commonly used in the United States. Importer *** reported that mills in China will manufacture products to U.S. customer specifications, and often Chinese producers must meet standards that are similar to those used in the United States. Purchaser *** reported that it uses its own proprietary grading system. Of the 27 importers and 17 purchasers indicating that there is a standardized grading system for Chinese-produced hardwood plywood, 8 importers and 6 purchasers reported that Chinese hardwood plywood conforms to HPVA standards, and 3 purchasers reported that Chinese hardwood plywood is subject to IWPA industry standards.

Most U.S. producers reported that the standardized grading system includes specifications for the composition of core materials and face and back grades, but most reported that the standardized grading system does not account for the thickness of veneer.[43] A majority of importers reported that the standardized grading system for U.S.-produced hardwood plywood specifies the composition of core materials, the thickness of veneers, and the grade of face and back veneers, while the standards for Chinese hardwood plywood do not have these specifications.[44] The vast majority of responding U.S. producers, importers, and

---

[40] Hearing transcript, p. 157 (Thompson).

[41] Hearing transcript, pp. 162, 164 (Dougherty).

[42] Twenty of 37 purchasers reported that Chinese hardwood plywood is subject to a standardized grading system, while the remaining purchasers reported that it is not.

[43] Five of eight U.S. producers reported that the standardized grading system includes composition of core materials, and seven of eight U.S. producers reported that the grading system does not include veneer thickness.

[44] About one-third of responding importers reported that the standardized grading system for Chinese hardwood plywood does specify the composition of core materials, the thickness of the veneer, and also the grade of the front and back veneers.

purchasers reported that higher grades of plywood are more expensive than lower grades both for U.S.-produced hardwood plywood and imported hardwood plywood.

Most responding importers (55 of 65) reported that the availability of specific grades of hardwood plywood from China has not changed since 2014. Of the ten importers that reported a change in availability, importer *** reported that the availability of mid-grade birch veneers have declined due to curtailment of domestic logging and importer *** reported a decline due to mandatory gas usage costs. Importer *** reported that Chinese hardwood plywood has expanded from lower-grade rotary veneers to higher-end rotary and plain-sliced veneers. Importer *** reported that the availability of B grade and high-end C+ grade veneers is limited in China and purchaser *** reported that the supply of D grade birch has tightened.

Knowledge of country sources

Thirty-four purchasers indicated they had marketing/pricing knowledge of domestic hardwood plywood and 35 purchasers had knowledge of Chinese hardwood plywood. Thirty purchasers reported that they had knowledge of hardwood plywood from nonsubject countries, including Indonesia (21 purchasers), Russia (20), Malaysia (15), Canada (14), Ecuador (4), Spain and Vietnam (3 each), Brazil and Taiwan (2 each), and Belarus, Finland, and Italy (1 each).

As shown in table II-9, purchasers and their customers were most likely to report that they sometimes base purchasing decisions based on the producer or country of origin. Of the 16 purchasers that reported that they sometimes make decisions based the producer, 11 firms cited quality and preference as reasons for doing so. Other reasons cited include better compliance, domestic preference, fill rates, origin of logs, price, and service. Purchaser *** reported that while every manufacturer has its own strengths and weaknesses, it selects manufacturers based on product availability and location to minimize freight costs. Purchaser *** reported that packaging and online product data provide producer information, and that it is possible that customers may use this information when making purchasing decisions.

Table II-9
Hardwood plywood: Purchasing decisions based on producer and country of origin

Decision	Always	Usually	Sometimes	Never
Purchases based on producer:				
Purchaser's decision	8	9	16	4
Purchaser's customer's decision	3	7	13	9
Purchases based on country of origin:				
Purchaser's decision	6	9	15	7
Purchaser's customer's decision	2	6	15	10

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

Seventeen purchasers reported that they always or usually make purchasing decisions based on the producer, citing price, availability, consistency, qualifications, and quality. Purchaser *** reported that certain suppliers have “value added” propositions and capabilities

that others do not, such as finishing, lamination, and machining capability, which the firm also takes into account.

Purchasers also most frequently reported sometimes making their purchasing decisions based on country of origin. Purchaser *** reported that it is critical that the supply chain is balanced between suppliers and regions, and that it tries to factor in variables such as raw materials, political and regulatory climates, and logistics when making sourcing decisions. Of the 15 purchasers reporting always or usually making their purchases based on country of origin, many cited lead time, cost, and quality as determining factors. Purchaser *** reported that it prefers domestic hardwood plywood over Russian product, and Russian product over Chinese product. Purchaser *** reported that it receives more claims and defective material from imports and that "you get what you pay for."

Twenty-two of 34 purchasers reported that they or their customers buy hardwood plywood from one country in particular over other sources of supply. Twelve of these purchasers reported at least some preference for domestically produced hardwood plywood because of quality, face veneer thicknesses, consistency, shorter lead times, and lower minimum quantities. Purchasers *** reported that higher levels of value-added products, such as finished panels, are sourced domestically due to U.S. producers' expertise, lead times, high quality, and ability to handle high mix/low volume orders.

Six purchasers reported that they prefer Chinese hardwood plywood due to price, smoother surfaces for lamination purposes, and lower defect rates. Purchaser *** reported that its only viable source is China because U.S. producers do not supply its required product. Three purchasers (***) reported that they prefer hardwood plywood from nonsubject sources Malaysia and Indonesia for quality, consistency of construction, and wood species. Purchaser *** reported a preference for Russian product for its "better core."

Factors affecting purchasing decisions

The most often cited top three factors firms consider in their purchasing decisions for hardwood plywood were price (33 firms), quality (31 firms), and availability (18 firms) as shown in table II-10. Quality was the most frequently cited first-most important factor (cited by 15 firms), followed by availability (9 firms); price was the most frequently reported second-most and third-most important factor. Three firms did not list price and three firms did not list quality in their top three factors, but did indicate that price and quality were additional factors that they took into account.[45]

[45] Other factors listed by firms that did not fall in their top three include reputation or a traditional relationship with the supplier (5 purchasers), delivery or lead times (3 purchasers), product range or mix (2 purchasers), and service (1 purchaser).

Table II-10
Hardwood plywood: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor

Item	1st	2nd	3rd	Total
	Number of firms			
Price / cost	7	12	14	33
Quality	15	9	7	31
Availability / reliability of supply	9	5	4	18
Delivery / lead time	0	4	2	6
Service	0	2	4	6
All other factors[1]	7	11	7	NA

[1] Other factors include compliance, an ability to meet product specifications, and reputation or traditional supplier (3 purchasers each), product range and mix (2 purchasers), and inventory programs and extension of credit (1 purchaser each).

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

The majority of purchasers (21 of 38) reported that they only sometimes purchase the lowest priced product. When asked if they purchased hardwood plywood from one source although a comparable product was available at a lower price from another source, purchasers cited many reasons including quality, delivery time and transportation costs, availability of certain species, producers' ability to meet particular specifications, reliability and consistency of suppliers, and minimum order quantities. Purchaser *** reported that it carries birch hardwood plywood from the United States, China, and other sources such as Canada, Spain, and Russia, depending on customer preferences. *** reported that if the only factor is price, China is the lowest-price supplier. Purchaser ***, however, indicated that some of its purchases of Chinese hardwood plywood are of higher quality than the hardwood plywood produced in the United States.

Twenty-three of 37 purchasers reported that certain types of hardwood plywood were only available from a single source. Several purchasers, including ***, and large purchaser ***, indicated that certain species are only available from certain sources, citing ***, meranti, and other tropical hardwoods. Many purchasers indicated that hardwood plywood of certain veneer thicknesses are not available domestically and are only available from certain sources, mostly citing Russian and Chinese hardwood plywood.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 20 factors in their purchasing decisions (table II-11). The factors rated as "very important" by more than half of responding purchasers were product consistency (37 of 38 purchasers), reliability of supply (35), face veneer grade and face veneer species (32 each), delivery time and overall plywood thickness (31 each), price and

quality that meets industry standards (29 each), face veneer thickness (20),[46] and quality that exceeds industry standards (19).

Table II-11
Hardwood plywood: Importance of purchase factors, as reported by U.S. purchasers, by factor

Factor	Number of firms reporting		
	Very	Somewhat	Not
Availability	33	4	1
Core species	17	20	1
Delivery terms	15	20	3
Delivery time	31	7	0
Discounts offered	8	20	10
Extension of credit	6	14	18
Face veneer, thickness	20	16	2
Face veneer, grade	32	6	0
Face veneer, wood species	32	6	0
Minimum quantity requirements	7	17	14
Overall plywood thickness	31	7	0
Packaging	9	22	6
Price	29	9	0
Product consistency	37	1	0
Product range	11	19	8
Quality meets industry standards	29	8	1
Quality exceeds industry standards	19	11	8
Reliability of supply	35	3	0
Technical support/service	10	26	2
U.S. transportation costs	17	16	4

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

Supplier certification

Half of responding purchasers require their suppliers to become certified or qualified to sell hardwood plywood to their firm. Purchasers indicated that quality of product, supplier reputation, ability to supply on a timely basis, proof of legal sourcing and adherence to environmental standards, and good performance in lab tests were important factors to obtain certification. Most purchasers reported that the time to qualify a new supplier ranged from 30 to 90 days.

Eight purchasers reported that a domestic or foreign supplier had failed in its attempt to qualify hardwood plywood, or had lost its approved status since 2014. *** purchasers reported that domestic producers had failed to qualify. Purchasers *** reported that Colombia failed

[46] Of 15 purchasers that identified themselves as end users, 7 reported that face veneer thickness was very important, 6 reported that it was somewhat important, and 2 reported that it is not important.

more than half of its attempts to qualify in 2017 due to quality issues, such as panel thickness and dimensions outside of specification, veneer delamination, voids in the core, and panel flatness. Purchaser *** reported that Commonwealth Plywood failed to qualify because it was unable to provide consistent quality. Two purchasers (***) reported that Chinese producers had failed to qualify: one failed because its thin veneer product did not meet the firm's surface hardness specifications and the other was no longer approved by the purchaser's customer because of the preliminary duties.

U.S. importer *** reported that its product is not manufactured to ANSI/HPVA HP-1-2016 standards, and that there are differences in allowable face defects, face color variation and core composition, allowable thickness tolerances, face veneer tolerances, and the number of plies per panel thickness.[47]

Lacey Act compliance, chain of custody requirements, and other required certifications

Six purchasers specifically reported that they require California Air Resources Board ("CARB")[48] and Lacey Act[49] certifications. The Lacey Act bans illegally traded timber products, and both domestic and imported hardwood plywood vendors are required to complete annual

[47] *** importer questionnaire, III-2b.

[48] According to Petitioners, the CARB standard for California has become a national standard that is now legally codified by the EPA and there are currently over 500 CARB-certified hardwood plywood producers in China. Hearing transcript, pp. 124-125 (Howlett, Kaplan).

The U.S. Environmental Protection Agency finalized a rule that is closely aligned with the CARB "Phase 2" formaldehyde emission standards (other than record keeping and disclosure requirements), for certain wood products. Under the Toxic Substances Control Act (TSCA) Title VI, the rule limits harmful exposure to formaldehyde and sets up a third-party certification program for testing and oversight of these emissions from certain wood products.

The original effective date was February 10, 2017. The date for emission standards, recordkeeping, and labeling has been extended to December 12, 2018; import certification to March 22, 2019; and laminated products to March 22, 2024. The end of the transition period for CARB third party certifiers is now March 22, 2019. The direct final rule is effective on October 25, 2017. *Compliance Date Extension; Formaldehyde Emission Standards for Composite Wood Products,* 82 FR 44533, September 25, 2017, https://www.federalregister.gov/documents/2017/09/25/2017-19455/compliance-date-extension-formaldehyde-emission-standards-for-composite-wood-products.

[49] The Lacey Act combats trafficking in illegally sourced wildlife, fish, and plants. The Act was amended in 2008 to include plants and plant products such as timber and wood products. The Act includes a ban on trading plant products harvested in violation of the law. It requires the U.S. importer of record to exercise "due care" and take legal responsibility for the shipment, contents, and paperwork. The U.S. importer must also accurately declare the scientific name, value, quantity, and country of harvest origin.

"Lacey Act Primer", a presentation from the USDA Animal and Plant Health Inspection Service (http://www.aphis.usda.gov/plant_health/lacey_act/downloads/LaceyActPrimer.pdf), retrieved September 13, 2017.

questionnaires to show compliance.[50] U.S. producers and importers reported that they require documentation and mandate that their suppliers are in compliance with the statute. Some importers (13 of 74) reported that they had changed suppliers of hardwood plywood since 2014 due to concerns regarding the traceability of wood inputs. Most responding importers indicated that if they are unable to verify sourcing, they will not buy from those suppliers.

Most U.S. producers and importers reported that 95 to 100 percent of their sales in 2016 were not required by law to have forest content certifications (such as Forestry Stewardship Council ("FSC"), Programme for the Endorsement of Forest Certification ("PEFC"), orSustainable Forestry Initiative ("SFI")). U.S. producer *** reported that about 25 percent of its sales were required by its customers to have certifications. Importer *** reported that 100 percent of its sales in 2016 were required by its customers to be FSC certified.

All eight responding U.S. producers reported that they have chain of custody certifications, with all reporting FSC certifications, and two reporting SFI certifications as well. U.S. producer *** reported that it is ***. About one-third of importers (25 of 73) have a chain of custody certification, most of which report being able to provide certified product from their suppliers and upon request, but not for all products. Three importers (***) reported that they can import FSC certified hardwood plywood from Russia, Poland, and Indonesia, and importer *** reported that it can import FSC certified product from China. Other importers reported having CARB certification and Global Forest and Trade Network ("GFTN") certification.

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since 2014 (table II-12). A plurality of purchasers (14 of 35) reported increasing purchases from the United States, although ten purchasers reported decreasing purchases. Purchasers reported increasing purchases of domestic product because of increased demand and a need for consistent quality and supply. Cabinet manufacturer *** reported that its demand increased overall but that its customers are moving towards laminated birch (which is sourced from China), and that substitutes MDF or laminated materials are replacing hardwood plywood. Two large purchasers, ***, reported decreasing purchases of domestic plywood due to ***, and the increasing preference for decorative laminates and papers in place of hardwood, respectively.

[50] *** U.S. producer questionnaire, IV-19.

Table II-12
Hardwood plywood: Changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	4	10	14	8	3
China	1	4	25	6	2
All other sources	2	3	19	7	5
Sources unknown	8	0	3	3	1

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

Most purchasers reported increasing purchases of Chinese hardwood plywood because of increased demand overall, favorable pricing, and increased demand for birch and maple for both the lighter wood effect and for lamination purposes. Purchaser *** reported increased purchases for ***.

Fifteen of 36 responding purchasers reported that they had changed suppliers since 2014; reasons reported for changes in sourcing included adding suppliers to improve their supply chain, to adjust the share of business allotted to suppliers based on price and service, to create a supply redundancy, and to improve negotiation position. Six of 37 purchasers reported new suppliers entering the market, including Garnica (Spain), GreenPly (India), Panguaneta (Italy), Redpoint (China), and Rockshield (Canada).

Importance of purchasing domestic product

Most purchasers (19 of 34) reported that 95 to 100 percent of their purchases were not required to be domestic. Six reported that domestic product was required by law (for 1 to 15 percent of their purchases), 16 reported it was required by their customers (for 2 to 60 percent of their purchases), and 7 reported other preferences for domestic product. Reasons cited for preferring domestic product included: quality, logistics and lead times, custom sizing or finishing requirements, and better overall appearance.

Comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing hardwood plywood produced in the United States, China, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 20 factors (table II-13) for which they were asked to rate the importance.

Table II-13
Hardwood plywood: Purchasers' comparisons between U.S.-produced and imported product

Factor	Number of firms reporting								
	United States vs. China			United States vs. all other sources			China vs. all other sources		
	S	C	I	S	C	I	S	C	I
Availability*	13	16	8	11	14	3	5	22	3
Core species	15	13	9	5	16	7	4	16	8
Delivery terms	17	18	1	16	12	0	0	26	3
Delivery time*	25	9	3	20	7	2	4	22	4
Discounts offered	7	25	2	4	23	1	1	25	3
Extension of credit	9	26	0	6	22	0	0	27	2
Face veneer, thickness*	27	6	4	9	16	4	3	15	12
Face veneer, grade*	15	17	4	9	16	4	4	17	9
Face veneer, wood species*	13	20	4	7	18	4	4	18	8
Minimum quantity requirements	19	16	1	11	17	1	1	26	3
Overall plywood thickness*	14	19	3	6	20	3	2	21	7
Packaging	10	26	0	9	20	0	0	26	4
Price*	3	7	26	3	11	15	17	13	0
Product consistency*	19	14	3	8	16	5	3	18	9
Product range	17	17	3	12	11	6	7	16	7
Quality meets industry standards*	15	18	3	9	19	1	4	19	7
Quality exceeds industry standards*	11	22	3	6	20	3	4	17	8
Reliability of supply*	17	16	4	12	14	3	4	23	3
Technical support/service	22	14	0	14	11	4	2	24	4
U.S. transportation costs	8	26	2	6	22	1	0	28	2

* Indicates that most purchasers identified this factor as a very important factor in their purchasing decisions.

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

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.

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

Of the purchasing factors that were identified by firms as very important (see table II-6 above), purchasers most frequently reported that U.S.-produced and Chinese hardwood plywood were comparable in regards to availability, the grade of the face veneer, the wood species of the face veneer, overall plywood thickness, quality meeting industry standards, and quality exceeding industry standards. Purchasers most frequently reported that U.S.-produced hardwood plywood was superior to Chinese hardwood plywood in regards to delivery time, the thickness of the face veneer, product consistency, and reliability of supply. Purchasers most frequently reported that Chinese hardwood plywood was superior to U.S.-produced hardwood

plywood with respect to price (i.e., Chinese hardwood plywood was priced lower than U.S.-produced hardwood plywood).

Purchasers most frequently reported that hardwood plywood produced in the United States and imported from all other sources were comparable on most factors that were identified as very important with the exception of delivery time, for which U.S.-produced hardwood plywood was superior, and price, for which nonsubject hardwood plywood was superior. Thirty purchasers that compared hardwood plywood from China with that from all other sources most frequently reported that hardwood plywood from both sources was comparable on all factors except price, for which Chinese hardwood plywood was rated as superior.

Comparison of U.S.-produced and imported hardwood plywood

In order to determine whether U.S.-produced hardwood plywood can generally be used in the same applications as imports from China, firms were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-14, most U.S. producers reported that hardwood plywood from all sources can always be used interchangeably, whereas most importers and purchasers reported that hardwood plywood from any source can only sometimes be used interchangeably. An equal number of importers reported that Chinese hardwood plywood could never be used interchangeably with domestically produced hardwood plywood.

Table II-14
Hardwood plywood: Interchangeability between hardwood plywood produced in the United States and in other countries, by country pair

Country pair	U.S. producers				U.S. importers				U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
United States vs. China	5	2	1	0	4	13	24	24	3	12	15	7
United States vs. Other	4	3	0	0	4	12	26	7	2	11	14	2
China vs. Other	3	1	0	0	2	11	29	3	1	11	14	4

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

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

Purchasers were also asked about the interchangeability of different cores and veneer thicknesses (table II-15). Most purchasers reported that bamboo core products could sometimes or never be used interchangeably with hardwood plywood with another core in front and side pieces of cabinetry, and in applications other than cabinetry. Purchasers most frequently reported that thin and thick face veneers (<0.5mm and >0.5mm, respectively) could only sometimes be used interchangeably in front and side cabinetry applications and in applications other than cabinetry.

Table II-15
Hardwood plywood: Interchangeability between bamboo and other cores and between veneer thicknesses

Item	Interchangeability by application			
	Always	Frequently	Sometimes	Never
Bamboo core vs other core: Front cabinetry	1	3	3	4
Bamboo core vs other core: Side cabinetry	1	3	3	4
Bamboo core vs other core: Other than cabinetry	1	3	4	3
Face <0.5 vs >0.5: Front cabinetry	2	6	13	6
Face <0.5 vs >0.5: Side cabinetry	2	7	15	4
Face <0.5 vs >0.5: Other than cabinetry	2	6	13	3

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

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

Importer *** reported that its imports of Chinese hardwood plywood panels are two to three times thinner than an HPVA panel and are not designed to be sanded, whereas domestic hardwood plywood face veneers are thicker because they are designed for decorative applications that require sanding. Additionally, *** reported that U.S. producers use zero emission, non-formaldehyde resins, while Chinese producers use low-formaldehyde urea glues. *** also reported that the moisture content of domestically produced and Chinese-produced hardwood plywood differs.[51]

As can be seen from table II-16, 13 responding purchasers reported that domestically produced product always met minimum quality specifications and 8 responding purchasers reported that Chinese hardwood plywood always met minimum quality specifications. The majority of responding purchasers indicated that product from the United States, China, and other sources usually met minimum quality specifications.

Table II-16
Hardwood plywood: Ability to meet minimum quality specifications, by source[1]

Source	Always	Usually	Sometimes	Rarely or never
United States	13	21	0	0
China	8	26	4	0
Other	8	19	1	0

[1] Purchasers were asked how often domestically produced or imported hardwood plywood 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 hardwood plywood from the United States, subject, or nonsubject countries. As seen in table II-17, most U.S. producers reported that factors other than price were sometimes significant, while most importers reported that

[51] *** importer questionnaire, III-2b.

factors other than price were always significant in sales of hardwood plywood from China and most U.S. purchasers reported that factors other than price were always or frequently significant in sales.

Table II-17
Hardwood plywood: Significance of differences other than price between hardwood plywood produced in the United States and in other countries, by country pair

Country pair	U.S. producers				U.S. importers				U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
United States vs. China	1	1	4	2	32	15	13	3	11	12	9	3
United States vs. Other	0	1	4	2	11	14	17	2	5	11	12	2
China vs. Other	0	1	2	1	15	8	17	2	5	6	15	2

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

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

Importers who reported significant factors other than price indicated the following features that differentiate hardwood plywood from different sources: availability, better screw-holding capacity and internal strength of Chinese product, and specialized cores that were sanded to high tolerances and better suited for lamination purposes. U.S. purchasers reported that veneer thickness is an important factor that differentiates sources as well as quality, availability, service, delivery, and capacity. Purchaser *** reported that domestic producers are better able to provide value added services, such as lamination, finishing, and machining, but that thin veneer Chinese hardwood plywood does have some structural advantages. Purchaser *** reported that domestically produced veneers are better for staining and also have transportation and delivery cycle advantages. Purchaser ***, however, reported that quality defect rates of domestic product were significantly higher than those of Chinese hardwood plywood.

ELASTICITY ESTIMATES

This section discusses elasticity estimates; parties did not provide comments regarding staff elasticity estimates.

U.S. supply elasticity

The domestic supply elasticity[52] for hardwood plywood measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of hardwood plywood. 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 hardwood plywood. Analysis of these factors above indicates that

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

the U.S. industry has the ability to moderately increase or decrease shipments to the U.S. market; an estimate in the range of 3 to 5 is suggested.

U.S. demand elasticity

The U.S. demand elasticity for hardwood plywood measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of hardwood plywood. 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 hardwood plywood in the production of any downstream products. Based on the available information, the aggregate demand for hardwood plywood is likely to be moderately inelastic; a range of -0.5 to -0.8 is suggested.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.[53] Product differentiation, in turn, depends upon factors such as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced hardwood plywood and imported hardwood plywood is likely to be in the range of 3 to 5.

[53] 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 nine firms that are believed to account for nearly all U.S. production of hardwood plywood during 2014-16.[1]

U.S. PRODUCERS

The Commission issued a U.S. producer questionnaire to 18 firms based on information contained in the petitions. Two additional firms contained in the petitions (Pittsburgh Forest Products Co. and Wisconsin Veneer and Plywood, Inc.) certified in the preliminary phase of these investigations that they are not producers of hardwood plywood,[2] and one additional firm contained in the petitions (Whiteville Plywood Inc.) could not be contacted. The same nine firms that provided usable data on their productive operations in the preliminary phase of these investigations also provided usable data in this final phase.[3] In the final phase, one additional firm (Marion Plywood Corporation) certified that it is not a producer of hardwood plywood, and seven firms did not respond to the Commission's questionnaire.[4] Staff believes that the nine firms that provided usable data in response to the Commission's questionnaire represent nearly all U.S. production of hardwood plywood.

---

[1] According to data published by the HPVA, the combined production of the nine responding U.S. producers *** the total estimated U.S. production of hardwood plywood in 2015. Petitions, exh. I-3.

[2] Pittsburgh Forest Products Co. has not produced hardwood plywood since early 2011. *Hardwood Plywood from China, Inv. Nos. 701-TA-565 and 731-TA-1341 (Preliminary)*, USITC Publication 4661, January 2017, p. III-1, fn. 3. The firm is currently an importer of hardwood plywood and provided a usable questionnaire response in the preliminary phase of these investigations, but did not provide a questionnaire response in this final phase despite numerous attempts by Staff to contact the company.

[3] One of the responding nine U.S. producers, ***, which accounted for *** percent of reported U.S. production in 2016, provided the requested trade data, but did not provide usable employment or financial data in either the preliminary phase or the final phase of these investigations. *Investigation Nos. 701-TA-565 and 731-TA-1341 (Preliminary): Hardwood Plywood from China—Staff Report*, INV-OO-124, December 23, 2016, p. III-1, fn. 2.

[4] Although Veneer One, Inc. did not provide a response to the Commission's U.S. producer questionnaire, it replied to the Commission's request for information in the preliminary phase of these investigations by noting the following: "***." *Investigation Nos. 701-TA-565 and 731-TA-1341 (Preliminary): Hardwood Plywood from China—Staff Report*, INV-OO-124, December 23, 2016, p. III-2, fn. 4.

Table III-1 lists the nine responding U.S. producers of hardwood plywood, their production locations, positions on the petitions, and shares of total reported production in 2016.

Table III-1
Hardwood plywood: U.S. producers of hardwood plywood, their positions on the petitions, production locations, and shares of reported production, 2016

Firm	Position on petitions	Production location(s)	Share of production (percent) in 2016
Columbia Forest Products	Support[1]	Chatham, VA Trumann, AR Old Fort, NC Klamath Falls, OR Craigsville, WV Boardman, OR	***
Commonwealth Plywood	Support[1]	Whitehall, NY	***
Darlington Veneer	***	Darlington, SC	***
Flexible Materials	***	Jeffersonville, IN	***
Mt. Baker Products	***	Bellingham, WA	***
Murphy Plywood	Support[1]	Eugene, OR	***
Roseburg Forest Products	Support[1]	Dillard, OR	***
States Industries	Support[1]	Eugene, OR	***
Timber Products	Support[1]	Medford, OR Grants Pass, OR Corinth, MS White City, OR	***
Total			100.0

[1] Petitioner member of the Coalition for Fair Trade of Hardwood Plywood.

Note.--Because of rounding, data may not sum to total shown.

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

Table III-2 presents information on U.S. producers' ownership and related and/or affiliated firms. Although two U.S. producers, ***, are related to firms in ***, none of the responding U.S. producers reported relationships with foreign producers in China. In addition, one U.S. producer, ***, reported that it is related to a subsidiary firm, ***, which it claims is a U.S. importer of subject merchandise from China. However, ***.[5] In addition, as discussed in greater detail below, one U.S. producer, *** directly imports the subject merchandise from China and three U.S. producers *** purchase the subject merchandise from U.S. importers.

[5] Staff telephone interview with ***.

Table III-2
Hardwood plywood: U.S. producers' ownership, related and/or affiliated firms, since January 1, 2014

* * * * * * *

Table III-3 presents U.S. producers' reported changes in operations since January 1, 2014. Seven of the nine responding U.S. producers (***) reported a prolonged shutdown or curtailment. Two U.S. producers (***) reported revised labor agreements, and one U.S. producer (***) reported technological upgrades.

Table III-3
Hardwood plywood: U.S. producers' reported changes in operations since January 1, 2014

* * * * * * *

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-4 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. The reported data show that the domestic producers' aggregate capacity was relatively stable from 2014 to 2016, with only one firm (***) reporting changes in capacity.[6] Aggregate reported production decreased by 8.7 percent from 2014 to 2016, and was 2.9 percent lower in January to June 2017 as compared to January to June 2016. Responding U.S. producers reported that 91.5 percent of their production of hardwood plywood in 2016 was made using a one-step process, with the remainder having been made using a two-step process. Aggregate reported capacity utilization decreased by 2.1 percentage points each year, from 50.4 in 2014 to 46.2 in 2016, and was 1.6 percentage points lower in January to June 2017 as compared to January to June 2016.

Responding U.S. producers reported operating between 40 and 168 hours per week, and between 47 and 51 weeks per year. Producers calculated their production capacities based on either the average square feet produced per shift/day/week, or based on the average square feet per panel multiplied by the number of panels produced per shift/day/week.

U.S. producers were also asked to report constraints on their capacity to produce hardwood plywood. All but one firm indicated machinery/worker availability to be the only constraint on capacity, with *** each stating that a lack of orders was hindering its ability to operate at full capacity and/or make capital investments to increase capacity. Murphy Plywood stated that its machinery is capable of production runs of 2,000 sheets or more, but that its current average order is only 30 to 60 sheets per run.[7] *** reported that its production capacity is constrained by environmental permit capacity.

[6] ***.

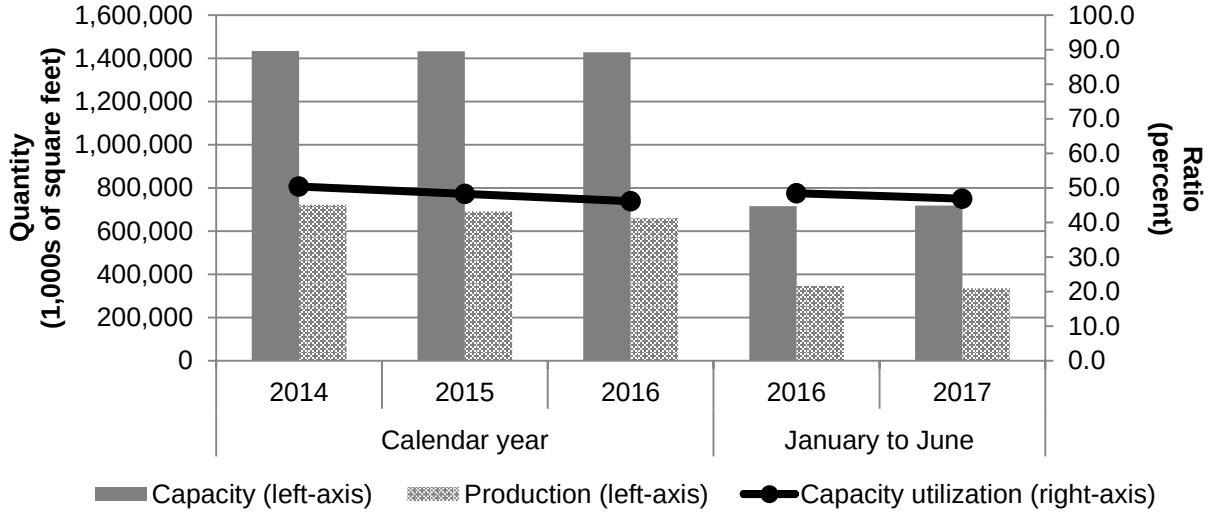
[7] Hearing transcript, p. 57 (York).

Table III-4
Hardwood plywood: U.S. producers' production, capacity, and capacity utilization, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Capacity (1,000 square feet)				
Columbia Forest Products	***	***	***	***	***
Commonwealth Plywood	***	***	***	***	***
Darlington Veneer	***	***	***	***	***
Flexible Materials	***	***	***	***	***
Mt. Baker Products	***	***	***	***	***
Murphy Plywood	***	***	***	***	***
Roseburg Forest Products	***	***	***	***	***
States Industries	***	***	***	***	***
Timber Products	***	***	***	***	***
Total capacity	1,435,359	1,433,299	1,428,894	715,502	718,663
	Production (1,000 square feet)				
Columbia Forest Products	***	***	***	***	***
Commonwealth Plywood	***	***	***	***	***
Darlington Veneer	***	***	***	***	***
Flexible Materials	***	***	***	***	***
Mt. Baker Products	***	***	***	***	***
Murphy Plywood	***	***	***	***	***
Roseburg Forest Products	***	***	***	***	***
States Industries	***	***	***	***	***
Timber Products	***	***	***	***	***
Total production	723,513	692,094	660,502	346,992	336,866
	Capacity utilization (percent)				
Columbia Forest Products	***	***	***	***	***
Commonwealth Plywood	***	***	***	***	***
Darlington Veneer	***	***	***	***	***
Flexible Materials	***	***	***	***	***
Mt. Baker Products	***	***	***	***	***
Murphy Plywood	***	***	***	***	***
Roseburg Forest Products	***	***	***	***	***
States Industries	***	***	***	***	***
Timber Products	***	***	***	***	***
Average capacity utilization	50.4	48.3	46.2	48.5	46.9

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

Figure III-1
Hardwood plywood: U.S. producers' production, capacity, and capacity utilization, 2014-16, January to June 2016, and January to June 2017



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

Alternative products

Table III-5 presents data concerning responding U.S. producers' overall capacity and production on the same equipment and machinery used to produce hardwood plywood. These data show that overall capacity remained relatively stable from 2014 to 2016, while capacity utilization ***. Approximately *** percent of domestic firms' U.S. production on this equipment and machinery is of in-scope hardwood plywood, whereas approximately *** percent of production is out-of-scope softwood plywood and approximately *** percent is of out-of-scope ***.[8] ***.[9] ***.

[8] ***.
[9] ***.

Table III-5
Hardwood plywood: U.S. producers' overall capacity and production on the same equipment as subject production, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
Overall capacity	1,477,212	1,476,335	1,474,232	738,580	740,711
Production:					
Hardwood plywood	723,513	692,094	660,502	346,992	336,866
Softwood plywood	***	***	***	***	***
Other products	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Overall capacity utilization	***	***	***	***	***
Share of production:					
Hardwood plywood	***	***	***	***	***
Softwood plywood	***	***	***	***	***
Other products	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	100.0	100.0	100.0	100.0	100.0

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

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

Table III-6 presents U.S. producers' U.S. shipments, export shipments, and total shipments. Commercial U.S. shipments accounted for more than 90 percent of responding U.S. producers' total shipments. Reported commercial U.S. shipments decreased by 7.6 percent by quantity from 2014 to 2016, and were slightly lower from January to June 2017 as compared to January to June 2016. *** reported internal consumption of hardwood plywood, and *** reported transfers of hardwood plywood to related firms, which in aggregate accounted for 4.4 percent of domestic producers' total shipments, by quantity, in 2016. Domestic producers' reported exports decreased by 38.9 percent by quantity from 2014 to 2016, and accounted for only 1.6 percent of total shipments in 2016. Exports were reported by *** and were largely destined for Canada. Unit values for U.S. shipments and total shipments equaled $1.22 per square foot in all periods except in 2016, during which the unit value was $1.21 per square foot. The unit values for export shipments were one to three cents per square foot higher than the unit value for U.S. shipments from 2014 to 2016, and was nine cents per square foot higher in January to June 2017.

Table III-6
Hardwood plywood: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
Commercial U.S. shipments	673,893	653,256	622,410	321,658	315,228
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
U.S. shipments	700,756	680,044	651,558	337,391	330,317
Export shipments	17,420	12,824	10,651	5,468	5,278
Total shipments	718,176	692,868	662,209	342,859	335,595
	Value (1,000 dollars)				
Commercial U.S. shipments	820,738	797,664	758,308	395,069	386,067
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
U.S. shipments	852,295	828,855	790,933	412,327	402,881
Export shipments	21,760	15,751	13,217	6,730	6,888
Total shipments	874,055	844,606	804,150	419,057	409,769
	Unit value (dollars per square foot)				
Commercial U.S. shipments	1.22	1.22	1.22	1.23	1.22
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
U.S. shipments	1.22	1.22	1.21	1.22	1.22
Export shipments	1.25	1.23	1.24	1.23	1.31
Total shipments	1.22	1.22	1.21	1.22	1.22
	Share of quantity (percent)				
Commercial U.S. shipments	93.8	94.3	94.0	93.8	93.9
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
U.S. shipments	97.6	98.1	98.4	98.4	98.4
Export shipments	2.4	1.9	1.6	1.6	1.6
Total shipments	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)				
Commercial U.S. shipments	93.9	94.4	94.3	94.3	94.2
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
U.S. shipments	97.5	98.1	98.4	98.4	98.3
Export shipments	2.5	1.9	1.6	1.6	1.7
Total shipments	100.0	100.0	100.0	100.0	100.0

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

Face veneer thickness

Table III-7[10] presents U.S. producers' commercial U.S. shipments, by face veneer thickness. These data show that the overwhelming majority of U.S. producers' U.S. commercial shipments of hardwood plywood since 2014 had a face veneer that was greater than or equal to 0.5 millimeters in thickness. Slightly more than one-half of domestic producers' commercial U.S. shipments of hardwood plywood had a face veneer that was greater than or equal to 0.6 millimeters in thickness, whereas slightly less than one-half of domestic producers' commercial U.S. shipments had a face veneer that is 0.5 millimeters to 0.59 millimeters in thickness.[11] Approximately *** percent of domestic producers' commercial U.S. shipments have a face veneer that is 0.4 millimeters to 0.49 millimeters in thickness, and *** percent of commercial U.S. shipments have a face veneer that is less than 0.4 millimeters in thickness.[12]

[10] Tables III-7 through III-13 are also presented in appendix F alongside the equivalent importer data tables from *Part IV*.

[11] In the Commission's 2013 investigations of hardwood plywood from China, U.S. producers reported that 95.2 percent of all hardwood plywood produced from January to June 2013 had a face veneer thickness of 0.6 mm or greater. *Hardwood Plywood from China, Inv. Nos. 701-TA-490 and 731-TA-1204*, USITC Publication 4434, November 2013, table D-3. Petitioners note that in recent years, U.S. producers have made limited increases in the quantities of thin-faced veneers that they produce. Petitioners also note that that U.S. producers ***. Petitioners' postconference brief, Exhibit 1, p. 8.

[12] More information on U.S. producers' ability to produce thin face veneers can be found in the "Face veneer thickness" section of *Part IV*.

Table III-7
Hardwood plywood: U.S. producers' commercial U.S. shipments by face veneer thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: >= 0.6 mm	359,885	346,524	323,671	167,757	164,561
Face veneer: 0.5mm to 0.59mm	300,175	293,599	287,198	147,930	144,819
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	***	***	***	***	***
Total commercial US shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: >= 0.6 mm	53.4	53.0	52.0	52.2	52.2
Face veneer: 0.5mm to 0.59mm	44.5	44.9	46.1	46.0	45.9
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	***	***	***	***	***
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0

[1] ***.

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

Overall plywood thickness

Table III-8 presents U.S. producers' commercial U.S. shipments, by overall plywood thickness. These data show that from 2014 to 2016, slightly more than one-half of domestic producers' reported commercial U.S. shipments of hardwood plywood had an overall plywood thickness of 16 millimeters to 19.99 millimeters, a range which includes 3/4-inch plywood. Approximately one-fifth of domestic producers' commercial U.S. shipments of hardwood plywood had an overall plywood thickness of 6.5 millimeters to 15.99 millimeters, which includes 3/8-inch, 1/2-inch, and 5/8-inch plywood, and slightly more than one-fifth of domestic producers' commercial U.S. shipments of hardwood plywood had an overall plywood thickness of less than 6.5 millimeters, which includes 1/4-inch and thinner plywood. Approximately 1 percent of domestic producers' commercial U.S. shipments had an overall plywood thickness of 20 millimeters or greater, which includes 7/8-inch and thicker plywood.

Table III-8
Hardwood plywood: U.S. producers' commercial U.S. shipments by overall plywood thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.-- Plywood thickness: >=20.0mm	8,338	7,429	7,081	3,698	3,808
Plywood thickness: 16mm to 19.99mm	381,044	366,673	346,658	181,100	176,872
Plywood thickness: 6.5mm to 15.99mm	133,329	133,731	127,736	65,521	64,801
Plywood thickness: <6.5mm	151,182	145,423	140,935	71,339	69,747
Total commercial U.S. shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.-- Plywood thickness: >=20.0mm	1.2	1.1	1.1	1.1	1.2
Plywood thickness: 16mm to 19.99mm	56.5	56.1	55.7	56.3	56.1
Plywood thickness: 6.5mm to 15.99mm	19.8	20.5	20.5	20.4	20.6
Plywood thickness: <6.5mm	22.4	22.3	22.6	22.2	22.1
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

Core wood type

Table III-9 presents U.S. producers' commercial U.S. shipments, by core wood type. These data show that from 2014 to 2016, hardwood and other material cores *** of U.S. producers' U.S. commercial shipments, and that softwood cores accounted for approximately one-third of U.S. producers U.S. commercial shipments.[13] No responding domestic firms reported bamboo as a core material.

[13] In the Commission's 2013 investigations of hardwood plywood from China, U.S. producers reported producing 13.7 million square feet of hardwood plywood with a hardwood core from January to June 2013. This amounted to 3.7 percent of all reported hardwood plywood production during that period. *Hardwood Plywood from China, Inv. Nos. 701-TA-490 and 731-TA-1204*, USITC Publication 4434, November 2013, table D-1. ***. ***.

Table III-9
Hardwood plywood: U.S. producers' commercial U.S. shipments by core wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.-- Core: Hardwood	***	***	***	***	***
Core: Softwood	247,795	238,491	223,246	116,900	112,198
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.-- Core: Hardwood	***	***	***	***	***
Core: Softwood	36.8	36.5	35.9	36.3	35.6
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

Face veneer wood type

Table III-10 presents U.S. producers' commercial U.S. shipments, by face veneer wood type. These data show that from 2014 to 2016, nearly all U.S. producers' commercial U.S. shipments of hardwood plywood had a hardwood face veneer.

Table III-10
Hardwood plywood: U.S. producers' commercial U.S. shipments by face veneer wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: Hardwood	668,997	647,924	613,763	316,848	310,947
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: Hardwood	99.3	99.2	98.6	98.5	98.6
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

[1] ***.

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

Grade and face veneer wood species

Table III-11 presents U.S. producers' commercial U.S. shipments, by grade (per ANSI/HPVA HP-1-2016) and face veneer wood species in 2016. These data show that, with two exceptions,[14] all combinations of different grades and face veneer wood species were commercially shipped in the United States by the domestic producers. Slightly more than half of U.S. producers' commercial U.S. shipments of hardwood plywood during 2016 were grade B (26.5 percent) or grade C (32.3 percent). Approximately two-thirds of U.S. producers' commercial U.S. shipments of hardwood plywood during 2016 had a maple face veneer (44.3 percent) or birch face veneer (20.8 percent).

[14] U.S. producers reported no U.S. commercial shipments of *** during 2016.

Table III-11
Hardwood plywood: U.S. producers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Other	All grades
	Quantity (1,000 square feet)							
U.S. producers' commercial U.S. shipments.-- Face veneer: Birch	***	***	***	***	***	***	***	129,662
Face veneer: Maple	***	***	***	***	***	***	***	275,478
Face veneer: Oak	***	***	***	***	***	***	***	74,062
Face veneer: Walnut	***	***	***	***	***	***	***	***
Face veneer: Tropical	***	***	***	***	***	***	***	***
Face veneer: Other	***	***	***	***	***	***	***	123,063
Face veneer: Any species	***	100,143	165,063	201,070	48,084	***	98,197	622,410
	Share of quantity across (percent)							
U.S. producers' commercial U.S. shipments.-- Face veneer: Birch	***	***	***	***	***	***	***	100.0
Face veneer: Maple	***	***	***	***	***	***	***	100.0
Face veneer: Oak	***	***	***	***	***	***	***	100.0
Face veneer: Walnut	***	***	***	***	***	***	***	100.0
Face veneer: Tropical	***	***	***	***	***	***	***	100.0
Face veneer: Other	***	***	***	***	***	***	***	100.0
Face veneer: Any species	***	16.1	26.5	32.3	7.7	***	15.8	100.0
	Share of quantity down (percent)							
U.S. producers' commercial U.S. shipments.-- Face veneer: Birch	***	***	***	***	***	***	***	20.8
Face veneer: Maple	***	***	***	***	***	***	***	44.3
Face veneer: Oak	***	***	***	***	***	***	***	11.9
Face veneer: Walnut	***	***	***	***	***	***	***	***
Face veneer: Tropical	***	***	***	***	***	***	***	***
Face veneer: Other	***	***	***	***	***	***	***	19.8
Face veneer: Any species	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] ***.

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

End use

Table III-12 presents U.S. producers' commercial U.S. shipments, by intended end use. These data show that from 2014 to 2016, cabinets accounted for approximately one-half of domestic producers' commercial U.S. shipments of hardwood plywood. Other reported known end uses include furniture (approximately *** percent), architectural work (approximately 6.5 percent), store/retail fixtures (approximately 4 percent), RV/mobile homes (approximately 3 percent), underlayment (approximately *** percent), and miscellaneous and unknown (approximately 25 percent).

Approximately *** percent of miscellaneous and unknown end use shipments reported in 2016 were by *** for *** use as well as use in ***; approximately *** percent were by *** for *** use; approximately 14 percent were by *** for *** use. Other reported miscellaneous end uses included original equipment manufacturers (including cabinet, furniture, and recreational vehicle manufacturers), architectural workers, wholesalers, and contract yards.

Table III-12
Hardwood plywood: U.S. producers' commercial U.S. shipments by intended end use, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.--End use: Cabinets	336,877	327,205	316,220	162,641	163,133
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	28,108	27,128	25,944	13,050	14,095
End use: RV/mobile home	17,936	17,567	18,098	9,384	6,682
End use: Architectural work	42,963	41,928	41,333	20,902	20,826
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	176,744	167,266	149,708	78,932	73,236
Total commercial U.S. shipments	673,894	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.--End use: Cabinets	50.0	50.1	50.8	50.6	51.8
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	4.2	4.2	4.2	4.1	4.5
End use: RV/mobile home	2.7	2.7	2.9	2.9	2.1
End use: Architectural work	6.4	6.4	6.6	6.5	6.6
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	26.2	25.6	24.1	24.5	23.2
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

Table III-13 presents U.S. producers' U.S. commercial shipments of laminated hardwood plywood, by intended end use in 2016. These data show that cabinets were the predominant laminated end use (*** percent), followed by furniture and RV/mobile homes. No domestic producers reported commercial U.S. shipments of laminated underlayment. Overall, *** percent of U.S. producers' commercial U.S. shipments in 2016 were laminated. Two firms, ***, accounted for *** percent of the total reported laminated hardwood plywood shipped in 2016.

Table III-13
Hardwood plywood: U.S. producers' commercial U.S. shipments of laminated product, by intended end use, 2016

Item	Calendar year 2016	
	Quantity (1,000 square feet)	Share of overall end use (percent)
U.S. producers' commercial U.S. shipments.-- End use: Cabinets	***	***
End use: Furniture	***	***
End use: Store/retail fixtures	***	***
End use: RV/mobile home	***	***
End use: Architectural work	***	***
End use: Underlayment	---	---
End use: Miscellaneous and unknown end use	***	***
Total commercial U.S. shipments	***	***

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

U.S. PRODUCERS' INVENTORIES

Table III-14 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**.** Inventories decreased by 5.9 percent from 2014 to 2016, and were 10.0 percent lower in June 2017 as compared to June 2016. The ratio of domestic producers' inventories to U.S. production, U.S. shipments, and total shipments were approximately 6 percent in each period. At yearend 2016, the inventories held by two domestic producers, ***, together accounted for *** percent of all U.S. producers' end-of-period inventories.

Table III-14
Hardwood plywood: U.S. producers' inventories, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' end-of-period inventories	42,388	41,614	39,907	45,747	41,178
	Ratio (percent)				
Ratio of inventories to.--					
U.S. production	5.9	6.0	6.0	6.6	6.1
U.S. shipments	6.0	6.1	6.1	6.8	6.2
Total shipments	5.9	6.0	6.0	6.7	6.1

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

U.S. PRODUCERS' IMPORTS AND PURCHASES

U.S. producers' imports of hardwood plywood are presented in table III-15. As the data show, one U.S. producer, ***, directly imports the hardwood plywood from ***.[15]

Table III-15
Hardwood plywood: U.S. producers' U.S. production, imports, and ratios of imports to U.S. production, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

U.S. producers' purchases of hardwood plywood imports are presented in table III-16. As the data show, three U.S. producers, ***, purchased both subject and nonsubject hardwood plywood from U.S. importers and four U.S. producers, ***, purchased hardwood plywood from domestic producers and/or other domestic sources.

Table III-16
Hardwood plywood: U.S. producers' U.S. production, purchases of hardwood plywood, and ratio of purchases to U.S. production, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

[15] ***.

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-17 shows U.S. producers' employment-related data.[16] Combined U.S. producers' employment measured by production and related workers ("PRWs") decreased by 5.6 percent from 2014 to 2016, and was lower during January to June 2017 as compared to January to June 2016. Total hours worked, hours worked per PRW, and wages paid increased from 2014 to 2015 before decreasing from 2015 to 2016. Hourly wages increased in each of the three years. Productivity fluctuated from 2014 to 2016, and was lower in January to June 2017 as compared to January to June 2016. Unit labor costs remained relatively steady, ranging between $0.14 and $0.16 per square foot.

Table III-17
Hardwood plywood: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
Production and related workers (PRWs) (number)	2,430	2,368	2,294	2,311	2,264
Total hours worked (1,000 hours)	4,874	5,037	4,648	2,316	2,331
Hours worked per PRW (hours)	2,006	2,127	2,026	1,002	1,030
Wages paid ($1,000)	94,076	99,561	97,464	47,313	49,553
Hourly wages (dollars per hour)	$19.30	$19.77	$20.97	$20.43	$21.26
Productivity (square feet per hour)	138.9	128.7	133.2	140.0	136.1
Unit labor costs (dollars per square foot)	$0.14	$0.15	$0.16	$0.15	$0.16

Note.--***.

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

The Commission asked domestic producers to comment on their employment trends. *** stated that it has been able to maintain the majority of its headcount, in part due to the procurement of some additional business, but that it continues to operate inefficiently in anticipation of production volume returning. *** stated that its employment, hours, and wages are all down due to competition with imports from China, but that it has seen limited improvement in 2017 due to the preliminary duties on subject merchandise. *** stated that business has slowed due to a strong U.S. dollar versus the Canadian dollar. *** stated that while its headcount has remained stable, its hours worked have decreased due to less need to run overtime shifts as a result of decreasing demand. *** stated that growing foreign competition resulted in fewer workers and hours worked. *** stated that it has experienced wage inflation due to a tightening labor market. *** stated that its orders have declined due to the increase in Chinese imports.

[16] ***.

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

U.S. IMPORTERS

The Commission issued importer questionnaires to 248 firms believed to be importers of hardwood plywood, as well as to all U.S. producers of hardwood plywood.[1] Usable questionnaire responses were received from 74 importers. Three importers (***), which together accounted for *** percent of imports from China and *** percent of imports from all other sources in 2015, provided a questionnaire response in the preliminary phase but did not do so in the final phase of these investigations.[2] The quantity and value of imports presented in this section of the report are compiled from data submitted in response to Commission questionnaires. Questionnaire data from these 74 firms are believed to represent the overwhelming majority of imports from both subject and nonsubject sources, as reported in the official U.S. import statistics for the primary HTS statistical reporting numbers identified by Commerce in its preliminary antidumping duty determinations, minus the six HTS statistical reporting numbers identified by respondent interested parties as encompassing out-of-scope wood flooring.[3]

---

[1] The Commission issued questionnaires to those firms for which valid contact information was identified in the petitions, along with additional firms that, based on a review of data provided by U.S. Customs and Border Protection ("Customs"), are leading importers of items imported under the following HTS statistical reporting numbers since 2014: 4412.10.0500; 4412.31.0520; 4412.31.0540; 4412.31.0560; 4412.31.0620; 4412.31.0640; 4412.31.0660; 4412.31.2510; 4412.31.2520; 4412.31.2610; 4412.31.2620; 4412.31.4040; 4412.31.4050; 4412.31.4060; 4412.31.4075; 4412.31.4080; 4412.31.4140; 4412.31.4150; 4412.31.4160; 4412.31.4180; 4412.31.5125; 4412.31.5135; 4412.31.5155; 4412.31.5165; 4412.31.5175; 4412.31.5235; 4412.31.5255; 4412.31.5265; 4412.31.5275; 4412.31.6000; 4412.31.6100; 4412.31.9100; 4412.31.9200; 4412.32.0520; 4412.32.0540; 4412.32.0565; 4412.32.0570; 4412.32.0620; 4412.32.0640; 4412.32.0670; 4412.32.2510; 4412.32.2525; 4412.32.2530; 4412.32.2610; 4412.32.2630; 4412.32.3125; 4412.32.3135; 4412.32.3155; 4412.32.3165; 4412.32.3175; 4412.32.3185; 4412.32.3235; 4412.32.3255; 4412.32.3265; 4412.32.3275; 4412.32.3285; 4412.32.5600; 4412.32.3235; 4412.32.3255; 4412.32.3265; 4412.32.3275; 4412.32.3285; 4412.32.5700; 4412.94.1030; 4412.94.1050; 4412.94.3105; 4412.94.3111; 4412.94.3121; 4412.94.3141; 4412.94.3161; 4412.94.3175; 4412.94.4100; 4412.99.0600; 4412.99.1020; 4412.99.1030; 4412.99.1040; 4412.99.3110; 4412.99.3120; 4412.99.3130; 4412.99.3140; 4412.99.3150; 4412.99.3160; 4412.99.3170; 4412.99.4100; 4412.99.5115; and 4412.99.5710 (the primary HTS statistical reporting numbers identified in Commerce's preliminary antidumping duty order).

[2] *Investigation Nos. 701-TA-565 and 731-TA-1341 (Preliminary): Hardwood Plywood from China—Staff Report*, INV-OO-124, December 23, 2016, table IV-1.

[3] In the preliminary phase of these investigations, the American Alliance for Hardwood Plywood ("AAHP") and Chinese respondents argued that the Commission should rely on importer questionnaire responses for its import dataset and identified the following six HTS statistical reporting numbers listed in Commerce's scope definition that they believed refer exclusively to wood flooring: 4412.31.4075,

(*continued*...)

Official import statistics for the primary HTS statistical reporting numbers identified in Commerce's preliminary antidumping duty determination, minus the six HTS statistical reporting numbers that make reference to wood flooring (4412.31.4075, 4412.31.5125, 4412.32.0565, 4412.32.2525, 4412.32.3125, and 4412.94.3105), are presented separately in appendix D. The quantity entry data for official import statistics are reported in terms of volume (cubic meters), whereas quantity data requested in Commission questionnaires are in terms of area (square feet). A conversion factor of 1 cubic meter equaling 1,024 square feet has historically been used by the Commission in past proceedings, and the petitioners believe this conversion factor to be reasonable. However, the petitioners note that there may be some variance in the conversion value, which is based on one cubic meter of wood that is approximately 0.405 inches in thickness (or 10.3 mm), depending on the number of plies and the ply thickness of the core material as well as the ply thickness of the front and rear veneers.[4]

Table IV-1 lists all responding U.S. importers of hardwood plywood from China and other sources, their locations, and their shares of U.S. imports, in 2016.

Table IV-1
Hardwood plywood: U.S. importers, their headquarters, and share of total imports by source, 2016

Firm	Headquarters	Share of imports by source (percent)		
		China	All other sources	All import sources
APEC	Creve Coeur, MO	***	***	***
APP	Solvang, CA	***	***	***
Arcadia[1]	La Palma, CA	***	***	***
Argo	Mandeville, LA	***	***	***
Best Interiors	Maspeth, NY	***	***	***
BlueLinx	Atlanta, GA	***	***	***
Bois Aise	Lévis, QC	***	***	***
Boise Cascade	Boise, ID	***	***	***
Bridgewell	Tigard, OR	***	***	***
Britt	Miami, FL	***	***	***
Canusa	Vancouver, BC	***	***	***
Castell	San Juan, PR	***	***	***
CCR	Channelview, TX	***	***	***
Chesapeake[2]	Baltimore, MD	***	***	***
Clarke	Jackson, MS	***	***	***
CNG	Purchase, NY	***	***	***
Concannon	Portland, OR	***	***	***
DVK	Buena Park, CA	***	***	***

Table continued on next page.

(…*continued*)
4412.31.5125, 4412.32.0565, 4412.32.2525, 4412.32.3125, and 4412.94.3105. AAHP respondents' postconference brief, pp. 30-32 and Chinese respondents' postconference brief, p. 7. These HTS statistical reporting numbers include multilayered wood flooring ("MLWF"), which is both excluded from the scope of these investigations and potentially subject to duty orders stemming from the Commission's 2011 investigations of MLWF.

[4] Petitioners' postconference brief, exh. 1, p. 1.

Table IV-1--Continued
Hardwood plywood: U.S. importers, their headquarters, and share of total imports by source, 2016

Firm	Headquarters	Share of imports by source (percent)		
		China	All other sources	All import sources
Edensaw	Port Townsend, WA	***	***	***
El Cerrillo	Ponce, PR	***	***	***
Elberta	Bainbridge, GA	***	***	***
EMS	Houston, TX	***	***	***
Evergreen	Mercer Island, WA	***	***	***
Fabuwood	Jersey City, NJ	***	***	***
FEA	Los Angeles, CA	***	***	***
Ferrmax[3]	Cabo Rojo, PR	***	***	***
Genesis	Elkhart, IN	***	***	***
Green Forest	Inverness, FL	***	***	***
Hampton	Portland, OR	***	***	***
HSP	Renton, WA	***	***	***
Holland	Houston, TX	***	***	***
Ihlo	Center, TX	***	***	***
Ike	Beaverton, OR	***	***	***
Impex[4]	Kingwood, TX	***	***	***
Intagra	Charleston, SC	***	***	***
InterGlobal	Eugene, OR	***	***	***
Laminate	Tiffin, OH	***	***	***
Lars	Miami, FL	***	***	***
Liberty	Carlsbad, CA	***	***	***
M & G	Port Jefferson, NY	***	***	***
Marine	Tualatin, OR	***	***	***
Martec	Elizabeth, NJ	***	***	***
Martinez	San Juan, PR	***	***	***
Masco	Middlefield, OH	***	***	***
McCorry	Hong Kong	***	***	***
Medallion	Lake Oswego, OR	***	***	***
Metsa	Fort Gratiot, MI	***	***	***
Mid Continent	Eagan, MN	***	***	***
MJB	Irving, TX	***	***	***
Moreland	Sarasota, FL	***	***	***
Morgan	Morgantown, PA	***	***	***
Northwest	Tacoma, WA	***	***	***
Parkland	Middlebury, MI	***	***	***
Patriot	Greensboro, NC	***	***	***
Paxton	Renton, WA	***	***	***
PDC	Houston, TX	***	***	***
Penrod[3]	Virginia Beach, VA	***	***	***
Prime	Vero Beach, FL	***	***	***
Proply	Brampton, ON	***	***	***
Red Tide	Lake Oswego, OR	***	***	***
Richmond	Glen Allen, VA	***	***	***

Table continued on next page.

Table IV-1--Continued
Hardwood plywood: U.S. importers, their headquarters, and share of total imports by source, 2016

Firm	Headquarters	Share of imports by source (percent)		
		China	All other sources	All import sources
RPL	Henderson, NV	***	***	***
Russin	Montgomery, NY	***	***	***
Shamrock	Portland, OR	***	***	***
Shelter	Portland, OR	***	***	***
Sierra	Salt Lake City, UT	***	***	***
SWS	San Antonio, TX	***	***	***
Taraca	San Francisco, CA	***	***	***
Tesoro	Carolina, PR	***	***	***
Timber Products	Springfield, OR	***	***	***
Transindo	Walnut, CA	***	***	***
Tumac	Portland, OR	***	***	***
TYR[3]	Portland, OR	***	***	***
UFP	Union City, GA	***	***	***
USply	Miami Lakes, FL	***	***	***
Weekes	St. Paul, MN	***	***	***
Total		100.0	100.0	100.0

[1] ***.
[2] ***. ***, email message to USITC staff, ***.
[3] ***.
[4] ***.

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

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

U.S. IMPORTS

Table IV-2 and figure IV-1 present data for U.S. imports of hardwood plywood from China and all other sources. By quantity, imports from China increased by 21.6 percent from 2014 to 2016, and were 25.8 percent higher from January to June 2017 as compared to January to June 2016. By value, imports from China increased by 22.5 percent from 2014 to 2015, decreased by 5.4 percent from 2015 to 2016, and were 26.4 percent higher from January to June 2017 as compared to January to June 2016. As a share of total imports, imports from China represented slightly less than half by quantity and slightly more than half by value from 2014 to 2016. The average unit value of imports from China remained at approximately $0.40 per square foot from January 2014 to June 2017.

By quantity, imports from all other sources increased by 32.3 percent from 2014 to 2015, decreased by 8.9 percent from 2015 to 2016, and were 9.1 percent higher from January to June 2017 as compared to January to June 2016. By value, imports from all other sources increased by 18.9 percent from 2014 to 2015, decreased by 13.8 percent from 2015 to 2016, and were 17.4 percent higher from January to June 2017 as compared to January to June 2016. The average unit value of imports from all other sources steadily decreased from $0.33 per square foot in 2014 to $0.28 per square foot in 2016, but was $0.02 per square foot higher in January to June 2017 as compared with January to June 2016.

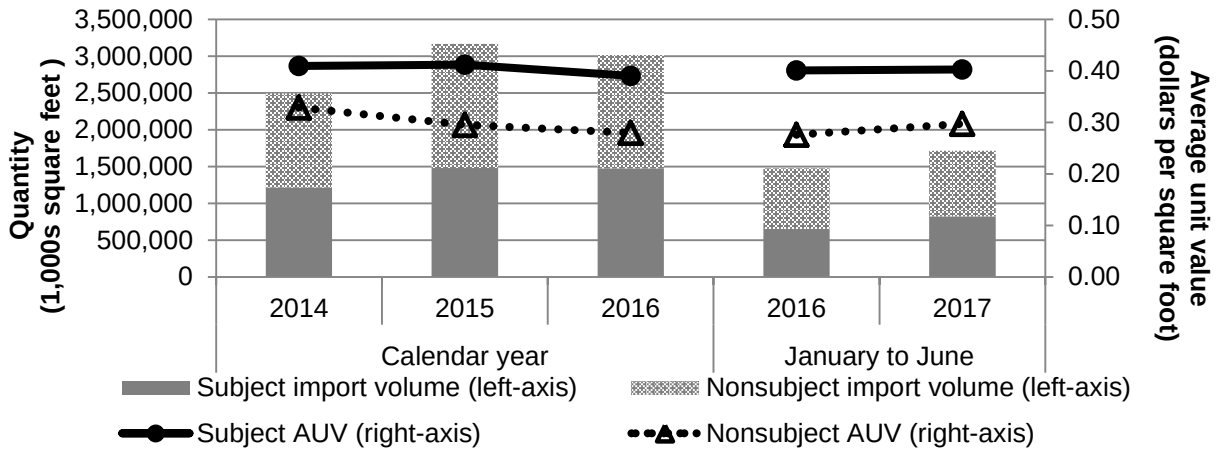
As a ratio to U.S. production, imports from China increased from 168 percent in 2014 to 224 percent in 2016; imports from all other sources increased from 176 percent in 2014 to 233 percent in 2016.

Table IV-2
Hardwood plywood: U.S. imports by source, 2014-16, January to June 2016, and January to June 2017

Source	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. imports from.--China	1,215,728	1,479,514	1,478,257	655,220	823,955
All other sources	1,276,551	1,688,540	1,539,002	819,606	893,863
All import sources	2,492,279	3,168,054	3,017,259	1,474,826	1,717,818
	Value (1,000 dollars)				
U.S. imports from.--China	497,468	609,250	576,347	262,557	331,838
All other sources	419,538	498,822	430,148	226,262	265,690
All import sources	917,006	1,108,072	1,006,495	488,819	597,528
	Unit value (dollars per square foot)				
U.S. imports from.--China	0.41	0.41	0.39	0.40	0.40
All other sources	0.33	0.30	0.28	0.28	0.30
All import sources	0.37	0.35	0.33	0.33	0.35
	Share of quantity (percent)				
U.S. imports from.--China	48.8	46.7	49.0	44.4	48.0
All other sources	51.2	53.3	51.0	55.6	52.0
All import sources	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)				
U.S. imports from.--China	54.2	55.0	57.3	53.7	55.5
All other sources	45.8	45.0	42.7	46.3	44.5
All import sources	100.0	100.0	100.0	100.0	100.0
	Ratio to U.S. production				
U.S. imports from.--China	168.0	213.8	223.8	188.8	244.6
All other sources	176.4	244.0	233.0	236.2	265.3
All import sources	344.5	457.7	456.8	425.0	509.9

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

Figure IV-1
Hardwood plywood: U.S. import volumes and prices, 2014-16, January to June 2016, and January to June 2017



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

Table IV-3 presents data for U.S. imports of hardwood plywood from nonsubject sources. According to questionnaire responses, Indonesia, Russia, Malaysia, and Ecuador (in order of size) were the largest nonsubject sources for U.S. imports of hardwood plywood from 2014 to 2016. The most commonly reported "other nonsubject sources" were Brazil, Vietnam, and Taiwan. Other reported nonsubject sources for U.S. imports of hardwood plywood include: Belgium, Chile, Finland, France, Italy, Ireland, Latvia, Mexico, Paraguay, Poland, Singapore, Spain, Switzerland, Turkey, Ukraine, the United Kingdom, Uruguay, and Venezuela.

Table IV-3
Hardwood plywood: U.S. imports by nonsubject source, 2014-16, January to June 2016, and January to June 2017

Source	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. imports from.--					
Indonesia	841,840	1,189,774	975,716	512,912	567,824
Russia	179,119	204,648	241,555	117,935	128,750
Malaysia	***	***	***	***	***
Ecuador	***	***	***	***	***
Canada	5,789	6,672	6,210	3,248	3,636
All other sources	40,594	33,749	49,181	24,310	37,298
Nonsubject sources	1,276,551	1,688,540	1,539,002	819,606	893,850
	Value (1,000 dollars)				
U.S. imports from.--					
Indonesia	186,476	257,617	197,115	107,351	116,733
Russia	121,191	126,911	103,555	50,044	65,504
Malaysia	***	***	***	***	***
Ecuador	***	***	***	***	***
Canada	12,156	14,180	12,805	6,752	7,349
All other sources	24,605	21,451	26,162	12,661	18,856
Nonsubject sources	420,057	499,528	430,884	226,262	266,040
	Unit value (dollars per square foot)				
U.S. imports from.--					
Indonesia[1]	0.22	0.22	0.20	0.21	0.21
Russia	0.68	0.62	0.43	0.42	0.51
Malaysia[2]	***	***	***	***	***
Ecuador	***	***	***	***	***
Canada	2.10	2.13	2.06	2.08	2.02
All other sources	0.61	0.64	0.53	0.52	0.51
Nonsubject sources	0.33	0.30	0.28	0.28	0.30
	Share of quantity (percent)				
U.S. imports from.--					
Indonesia	33.8	37.6	32.3	34.8	33.1
Russia	7.2	6.5	8.0	8.0	7.5
Malaysia	***	***	***	***	***
Ecuador	***	***	***	***	***
Canada	0.2	0.2	0.2	0.2	0.2
All other sources	1.6	1.1	1.6	1.6	2.2
Nonsubject sources	51.2	53.3	51.0	55.6	52.0

Table continued on next page.

Table IV-3--Continued
Hardwood plywood: U.S. imports by nonsubject source, 2014-16, January to June 2016, and January to June 2017

Source	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Share of value (percent)				
U.S. imports from.--					
Indonesia	20.3	23.2	19.6	22.0	19.5
Russia	13.2	11.5	10.3	10.2	11.0
Malaysia	***	***	***	***	***
Ecuador	***	***	***	***	***
Canada	1.3	1.3	1.3	1.4	1.2
All other sources	2.7	1.9	2.6	2.6	3.2
Nonsubject sources	45.8	45.1	42.8	46.3	44.5

[1] ***. *** email message to USITC staff, ***; *** email message to USITC staff, ***; and *** email message to USITC staff, ***.
[2] ***. ***, email message to USITC staff, ***.

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

CRITICAL CIRCUMSTANCES

On April 25, 2017, Commerce issued its preliminary determination that "critical circumstances" exist with regard to subsidized imports of hardwood plywood from China from certain separate rate respondents and the PRC-wide entity, but do not exist for Linyi Sanfortune Wood Co., Ltd. ("Linyi Sanfortune").[5] On November 16, 2017, it issued its final determination that "critical circumstances" exist with regard to subsidized imports of hardwood plywood from China from certain separate rate respondents, but do not exist for Linyi Sanfortune or the PRC-wide entity.[6]

On June 23, 2017, Commerce issued its preliminary determination that "critical circumstances" exist with regard to imports of hardwood plywood from China sold at LTFV from

[5] *Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination, Preliminary Affirmative Critical Circumstances Determination, in Part, and Alignment of Final Determination With Final Antidumping Duty Determination*, 82 FR 19022, April 25, 2017. When petitioners file timely allegations of critical circumstances in antidumping and countervailing duty investigations, Commerce examines whether there is a reasonable basis to believe or suspect that (1) either there is a history of material injury by reason of subsidized imports in the United States or elsewhere of the subject merchandise, or the person by whom, or for whose account, the merchandise was imported knew or should have known that the exporter was selling the subsidized subject merchandise and that there was likely to be material injury by reason of such sales; and (2) there have been massive imports of the subject merchandise over a relatively short period.

[6] *Countervailing Duty Investigation of Certain Hardwood Plywood Products from the People's Republic of China: Final Affirmative Determination, and Final Affirmative Critical Circumstances Determination, in Part*, 82 FR 53473, November 16, 2017.

certain separate rate respondents and the PRC-wide entity, but do not exist for Linyi Chengen Import and Export Co., Ltd. ("Linyi Chengen") and certain other separate rate respondents.[7] On November 16, 2017, it issued its final determination that "critical circumstances" exist with regard to imports of hardwood plywood from China sold at LTFV from the same entities as its preliminary determination.[8]

In these investigations, if both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to countervailing duties retroactive by 90 days from April 25, 2017, the effective date of Commerce's preliminary affirmative subsidization determination, and/or antidumping duties retroactive by 90 days from June 23, 2017, the effective date of Commerce's preliminary affirmative LTFV determination.

Table IV-4 and figure IV-2 present monthly U.S. imports subject to Commerce's final antidumping duty affirmative critical circumstances determination. Table IV-5 and figure IV-3 present monthly U.S. imports subject to Commerce's final countervailing duty affirmative critical circumstances determination.

Table IV-4
Hardwood plywood: U.S. importers' U.S. imports from China subject to Commerce's final antidumping duty critical circumstance findings, June 2016 through May 2017

* * * * * * *

Figure IV-2
Hardwood plywood: U.S. importers' U.S. imports from China subject to Commerce's final antidumping duty critical circumstance findings, June 2016 through May 2017

* * * * * * *

Table IV-5
Hardwood plywood: U.S. importers' U.S. imports from China subject to Commerce's final countervailing duty critical circumstance findings, June 2016 through May 2017

* * * * * * *

[7] *Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Affirmative Determination of Critical Circumstances, in Part*, 82 FR 28629, June 23, 2017.

[8] *Certain Hardwood Plywood Products from the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part*, 82 FR 53460, November 16, 2017 and accompanying Issues and Decisions memorandum.

Figure IV-3
Hardwood plywood: U.S. importers' U.S. imports from China subject to Commerce's final countervailing duty critical circumstance findings, June 2016 through May 2017

* * * * * * *

NEGLIGIBILITY

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[9] Negligible imports are generally defined in the Tariff Act of 1930, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[10]

Table IV-6 presents imports of hardwood plywood by source as a share of total imports. According to importer questionnaire responses, the quantity of U.S. imports of hardwood plywood from China accounted for 49.2 percent of total reported U.S. imports of hardwood plywood from November 2015 to October 2016. Based on official Commerce statistics, the quantity of U.S. imports of hardwood plywood from China accounted for 57.3 percent of total U.S. imports of hardwood plywood over the same period.

[9] 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)).

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

Table IV-6
Hardwood plywood: U.S. imports, by source, November 2015 through October 2016

Source	November 2015 through October 2016					
	Official import statistics				Questionnaire data	
	U.S. imports (1,000 dollars)	Share of value of U.S. imports (percent)	U.S. imports (1,000 square feet)	Share of quantity of U.S. imports (percent)	U.S. imports (1,000 square feet)	Share of reported quantity of U.S. imports (percent)
U.S. imports from.--						
China	730,364	49.9	1,620,578	57.3	1,516,218	49.2
Nonsubject sources	732,403	50.1	1,209,849	42.7	1,563,719	50.8
All sources	1,462,767	100.0	2,830,427	100.0	3,079,937	100.0

Source: Compiled from data submitted in response to Commission questionnaires, and official U.S. imports statistics using HTS statistical reporting numbers 4412.10.0500, 4412.31.0520, 4412.31.0540, 4412.31.0560, 4412.31.2510, 4412.31.2520, 4412.31.4040, 4412.31.4050, 4412.31.4060, 4412.31.4080, 4412.31.5135, 4412.31.5155, 4412.31.5165, 4412.31.5175, 4412.31.6000, 4412.31.9100, 4412.32.0520, 4412.32.0540, 4412.32.0570, 4412.32.2510, 4412.32.2530, 4412.32.3135, 4412.32.3155, 4412.32.3165, 4412.32.3175, 4412.32.3185, 4412.32.5600, 4412.94.1030, 4412.94.1050, 4412.94.3111, 4412.94.3121, 4412.94.3131, 4412.94.3141, 4412.94.3160, 4412.94.3161, 4412.94.3171, 4412.94.3175, 4412.94.4100, 4412.99.0600, 4412.99.1020, 4412.99.1030, 4412.99.1040, 4412.99.3110, 4412.99.3120, 4412.99.3130, 4412.99.3140, 4412.99.3150, 4412.99.3160, 4412.99.3170, 4412.99.4100, 4412.99.5115, and 4412.99.5710, accessed September 25, 2017.

RATIO OF SUBJECT IMPORTS TO U.S. PRODUCTION

The ratio of subject imports to U.S. production increased from 2014 to 2016 and was higher from January to June 2017 as compared with January to June 2016 (see table IV-2 above). As a share of total U.S. production, U.S. imports from China ranged from a low of 168.0 percent in 2014 to a high of 244.6 percent from January to June 2017.

U.S. COMMERCIAL SHIPMENTS OF IMPORTS

Face veneer thickness

Table IV-7[11] presents U.S. importers' U.S. commercial shipments, by face veneer thickness. Figure IV-4 illustrates these shipment data submitted by U.S. importers and U.S. producers (see table III-7 for U.S. producer data). These data show that hardwood plywood from China and from other nonsubject countries had face veneer thicknesses in all categories ranging from less than 0.4 millimeters in thickness to greater than or equal to 0.6 millimeters in thickness. However, the overwhelming majority (i.e. greater than 93 percent) of U.S. commercial shipments of U.S. imports from China since 2014 had a face veneer that is less than

[11] Tables IV-7 through IV-13 are also presented in appendix F alongside the equivalent U.S. producer data tables from *Part III*.

0.4 millimeters in thickness. Relatively minor amounts of U.S. commercial shipments of U.S. imports from China had face veneers that are thicker, and most of the remaining share fell in the slightly thicker range of 0.4 millimeters to 0.49 millimeters in thickness. Approximately one-half of U.S. commercial shipments of U.S. imports from nonsubject countries had a face veneer that was less than 0.4 millimeters in thickness, while most of the remaining share of material from nonsubject countries was comprised of plywood with a thicker face veneer measuring 0.6 millimeters or more. Approximately 10 percent of commercial U.S. shipments of U.S. imports from nonsubject countries had a face veneer that fell in the mid-range of 0.4 millimeters to 0.59 millimeters in thickness.

Table IV-7
Hardwood plywood: U.S. importers' commercial U.S. shipments by face veneer thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China.-- Face veneer: >= 0.6 mm	6,652	7,969	4,115	2,213	2,628
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	1,123,456	1,222,707	1,333,262	660,248	633,889
Total commercial U.S. shipments	1,187,632	1,302,948	1,420,206	703,603	681,042
	Share of quantity (percent)				
U.S. importers: China.-- Face veneer: >= 0.6 mm	0.6	0.6	0.3	0.3	0.4
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	94.6	93.8	93.9	93.8	93.1
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: Nonsubject sources.-- Face veneer: >= 0.6 mm	504,898	581,118	618,938	332,583	355,188
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	738,975	727,466	769,579	454,949	438,867
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,086	929,896
	Share of quantity (percent)				
U.S. importers: Nonsubject sources.-- Face veneer: >= 0.6 mm	37.0	39.9	38.9	37.4	38.2
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	54.1	49.9	48.3	51.1	47.2
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

Table continued on next page.

Table IV-7--Continued
Hardwood plywood: U.S. importers' commercial U.S. shipments by face veneer thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: All sources.-- Face veneer: >= 0.6 mm	511,550	589,087	623,053	334,796	357,816
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	1,862,431	1,950,173	2,102,841	1,115,197	1,072,756
Total commercial U.S. shipments	2,553,563	2,760,522	3,013,143	1,593,689	1,610,938
	Share of quantity (percent)				
U.S. importers: All sources.-- Face veneer: >= 0.6 mm	20.0	21.3	20.7	21.0	22.2
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	72.9	70.6	69.8	70.0	66.6
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

Figure IV-4
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments by source and face veneer thickness, 2016

* * * * * * *

Petitioners assert that differences in the face veneer thickness of domestic and Chinese hardwood plywood have "no meaningful effect" on the substitutability of the two products because: (1) face veneer thickness is not a characteristic required by the ANSI/HPVA HP-1-2016 standard; (2) face veneer thickness does not affect the appearance or grade of the finished product; and (3) "there is no discernible demand among U.S. customers for hardwood plywood with thin-faced veneers."[12] Petitioners add that while the domestic industry produces more thick face veneers because it mainly employs a one-step production process and the industry in China mainly employs a two-step process due to the use of thin face veneers, the two processes are merging.[13]

Respondents argue that hardwood plywood from China "is preferred for interior surfaces {of cabinets}, which are often laminated, due to the superior core construction and calibration of the Chinese panels," which is achieved in part through the use of thinner

[12] Petitioners posthearing brief, exh. 1, pp. 67-68.
[13] Ibid., exh. 1, p. 68.

veneers.[14] In addition, respondents state that the Chinese industry produces more thin face veneers because of the shorter growth cycles of the predominant wood species in China, which leads to smaller diameter trees that must be sliced thinner in order to maximize yield. Low labor costs allow Chinese producers to use a two-step production process, which is necessary when using thin veneers.[15]

Overall plywood thickness

Table IV-8 presents U.S. importers' U.S. commercial shipments, by overall plywood thickness. Figure IV-5 illustrates these shipment data submitted by U.S. importers and U.S. producers (see table III-8 for U.S. producer data). These data show that hardwood plywood from China and from other nonsubject countries are sold in the United States in all categories of overall plywood thickness ranging from less than 6.5 millimeters in thickness to greater than or equal to 20.0 millimeters in thickness. Slightly more than one-half of U.S. commercial shipments of U.S. imports from China had an overall plywood thickness of less than 6.5 millimeters, a range which includes 1/4-inch and thinner plywood, whereas nearly all of the remaining half had an overall plywood thickness of 6.5 millimeters to 19.99 millimeters, which includes 3/8-inch, 1/2-inch, 5/8-inch, and 3/4-inch plywood. Minimal amounts of U.S. commercial shipments of U.S. imports from China had an overall plywood thickness of 20.0 millimeters or greater, which includes 7/8-inch and thicker plywood. The vast majority (81.8 percent in 2016) of U.S. commercial shipments of U.S. imports from nonsubject countries had an overall plywood thickness of less than 6.5 millimeters, which includes 1/4-inch and thinner plywood, with nearly all of the remaining share having an overall plywood thickness of 6.5 millimeters to 19.99 millimeters, which includes 3/8-inch, 1/2-inch, 5/8-inch, and 3/4-inch plywood. As was the case with the imports from China, minimal amounts of U.S. commercial shipments of U.S. imports from nonsubject countries had an overall plywood thickness of 20.0 millimeters or greater, which includes 7/8-inch and thicker plywood.

[14] AAHP respondents' posthearing brief, exh. A, p. 2

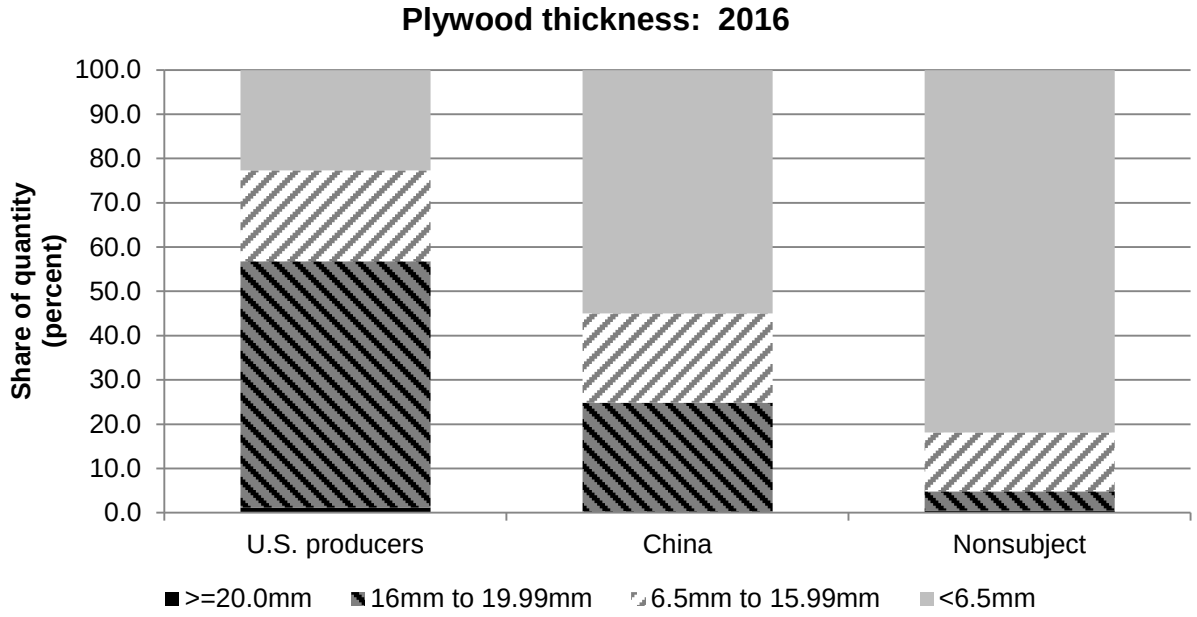
[15] AAHP respondents' posthearing brief, exh. E, p. 1; and Chinese respondents' posthearing brief, pp. 4-5.

Table IV-8
Hardwood plywood: U.S. importers' commercial U.S. shipments by overall plywood thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China.-- Plywood thickness: >=20.0mm	2,988	3,766	4,567	2,440	1,467
Plywood thickness: 16mm to 19.99mm	286,967	318,901	349,190	177,453	147,245
Plywood thickness: 6.5mm to 15.99mm	241,934	270,731	285,908	137,806	142,139
Plywood thickness: <6.5mm	655,739	709,547	780,536	385,906	390,190
Total commercial U.S. shipments	1,187,628	1,302,945	1,420,201	703,605	681,041
	Share of quantity (percent)				
U.S. importers: China.-- Plywood thickness: >=20.0mm	0.3	0.3	0.3	0.3	0.2
Plywood thickness: 16mm to 19.99mm	24.2	24.5	24.6	25.2	21.6
Plywood thickness: 6.5mm to 15.99mm	20.4	20.8	20.1	19.6	20.9
Plywood thickness: <6.5mm	55.2	54.5	55.0	54.8	57.3
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importer: Nonsubject sources.-- Plywood thickness: >=20.0mm	7,576	4,650	8,260	4,162	2,791
Plywood thickness: 16mm to 19.99mm	55,446	45,143	69,606	35,634	34,695
Plywood thickness: 6.5mm to 15.99mm	174,135	175,516	211,410	107,731	107,013
Plywood thickness: <6.5mm	1,128,774	1,232,265	1,303,661	742,560	785,398
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,087	929,897
	Share of quantity (percent)				
U.S. importers: Nonsubject sources.-- Plywood thickness: >=20.0mm	0.6	0.3	0.5	0.5	0.3
Plywood thickness: 16mm to 19.99mm	4.1	3.1	4.4	4.0	3.7
Plywood thickness: 6.5mm to 15.99mm	12.7	12.0	13.3	12.1	11.5
Plywood thickness: <6.5mm	82.6	84.5	81.8	83.4	84.5
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: All sources.-- Plywood thickness: >=20.0mm	10,564	8,416	12,827	6,602	4,258
Plywood thickness: 16mm to 19.99mm	342,413	364,044	418,796	213,087	181,940
Plywood thickness: 6.5mm to 15.99mm	416,069	446,247	497,318	245,537	249,152
Plywood thickness: <6.5mm	1,784,513	1,941,812	2,084,197	1,128,466	1,175,588
Total commercial U.S. shipments	2,553,559	2,760,519	3,013,138	1,593,692	1,610,938
	Share of quantity (percent)				
U.S. importers: All sources.-- Plywood thickness: >=20.0mm	0.4	0.3	0.4	0.4	0.3
Plywood thickness: 16mm to 19.99mm	13.4	13.2	13.9	13.4	11.3
Plywood thickness: 6.5mm to 15.99mm	16.3	16.2	16.5	15.4	15.5
Plywood thickness: <6.5mm	69.9	70.3	69.2	70.8	73.0
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

Figure IV-5
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments by source and overall plywood thickness, 2016



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

Core wood type

Table IV-9 presents U.S. importers' U.S. commercial shipments, by core wood type. Figure IV-6 illustrates these shipment data submitted by U.S. importers and U.S. producers (see table III-9 for U.S. producer data). These data show that hardwood was the predominant wood type that comprises the core of U.S. importers' hardwood plywood. Softwood and other material cores together account for *** percent of U.S. importers' U.S. commercial shipments. Bamboo was not used by importers as core material.

Table IV-9
Hardwood plywood: U.S. importers' commercial U.S. shipments by core wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China-- Core: Hardwood	1,148,082	1,253,068	1,368,164	676,242	654,598
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	1,187,682	1,302,998	1,420,256	703,628	679,324
	Share of quantity (percent)				
U.S. importers: China.-- Core: Hardwood	96.7	96.2	96.3	96.1	96.4
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: Nonsubject sources-- Core: Hardwood	1,343,203	1,439,262	1,572,890	879,883	915,195
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,086	929,896
	Share of quantity (percent)				
U.S. importers Nonsubject sources-- Core: Hardwood	98.3	98.7	98.7	98.9	98.4
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: All sources-- Core: Hardwood	2,491,285	2,692,330	2,941,054	1,556,125	1,569,793
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	2,553,613	2,760,572	3,013,193	1,593,714	1,609,220
	Share of quantity (percent)				
U.S. importers: All sources-- Core: Hardwood	97.6	97.5	97.6	97.6	97.5
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

Figure IV-6
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments by source and core wood type, 2016

* * * * * * *

Face veneer wood type

Table IV-10 presents U.S. importers' U.S. commercial shipments, by face veneer wood type. Figure IV-7 illustrates these shipment data submitted by U.S. importers and U.S. producers (see table III-10 for U.S. producer data). These data show that almost all U.S. importers' commercial U.S. shipments of hardwood plywood had a hardwood face veneer.

Table IV-10
Hardwood plywood: U.S. importers' commercial U.S. shipments by face veneer wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China.-- Face veneer: Hardwood	1,180,721	1,291,052	1,399,603	694,191	671,105
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	1,187,682	1,302,998	1,420,256	703,628	679,324
	Share of quantity (percent)				
U.S. importers China.-- Face veneer: Hardwood	99.4	99.1	98.5	98.7	98.8
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: Nonsubject sources-- Face veneer: Hardwood	1,356,084	1,454,147	1,585,470	886,231	925,520
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,086	929,896
	Share of quantity (percent)				
U.S. importers: Nonsubject sources-- Face veneer: Hardwood	99.3	99.8	99.5	99.6	99.5
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: All sources-- Face veneer: Hardwood	2,536,805	2,745,199	2,985,073	1,580,422	1,596,625
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	2,553,613	2,760,572	3,013,193	1,593,714	1,609,220
	Share of quantity (percent)				
U.S. importers: All sources.-- Face veneer: Hardwood	99.3	99.4	99.1	99.2	99.2
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

Figure IV-7
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments by source and face veneer wood type, 2016

* * * * * * *

Grade and face veneer wood species

Table IV-11 presents U.S. importers' U.S. commercial shipments, by grade (per ANSI/HPVA HP-1-2016) and face veneer wood species in 2016. Figures IV-8 and IV-9 illustrate these shipment data submitted by U.S. importers and U.S. producers (see table III-11 for U.S. producer data).With the exception of AA grades imported from China, these data show that virtually all combinations of different grades and face veneer wood species were commercially shipped in the United States by U.S. importers from China and nonsubject countries.[16] Slightly more than one-half of commercial U.S. shipments of U.S. imports from China during 2016 were either grade C (16.7 percent), grade D (25.0 percent), or grade E (15.2 percent), and more than three-quarters of commercial U.S. shipments of U.S. imports from China during 2016 had a birch face veneer (77.7 percent). Slightly less than one-half of commercial U.S. shipments of U.S. imports from nonsubject countries during 2016 were grade B (33.0 percent) or grade C (16.8 percent), and the vast majority (81.3 percent) of commercial U.S. shipments of U.S. imports from nonsubject countries during 2016 had a tropical face veneer.

[16] U.S. importers of hardwood plywood from China reported *** during 2016. U.S. importers of hardwood plywood from nonsubject sources reported ***.

Table IV-11
Hardwood plywood: U.S. importers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Others	All Grades
	Quantity (1,000 square feet)							
U.S. importers: China.-- Face veneer: Birch	---	***	***	***	***	***	***	1,104,162
Face veneer: Maple	---	***	***	***	***	***	***	31,489
Face veneer: Oak	---	***	***	***	***	***	***	25,170
Face veneer: Walnut	---	***	***	***	***	***	***	748
Face veneer: Tropical	---	***	***	***	***	***	***	184,866
Face veneer: Other	---	***	***	***	***	***	***	73,816
Face veneer: Any Species	---	5,521	93,215	237,790	355,533	216,154	512,038	1,420,251
	Share of quantity across (percent)							
U.S. importers: China.-- Face veneer: Birch	---	***	***	***	***	***	***	100.0
Face veneer: Maple	---	***	***	***	***	***	***	100.0
Face veneer: Oak	---	***	***	***	***	***	***	100.0
Face veneer: Walnut	---	***	***	***	***	***	***	100.0
Face veneer: Tropical	---	***	***	***	***	***	***	100.0
Face veneer: Other	---	***	***	***	***	***	***	100.0
Face veneer: Any Species	---	0.4	6.6	16.7	25.0	15.2	36.1	100.0
	Share of quantity down (percent)							
U.S. importers: China.-- Face veneer: Birch	---	***	***	***	***	***	***	77.7
Face veneer: Maple	---	***	***	***	***	***	***	2.2
Face veneer: Oak	---	***	***	***	***	***	***	1.8
Face veneer: Walnut	---	***	***	***	***	***	***	0.1
Face veneer: Tropical	---	***	***	***	***	***	***	13.0
Face veneer: Other	---	***	***	***	***	***	***	5.2
Face veneer: Any Species	---	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table continued on the next page.

Table IV-11--Continued
Hardwood plywood: U.S. importers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Others	All Grades
	Quantity (1,000 square feet)							
U.S. importers: Nonsubject sources.-- Face veneer: Birch	***	***	***	***	***	***	***	265,655
Face veneer: Maple	***	***	***	***	***	***	***	5,212
Face veneer: Oak	***	***	***	***	***	***	***	5,849
Face veneer: Walnut	***	***	***	***	***	***	***	670
Face veneer: Tropical	***	***	***	***	***	***	***	1,294,691
Face veneer: Other	***	***	***	***	***	***	***	21,260
Face veneer: Any Species	7,082	48,367	526,291	267,572	75,029	80,702	588,294	1,593,337
	Share of quantity across (percent)							
U.S. importers: Nonsubject sources.-- Face veneer: Birch	***	***	***	***	***	***	***	100.0
Face veneer: Maple	***	***	***	***	***	***	***	100.0
Face veneer: Oak	***	***	***	***	***	***	***	100.0
Face veneer: Walnut	***	***	***	***	***	***	***	100.0
Face veneer: Tropical	***	***	***	***	***	***	***	100.0
Face veneer: Other	***	***	***	***	***	***	***	100.0
Face veneer: Any Species	0.4	3.0	33.0	16.8	4.7	5.1	36.9	100.0
	Share of quantity down (percent)							
U.S. importers: Nonsubject sources.-- Face veneer: Birch	***	***	***	***	***	***	***	16.7
Face veneer: Maple	***	***	***	***	***	***	***	0.3
Face veneer: Oak	***	***	***	***	***	***	***	0.4
Face veneer: Walnut	***	***	***	***	***	***	***	(1)
Face veneer: Tropical	***	***	***	***	***	***	***	81.3
Face veneer: Other	***	***	***	***	***	***	***	1.3
Face veneer: Any Species	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table continued on the next page.

Table IV-11--Continued
Hardwood plywood: U.S. importers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Others	All Grades
	Quantity (1,000 square feet)							
U.S. importers: All sources.-- Face veneer: Birch	***	***	***	***	***	***	***	1,369,817
Face veneer: Maple	***	***	***	***	***	***	***	36,701
Face veneer: Oak	***	***	***	***	***	***	***	31,019
Face veneer: Walnut	***	***	***	***	***	***	***	1,418
Face veneer: Tropical	***	***	***	***	***	***	***	1,479,557
Face veneer: Other	***	***	***	***	***	***	***	95,076
Face veneer: Any Species	7,082	53,888	619,506	505,362	430,562	296,856	1,100,332	3,013,588
	Share of quantity across (percent)							
U.S. importers: All sources.-- Face veneer: Birch	***	***	***	***	***	***	***	100.0
Face veneer: Maple	***	***	***	***	***	***	***	100.0
Face veneer: Oak	***	***	***	***	***	***	***	100.0
Face veneer: Walnut	***	***	***	***	***	***	***	100.0
Face veneer: Tropical	***	***	***	***	***	***	***	100.0
Face veneer: Other	***	***	***	***	***	***	***	100.0
Face veneer: Any Species	0.2	1.8	20.6	16.8	14.3	9.9	36.5	100.0
	Share of quantity down (percent)							
U.S. importers: All sources.-- Face veneer: Birch	***	***	***	***	***	***	***	45.5
Face veneer: Maple	***	***	***	***	***	***	***	1.2
Face veneer: Oak	***	***	***	***	***	***	***	1.0
Face veneer: Walnut	***	***	***	***	***	***	***	([1])
Face veneer: Tropical	***	***	***	***	***	***	***	49.1
Face veneer: Other	***	***	***	***	***	***	***	3.2
Face veneer: Any Species	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Less than 0.05 percent.

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

Figure IV-8
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments by source and face veneer wood species, 2016

* * * * * * *

Figure IV-9
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments by source and grade, 2016

* * * * * * *

End use

Table IV-12 presents U.S. importers' U.S. commercial shipments by intended end use. Figure IV-10 illustrates these shipment data submitted by U.S. importers and U.S. producers (see table III-12 for U.S. producer data). These data show that the largest known end use of hardwood plywood imported from China in 2016 was underlayment (*** percent). Other reported end uses included cabinets (21.2 percent), RV/mobile homes (6.3 percent), store/retail fixtures and furniture (***), and architectural work (1.1 percent). The largest known end use of hardwood plywood imported from nonsubject sources in 2016 was RV/mobile homes (62.6 percent). Other reported end uses included the manufacture of furniture (*** percent), cabinets (4.2 percent), underlayment (*** percent), architectural work (1.3 percent), and store/retail fixtures (1.2 percent).

Twenty-five importers representing approximately 90 percent of shipments from China in this category in 2016 stated that they did not know the end use.[17] Seventeen importers representing approximately 43 percent of shipments from nonsubject sources in this category in 2016 stated that they did not know the end use.[18] Reported miscellaneous end uses of imports from China included crating, packaging, cut-to-size products, arts and crafts products, molds, patterns, industrial stencils, ISO container flooring, carpet tack strip, cargo trailer lining, pallets, scaffolding, concrete forming panels, wire reels, ammunition boxes, appliances, fruit boxes, doors, toys, graphic wooden displays, and doghouses. Reported miscellaneous end uses of imports from nonsubject sources included many of the same that were reported for imports from China, plus engineered flooring and drawer slides and boxes, commercial wind turbine flooring, cargo trailer lining, chicken cages, dust covers, temporary flooring, and movie sets.

[17] The largest firms that reported unknown end uses of hardwood plywood from China was *** followed by ***.

[18] The largest firm that reported unknown end uses of hardwood plywood from nonsubject sources was *** followed by ***.

Table IV-12
Hardwood plywood: U.S. importers' commercial U.S. shipments by intended end use, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	China quantity (1,000 square feet)				
U.S. importers' commercial shipments by end use.--					
End use: Cabinets	244,126	287,550	301,027	151,032	152,080
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	23,987	28,288	28,941	14,613	14,557
End use: RV/mobile home	79,405	80,013	89,270	44,960	45,517
End use: Architectural work	10,774	16,965	15,931	7,795	7,935
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	491,723	525,358	582,752	302,160	270,139
China commercial shipments by end use	1,180,955	1,302,948	1,420,206	703,603	681,042
	Nonsubject sources quantity (1,000 square feet)				
U.S. importers' commercial shipments by end use.--					
End use: Cabinets	76,147	75,563	67,112	34,034	42,166
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	17,410	19,294	18,838	8,700	11,980
End use: RV/mobile home	862,561	937,276	996,715	578,011	596,384
End use: Architectural work	20,232	17,369	20,939	9,633	13,107
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	284,857	265,825	338,778	182,088	194,180
Nonsubject sources commercial shipments by end use	1,365,931	1,457,574	1,592,937	890,086	944,641
	All sources quantity (1,000 square feet)				
U.S. importers' commercial shipments by end use.--					
End use: Cabinets	320,273	363,113	368,139	185,066	194,246
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	41,397	47,582	47,779	23,313	26,537
End use: RV/mobile home	941,966	1,017,289	1,085,985	622,971	641,901
End use: Architectural work	31,006	34,334	36,870	17,428	21,042
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	776,580	791,183	921,530	484,248	464,319
All sources commercial shipments by end use	2,546,886	2,760,522	3,013,143	1,593,689	1,625,683

Table continued on next page.

Table IV-12--Continued
Hardwood plywood: U.S. importers' commercial U.S. shipments by intended end use, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Share of quantity (percent)				
U.S. importers: China.-- End use: Cabinets	20.7	22.1	21.2	21.5	22.3
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	2.0	2.2	2.0	2.1	2.1
End use: RV/mobile home	6.7	6.1	6.3	6.4	6.7
End use: Architectural work	0.9	1.3	1.1	1.1	1.2
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown	41.6	40.3	41.0	42.9	39.7
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0
	Share of quantity (percent)				
U.S. importers: Nonsubject sources.-- End use: Cabinets	5.6	5.2	4.2	3.8	4.5
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	1.3	1.3	1.2	1.0	1.3
End use: RV/mobile home	63.1	64.3	62.6	64.9	63.1
End use: Architectural work	1.5	1.2	1.3	1.1	1.4
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown	20.9	18.2	21.3	20.5	20.6
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0
	Share of quantity (percent)				
U.S. importers: All import sources.-- End use: Cabinets	12.6	13.2	12.2	11.6	11.9
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	1.6	1.7	1.6	1.5	1.6
End use: RV/mobile home	37.0	36.9	36.0	39.1	39.5
End use: Architectural work	1.2	1.2	1.2	1.1	1.3
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown	30.5	28.7	30.6	30.4	28.6
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0

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

Figure IV-10
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments by source and intended end use, 2016

* * * * * * *

Table IV-13 presents U.S. producers' U.S. commercial shipments of laminated hardwood plywood by intended end use in 2016. Figure IV-11 illustrates shipment data of laminated product submitted by U.S. importers and U.S. producers (see table III-13 for U.S. producer data). These data show that RV/mobile homes (47.4 percent) were the predominant laminated end use of imports from China, followed by cabinets, store/retail fixtures, architectural work, furniture, and underlayment. RV/mobile homes (88.7 percent) were also the predominant

laminated end use of imports from nonsubject sources, followed by architectural work, cabinets, underlayment, furniture, and store/retail fixtures. Overall, 17.1 percent of commercial U.S. shipments of imports from China in 2016 were laminated, and 60.7 percent of commercial U.S. shipments of imports from nonsubject sources in 2016 were laminated.

Table IV-13
Hardwood plywood: U.S. importers' commercial U.S. shipments of laminated product, by intended end use, 2016

Item	Calendar year 2016	
	Quantity (1,000 square feet)	Share of overall end use (percent)
U.S. importers: China.--		
End use: Cabinets	87,058	28.9
End use: Furniture	***	***
End use: Store/retail fixtures	7,963	27.5
End use: RV/mobile home	42,314	47.4
End use: Architectural work	3,843	24.1
End use: Underlayment	***	***
End use: Miscellaneous and unknown end use	91,182	15.6
Total commercial U.S. shipments	242,890	17.1
U.S. importers: Nonsubject sources.--		
End use: Cabinets	18,171	27.1
End use: Furniture	***	***
End use: Store/retail fixtures	2,310	12.3
End use: RV/mobile home	884,106	88.7
End use: Architectural work	7,198	34.4
End use: Underlayment	***	***
End use: Miscellaneous and unknown end use	27,237	8.0
Total commercial U.S. shipments	967,515	60.7
U.S. importers: All import sources.--		
End use: Cabinets	105,229	28.6
End use: Furniture	20,509	17.5
End use: Store/retail fixtures	10,272	21.5
End use: RV/mobile home	926,420	85.3
End use: Architectural work	11,041	29.9
End use: Underlayment	18,515	4.2
End use: Miscellaneous and unknown end use	118,419	12.9
Total commercial U.S. shipments	1,210,406	40.2

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

Figure IV-11
Hardwood plywood: U.S. producers' and U.S. importers' commercial U.S. shipments of laminated product, 2016

* * * * * * *

APPARENT U.S. CONSUMPTION

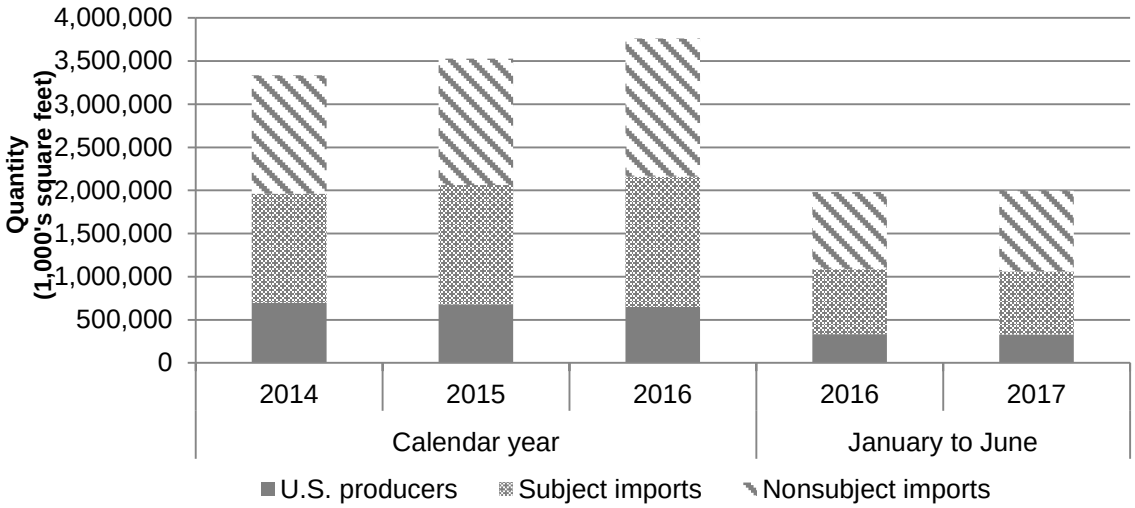
Table IV-14 and figure IV-12 present data on apparent U.S. consumption and U.S. market shares for hardwood plywood. These data show that by quantity, apparent U.S. consumption increased by 12.7 percent from 2014 to 2016, and was slightly higher from January to June 2017 as compared to January to June 2016. Similar trends were reported for apparent U.S. consumption of hardwood plywood in terms of value, although with more modest growth. The U.S. producers' market share declined 3.7 percentage points by quantity from 2014 to 2016 and the market share held by the subject imports from China increased by 2.2 percentage points during the same period. The market share held by U.S. producers from January to June 2017 was 0.5 percentage points lower as compared to from January to June 2016, and the market share held by subject imports from China was 1.2 percentage points lower.

Table IV-14
Hardwood plywood: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' U.S. shipments	700,756	680,044	651,558	337,391	330,317
U.S. importers' U.S. shipments from.--					
China	1,265,296	1,382,815	1,509,584	753,078	734,088
Nonsubject sources	1,372,668	1,466,287	1,601,865	894,226	934,002
All import sources	2,637,964	2,849,102	3,111,449	1,647,304	1,668,090
Apparent U.S. consumption	3,338,720	3,529,146	3,763,007	1,984,695	1,998,407
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	852,295	828,855	790,933	412,327	402,881
U.S. importers' U.S. shipments from.--					
China	615,915	687,950	715,708	364,734	384,238
Nonsubject sources	485,314	500,088	518,699	286,387	289,573
All import sources	1,101,229	1,188,038	1,234,407	651,121	673,811
Apparent U.S. consumption	1,953,524	2,016,893	2,025,340	1,063,448	1,076,692
	Share of quantity (percent)				
U.S. producers' U.S. shipments	21.0	19.3	17.3	17.0	16.5
U.S. importers' U.S. shipments from.--					
China	37.9	39.2	40.1	37.9	36.7
Nonsubject sources	41.1	41.5	42.6	45.1	46.7
All import sources	79.0	80.7	82.7	83.0	83.5
	Share of value (percent)				
U.S. producers' U.S. shipments	43.6	41.1	39.1	38.8	37.4
U.S. importers' U.S. shipments from.--					
China	31.5	34.1	35.3	34.3	35.7
Nonsubject sources	24.8	24.8	25.6	26.9	26.9
All import sources	56.4	58.9	60.9	61.2	62.6

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

Figure IV-12
Hardwood plywood: Apparent U.S. consumption and market shares, 2014-16, January to June 2016, and January to June 2017



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

Respondents argue that U.S. producers' market share decreased during a period of increasing demand in part because the growth in demand has favored segments for which subject merchandise is preferred, such as underlayment.[19] In 2016, *** percent of U.S. producers' U.S. shipments were used for underlayment, compared to *** percent and *** percent of importers' U.S. shipments from China and nonsubject sources, respectively.[20] Table IV-15 presents data on apparent U.S. consumption of underlayment.[21] These data show that apparent U.S. consumption of underlayment increased by *** percent from 2014 to 2016. Domestically produced underlayment accounted for *** percent or less of total apparent U.S. consumption of underlayment in annual periods 2014 to 2016, while underlayment imported from China accounted for over *** of apparent U.S. consumption of underlayment during the same period.

[19] AAHP respondents' prehearing brief, p. 15.

[20] See tables III-12 and IV-12.

[21] These data may be slightly understated, as they do not include miscellaneous and unknown end uses, in which underlayment may be included.

Table IV-15
Hardwood plywood: Apparent U.S. consumption of underlayment, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

In 2016, *** percent of U.S. producers' U.S. shipments were for a use other than underlayment, compared to *** percent and *** percent of importers' U.S. shipments from China and nonsubject sources, respectively.[22] Table IV-16 presents data on apparent U.S. consumption of all hardwood plywood, with the exception of underlayment.[23] These data show that apparent U.S. consumption of all other end uses of hardwood plywood increased by *** percent from 2014 to 2016. Domestically produced hardwood plywood accounted for approximately *** of apparent U.S. consumption of all other end uses of hardwood plywood during 2014-16, while hardwood plywood from China accounted for approximately *** and hardwood plywood from all other sources accounted for slightly less than *** of apparent U.S. consumption.

Table IV-16
Hardwood plywood: Apparent U.S. consumption for all hardwood plywood with the exception of underlayment, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

[22] See tables III-12 and IV-12.

[23] These data may be slightly overstated, as they include miscellaneous and unknown end uses, in which underlayment may be included.

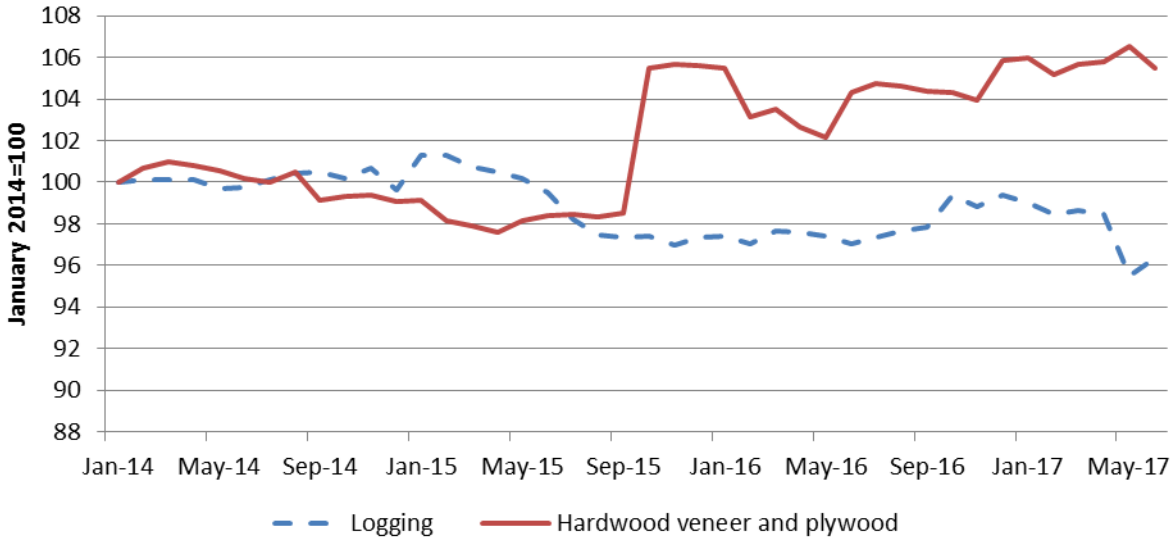
PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

Raw material costs remained relatively constant, decreasing only slightly from 79.4 percent of cost of goods sold ("COGS") in 2014 to 78.8 percent in 2016. The major raw material costs for hardwood plywood are the hardwood veneer and other plywood used in its production. Logging prices decreased slightly by about 4 percent between January 2014 and June 2017, while hardwood veneer and plywood prices declined by nearly 2 percent from January 2014 until September 2015 but increased by nearly 8 percent by June 2017 (figure V-1).

Figure V-1
Logging and hardwood veneer and plywood: Producer price indices, monthly, January 2014-June 2017



Source: Bureau of Labor Statistics, Producer Price Index Industry Data, https://data.bls.gov/cgi-bin/dsrv?pc, retrieved September 13, 2017.

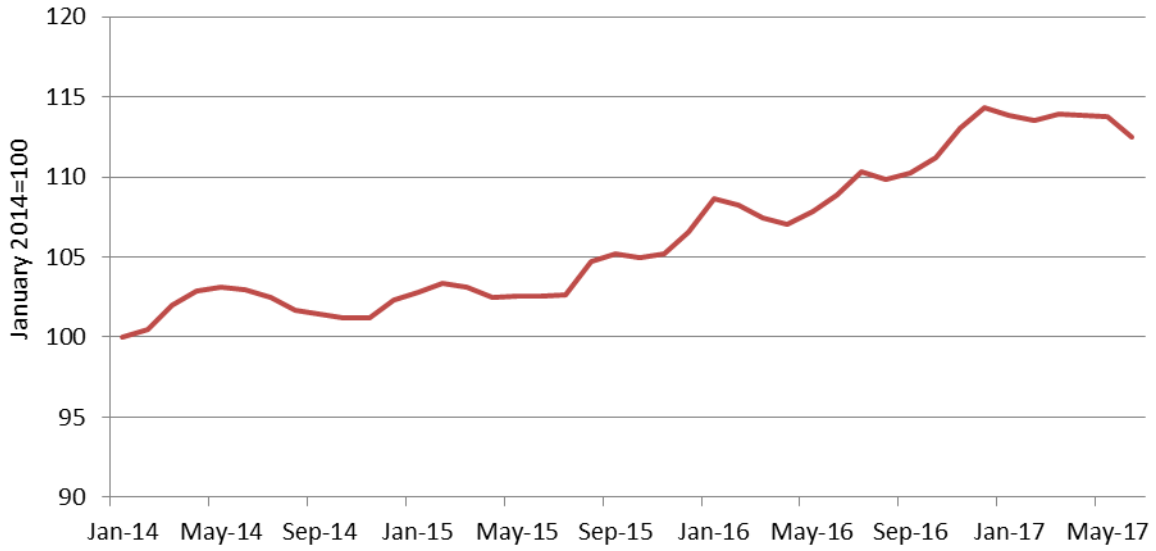
U.S. inland transportation costs

All responding U.S. producers and most responding importers (56 of 65) reported that they typically arrange transportation to their customers, and importers reported that they most commonly ship to their customers from storage. U.S. producers reported that their U.S. inland transportation costs ranged from 4 to 12 percent while most importers reported costs of 1 to 5 percent.

Exchange rates

As shown in figure V-2, the nominal value of the Chinese yuan decreased against the U.S. dollar from January 2014 to June 2017 by 12.5 percent.

Figure V-2
Exchange rates: Index of the China/U.S. foreign exchange rate, monthly, not seasonally adjusted, January 2014-June 2017



Source: Federal Reserve Bank of St. Louis, China / U.S. Foreign Exchange Rate, Chinese Yuan to One U.S. Dollar, Monthly, Not Seasonally Adjusted, https://fred.stlouisfed.org/series/EXCHUS, retrieved November 15, 2017.

PRICING PRACTICES

Pricing methods

U.S. producers and importers reported using transaction-by-transaction negotiations, contracts, price lists, and other methods. As presented in table V-1, U.S. producers and importers sell primarily through transaction-by-transaction negotiations. Some importers also cited other pricing methods, such as quarterly pricing for end users, back-to-back sales, customer and project specific quotes, and long-term agreements. Importer *** reported that its price is calculated on a cost-plus pricing model that is dependent on volumes, region, and competitiveness.

Table V-1
Hardwood plywood: 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	8	54
Contract	4	15
Set price list	3	8
Other	1	12
Total responding firms	8	70

[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.

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

U.S. producers and importers reported selling most of their hardwood plywood in the spot market, although importers also reported selling a substantial share of hardwood plywood through short-term contracts. As shown in table V-2, U.S. producers and importers reported their 2016 U.S. commercial shipments of hardwood plywood by type of sale.

Table V-2
Hardwood plywood: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2016

Item	U.S. producers	Subject U.S. importers
	Share (percent)	
Share of commercial U.S. shipments.--		
Long-term contracts	6.8	1.1
Annual contract	2.0	0.1
Short-term contracts	0.9	39.7
Spot sales	90.3	59.2

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

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

Short-term contracts with U.S. producers and importers ranged from 20 to 120 days, and long-term contracts ranged from two to five years. Short-term contracts offered by both producers and importers generally fix price and/or quantity, do not allow for price renegotiation, and do not have meet-or-release provisions. Based on the responses of two U.S. producers, long-term contracts offered by U.S. producers similarly fix price and do not have meet-or-release provisions, but allow for price renegotiation. Petitioners stated that prices of domestically produced hardwood plywood were ***.[1]

Fifteen of 38 purchasers reported that they purchase hardwood plywood daily, 17 purchase weekly, and 6 purchase monthly. Thirty-four of 38 responding purchasers reported

[1] Petitioners posthearing brief, Exhibit 1, p. 5.

that their purchasing frequency has not changed since 2014. Most (20 of 34) purchasers contact one to three suppliers before making a purchase.

Sales terms and discounts

Most U.S. producers (6 of 8) typically quote prices on an f.o.b. basis, while most responding importers (41 of 71) typically quote prices on a delivered basis. Half of responding producers and most importers reported offering no discounts. U.S. producer *** reported that it offers ***. Producer *** also reported offering volume incentives and producers *** reported offering rebates for strategic customers. Seven importers reported occasionally offering 1 percent discounts (or less), if pressed, or rebates for specific customers.

Five of eight producers reported sales terms of 1/10 net 11, 20, or 30 days, and 13 importers reported similar sales terms. Thirty-one importers reported sales terms of net 30 days, and ten importers reported sales terms of net 10 days.

Price leadership

Purchasers reported U.S. producers Columbia Forest Products (9 purchasers), Roseburg Forest Products (3), Timber Products (2), and States (1) were price leaders and that importers Canusa (2), Laminate Technologies and Liberty Woods (1 each) were also price leaders. In regard to Columbia Forest Products, purchaser *** stated that through its large market share and its sales of veneers to other manufacturers, Columbia Forest Products often leads price changes, and purchaser *** reported that Columbia Forest Products sometimes causes "false shortages" by continuously raising and lowering prices.

PRICE DATA

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following hardwood plywood products shipped to unrelated U.S. customers during January 2014-June 2017.[2] [3]

***Product 1*.--** 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or

---

[2] U.S. producer *** is unable to provide pricing data net of discounts and rebates. ***. U.S. International Trade Commission Verification Report, Inv. Nos. 701-TA-565 and 731-TA-1341.

U.S. importer *** was unable to exclude U.S. inland transportation costs from pricing data. Staff phone interview with ***, August 29, 2017. These reported prices, however, were not substantially higher than prices reported by other firms and are included in the analysis.

[3] Petitioners confirmed that all six pricing products are used primarily for non-exposed cabinetry applications, and as cabinet boxes or interior component materials, and that pricing products 4 and 6 are often used for drawer bottoms or as cabinet back materials, both of which are non-exposed interiors. Petitioners posthearing brief, Exhibit 1, p. 70.

substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Product 2.-- 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, prefinished.

Product 3.-- 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Product 4.-- 5.2 mm (1/4") thickness (actual or nominal), 4x8 panel size, Maple face (whether plain or rotary sliced), face Grade B or substantially equivalent, Maple back (whether plain or rotary sliced), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Product 5.-- 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, prefinished.

Product 6.-- 5.2 mm (1/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether plain or rotary sliced), face Grade C or substantially equivalent, back face of Birch or other, Grade 2/3 or substantially equivalent, veneer core, unfinished.

Seven U.S. producers and 42 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products or for all quarters.[4] Pricing data reported by these firms accounted for approximately 9.2 percent of U.S. producers' U.S. shipments of hardwood plywood and 27.1 percent of U.S. shipments of subject imports from China in 2016.

Fourteen importers that provided pricing data provided data for thin-faced veneers of less than 0.3 mm that they deemed closely comparable to the defined pricing products. Pricing data for thin veneer products accounted for 51 percent to 87 percent of the quantities reported for pricing products 1, 2, 3, 5, and 6 imported from China, and the average prices for these products over the period of investigation ranged from 4.5 percent less to 1.3 percent more than products matching the exact veneer thickness in the pricing definition. Pricing data for thin veneer products accounted for 16 percent of the quantity reported for pricing product 4 and the average price of these products over the period were 23.5 percent less.

[4] 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.

Price data for products 1-6 are presented in tables V-3 to V-8 and figures V-2 to V-7. Nonsubject country prices are presented in Appendix E.

Table V-3
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1] and margins of underselling/(overselling), by quarters, January 2014-June 2017

	United States		China		
Period	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)	Margin (percent)
2014:					
Jan.-Mar.	0.92	3,078,128	0.62	7,532,834	32.7
Apr.-Jun.	0.93	2,542,640	0.62	9,919,147	34.0
Jul.-Sep.	0.94	2,379,968	0.59	10,753,655	37.1
Oct.-Dec.	0.94	2,345,456	0.60	9,422,026	36.5
2015:					
Jan.-Mar.	0.95	2,320,352	0.61	11,647,250	36.3
Apr.-Jun.	0.96	2,704,496	0.58	14,279,853	39.1
Jul.-Sep.	0.95	2,564,984	0.58	12,284,524	39.5
Oct.-Dec.	0.94	2,685,032	0.57	11,001,931	39.0
2016:					
Jan.-Mar.	0.93	2,665,664	0.56	11,723,966	39.5
Apr.-Jun.	0.91	2,833,360	0.57	11,121,611	37.6
Jul.-Sep.	0.91	2,465,056	0.56	11,029,023	38.6
Oct.-Dec.	0.91	2,203,184	0.55	13,031,707	39.6
2017:					
Jan.-Mar.	0.90	2,770,872	0.60	13,156,572	34.0
Apr.-Jun.	0.91	2,567,040	0.63	11,755,196	30.7

[1] Product 1: 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Notes.-- Importers *** reported prices for products that they judged most comparable, but indicated that these products did not satisfy the ANSI/HPVA grade standards. U.S. importer *** provided pricing data for which 10-15 percent of its reported sales quantities were for lower grades outside of the pricing definition.

Staff removed pricing data reported by importer *** for pricing product 1 from China during Q4 2014 and Q2 2016 because these were erroneous data and firm was unable to correct.

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

Table V-4
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] and margins of underselling/(overselling), by quarters, January 2014-June 2017

Period	United States		China		
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)	Margin (percent)
2014:					
Jan.-Mar.	1.17	217,760	0.78	4,359,626	33.0
Apr.-Jun.	1.11	191,904	0.75	5,050,654	32.3
Jul.-Sep.	1.15	167,968	0.75	5,077,871	34.8
Oct.-Dec.	1.11	170,016	0.74	4,441,441	34.0
2015:					
Jan.-Mar.	1.17	253,120	0.73	5,300,480	38.0
Apr.-Jun.	1.19	175,168	0.73	5,251,522	38.5
Jul.-Sep.	***	***	0.75	5,081,754	***
Oct.-Dec.	1.20	129,888	0.74	3,782,717	38.0
2016:					
Jan.-Mar.	1.09	207,144	0.71	5,755,524	34.6
Apr.-Jun.	1.22	127,232	0.72	6,002,277	40.5
Jul.-Sep.	1.09	200,896	0.69	6,152,273	36.5
Oct.-Dec.	1.15	75,424	0.68	7,602,146	41.3
2017:					
Jan.-Mar.	1.13	113,088	0.72	9,039,553	36.5
Apr.-Jun.	1.12	141,376	0.77	9,304,648	31.8

[1] Product 2: 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, prefinished.

Notes.-- Importers *** reported prices for products that they judged most comparable, but indicated that these products did not satisfy the ANSI/ HPVA grade standards. U.S. importer *** provided pricing data for which 10-15 percent of its reported sales quantities were for lower grades outside of the pricing definition.

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

Table V-5
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 3[1] and margins of underselling/(overselling), by quarters, January 2014-June 2017

Period	United States		China		
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)	Margin (percent)
2014:					
Jan.-Mar.	1.14	11,211,240	0.83	13,950,263	27.4
Apr.-Jun.	1.15	9,950,456	0.81	17,028,493	29.2
Jul.-Sep.	1.14	10,181,416	0.81	18,052,279	29.4
Oct.-Dec.	1.15	9,468,704	0.81	15,824,704	29.7
2015:					
Jan.-Mar.	1.16	10,823,341	0.80	19,154,441	30.9
Apr.-Jun.	1.16	9,507,896	0.81	18,217,879	29.9
Jul.-Sep.	1.16	8,024,120	0.80	17,377,603	31.3
Oct.-Dec.	1.14	8,794,192	0.76	17,150,374	33.9
2016:					
Jan.-Mar.	1.15	9,667,608	0.77	19,471,791	33.4
Apr.-Jun.	1.14	7,916,072	0.75	19,509,721	34.5
Jul.-Sep.	1.13	7,295,328	0.73	17,502,811	35.2
Oct.-Dec.	1.12	6,276,272	0.72	19,727,358	36.0
2017:					
Jan.-Mar.	1.12	7,390,992	0.78	19,488,083	29.8
Apr.-Jun.	1.12	7,176,448	0.81	17,059,071	28.0

[1] Product 3: 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Notes.-- Importers *** reported prices for products that they judged most comparable, but indicated that these products did not satisfy the ANSI/HPVA grade standards. U.S. importer *** provided pricing data for which 20 percent of its reported sales quantities were for lower grades outside of the pricing definition. Importer *** reported pricing data for ***.

U.S. importer *** reported that it developed most of this product for one customer ***.

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

Table V-6
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 4[1] and margins of underselling/(overselling), by quarters, January 2014-June 2017

Period	United States		China		
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)	Margin (percent)
2014:					
Jan.-Mar.	0.67	725,880	0.42	580,304	37.1
Apr.-Jun.	0.68	807,784	0.35	1,076,480	49.2
Jul.-Sep.	0.66	927,280	0.39	1,155,560	40.6
Oct.-Dec.	0.66	639,376	0.34	1,016,773	48.7
2015:					
Jan.-Mar.	0.64	792,776	***	***	***
Apr.-Jun.	0.64	872,728	0.42	739,358	33.9
Jul.-Sep.	0.65	737,216	0.36	740,896	44.3
Oct.-Dec.	0.62	716,296	***	***	***
2016:					
Jan.-Mar.	0.65	778,592	***	***	***
Apr.-Jun.	0.64	787,968	0.28	1,317,036	55.3
Jul.-Sep.	0.64	869,352	0.29	1,056,268	54.4
Oct.-Dec.	0.63	651,072	***	***	***
2017:					
Jan.-Mar.	0.62	705,504	***	***	***
Apr.-Jun.	0.64	693,488	0.38	486,272	40.9

[1] Product 4: 5.2 mm (1/4") thickness (actual or nominal), 4x8 panel size, Maple face (whether plain or rotary sliced), face Grade B or substantially equivalent, Maple back (whether plain or rotary sliced), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Notes.-- Importer *** reported prices for products that they judged most comparable, but indicated that these products did not satisfy the ANSI/HPVA grade standards.

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

Table V-7
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 5[1] and margins of underselling/(overselling), by quarters, January 2014-June 2017

Period	United States		China		
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)	Margin (percent)
2014:					
Jan.-Mar.	1.44	356,512	0.97	7,226,066	32.3
Apr.-Jun.	1.45	360,224	0.97	8,800,436	33.4
Jul.-Sep.	1.48	351,936	0.94	9,458,260	36.4
Oct.-Dec.	1.44	300,320	0.95	8,070,519	33.7
2015:					
Jan.-Mar.	1.45	371,552	1.00	11,770,634	31.2
Apr.-Jun.	1.44	405,856	0.92	10,159,810	36.1
Jul.-Sep.	1.46	296,960	0.93	8,963,273	36.5
Oct.-Dec.	1.41	339,360	0.91	8,645,636	35.8
2016:					
Jan.-Mar.	1.43	382,400	0.89	9,723,532	37.9
Apr.-Jun.	1.43	392,224	0.87	10,699,404	39.1
Jul.-Sep.	***	***	0.85	10,236,697	***
Oct.-Dec.	1.41	256,576	0.86	11,931,549	39.0
2017:					
Jan.-Mar.	1.43	315,680	0.93	13,558,553	34.8
Apr.-Jun.	***	***	0.99	12,537,558	***

[1] Product 5: 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, prefinished.

Note.-- Importers *** reported prices for products that they judged most comparable, but indicated that these products did not satisfy the ANSI/HPVA grade standards. U.S. importer *** provided pricing data for which 15-20 percent of its reported sales quantities were for lower grades outside of the pricing definition. U.S. importer *** reported prices for a ***.

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

Table V-8
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 6[1] and margins of underselling/(overselling), by quarters, January 2014-June 2017

Period	United States		China		
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)	Margin (percent)
2014:					
Jan.-Mar.	0.60	668,512	***	***	***
Apr.-Jun.	0.60	559,136	***	***	***
Jul.-Sep.	0.60	510,528	***	***	***
Oct.-Dec.	0.58	592,960	***	***	***
2015:					
Jan.-Mar.	0.59	637,680	***	***	***
Apr.-Jun.	0.58	1,385,696	***	***	***
Jul.-Sep.	0.56	2,331,544	***	***	***
Oct.-Dec.	0.57	2,909,568	***	***	***
2016:					
Jan.-Mar.	0.57	2,838,288	***	***	***
Apr.-Jun.	0.57	2,814,672	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	0.26	52,055,564	***
2017:					
Jan.-Mar.	***	***	0.28	50,594,285	***
Apr.-Jun.	***	***	0.29	48,166,864	***

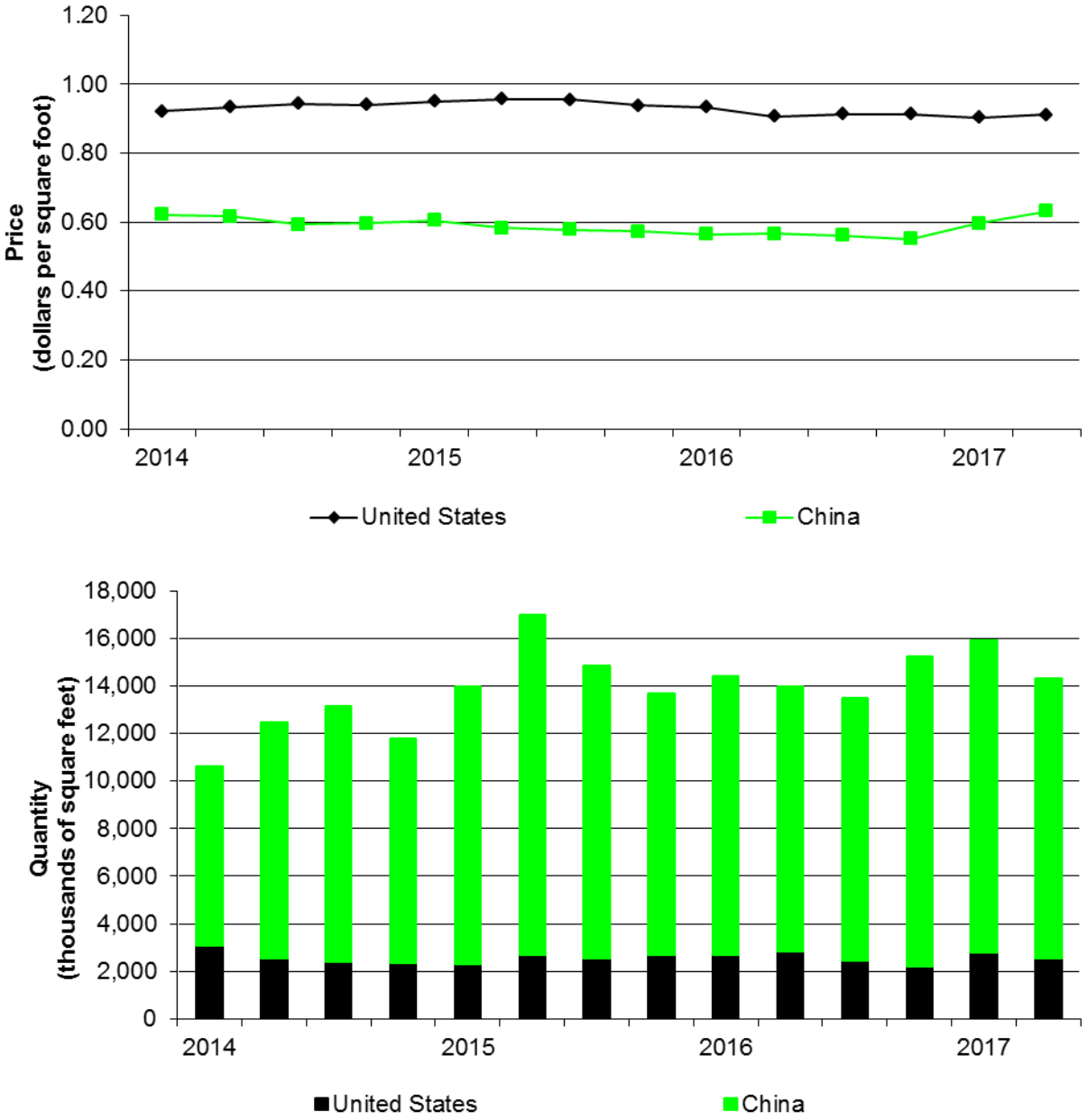
[1] Product 6: 5.2 mm (1/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether plain or rotary sliced), face Grade C or substantially equivalent, back face of Birch or other, Grade 2/3 or substantially equivalent, veneer core, unfinished.

Notes.-- U.S. producer *** reported that in the second quarter of 2015, ***. U.S. importer *** provided pricing data for grades E/F, and importer *** reported pricing data for ***.

Staff has excluded pricing data reported by U.S. importer *** because it stated that its product was an engineered veneer product (not plain or rotary sliced), and that it does not compare with Birch plywood. Staff removed data for pricing product 6 from China that were reported by importer *** because the alternative product was not of the same species and by importer *** because reported prices were three to four times higher than average prices reported by all other firms.

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

Figure V-2
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1], by quarters, January 2014-June 2017



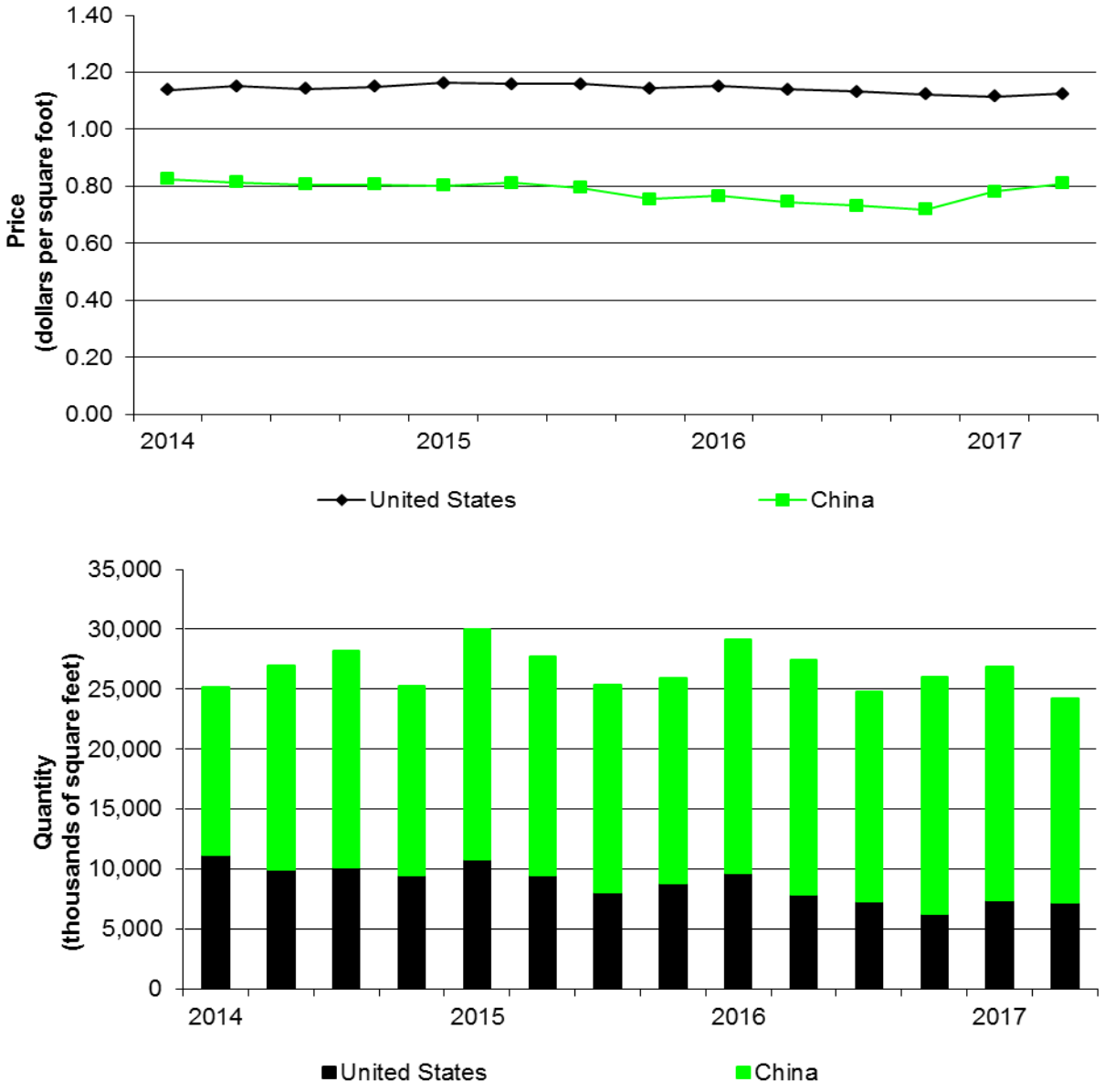
[1] Product 1: 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

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

Figure V-3
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1], by quarters, January 2014-June 2017

* * * * * * *

Figure V-4
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 3[1], by quarters, January 2014-June 2017



[1] Product 3: 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

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

Figure V-5
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 4[1], by quarters, January 2014-June 2017

* * * * * * *

Figure V-6
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 5[1], by quarters, January 2014-June 2017

* * * * * * *

Figure V-7
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 6[1], by quarters, January 2014-June 2017

* * * * * * *

Price trends

In general, prices decreased during January 2014-June 2017. Table V-9 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases ranged from 1.1 percent to *** percent during January 2014-June 2017, while import price decreases ranged from 1.9 percent to *** percent. Prices of pricing products 1 and 6 imported from China showed price increases of 1.8 percent and *** percent, respectively.

Table V-9
Hardwood plywood: Summary of weighted-average f.o.b. prices for products 1-6 from the United States and China

Item	Number of quarters	Low price (dollars per square foot)	High price (dollars per square foot)	Change in price over period[1] (percent)
Product 1:				
United States	14	0.90	0.96	(1.2)
China	14	0.55	0.63	1.8
Product 2:				
United States	14	***	***	***
China	14	0.68	0.78	(2.0)
Product 3:				
United States	14	1.12	1.16	(1.1)
China	14	0.72	0.83	(1.9)
Product 4:				
United States	14	0.62	0.68	(4.6)
China	14	***	***	***
Product 5:				
United States	14	***	***	***
China	14	0.85	1.00	(2.0)
Product 6:				
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.

Price comparisons

As shown in table V-10, prices for hardwood plywood products imported from China were below those for U.S.-produced products in all 84 instances (1.2 billion square feet); margins of underselling ranged from 27.4 percent to 57.1 percent.

Table V-10
Hardwood plywood: Instances of underselling and the range and average of margins, by country, January 2014-June 2017

Source	Underselling				
	Number of quarters	Quantity (square feet)	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1	14	158,659,295	36.7	30.7	39.6
Product 2	14	***	***	***	***
Product 3	14	249,514,871	31.3	27.4	36.0
Product 4	14	***	***	***	***
Product 5	14	***	***	***	***
Product 6	14	***	***	***	***
Total, underselling	84	1,241,812,481	39.9	27.4	57.1

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

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

Petitioners stated that non-price differences such as delivery time, reliability, minimum quantity requirements, product range, and technical support drive these large margins of underselling.[5] Respondents stated that the pattern of underselling is attributable to product differences such as veneer thicknesses or suitability for lamination, sanding, or painting, that dictate end-use applications.[6]

LOST SALES AND LOST REVENUE

In the preliminary phase of the investigations, the Commission requested that U.S. producers of hardwood plywood report purchasers where they experienced instances of lost sales or revenue due to competition from imports of hardwood plywood from China since January 2013. Four U.S. producers submitted lost sales and lost revenue allegations during the preliminary phase. Responding U.S. producers identified 48 firms from which they lost sales or revenue (36 consisting lost sales allegations and 12 consisting of both types of allegations).

In the final phase of these investigations, five of the eight responding U.S. producers reported that they had to reduce prices and four reported that they had to roll back announced price increases. Seven firms reported that they had lost sales.

[5] Petitioners posthearing brief, Exhibit 1, p. 10.
[6] Respondent AAHP posthearing brief, Exhibit A, pp. 1-2.

Staff contacted 88 purchasers and received responses from 38 purchasers.[7] Responding purchasers reported purchasing 5.6 billion square feet of hardwood plywood during 2014-16 (table V-11).[8]

Table V-11
Hardwood plywood: Purchasers' responses to purchasing patterns

* * * * * * *

Of the 38 responding purchasers, 23 reported that, since 2014, they had purchased imported hardwood plywood from China instead of U.S.-produced product. Twenty-two of these purchasers reported that subject import prices were lower than U.S.-produced product, and 13 of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product. These purchasers estimated the quantity of hardwood plywood from China purchased instead of domestic product; quantities ranged from *** square feet to *** square feet (table V-12).

Ten purchasers identified quality and availability as non-price reasons for purchasing imported rather than U.S.-produced product. Purchasers *** reported that some required products are not available domestically and/or that they prefer the availability of Chinese product. Purchaser *** reported that its customers preferred Chinese hardwood plywood, and purchasers *** indicated that Chinese hardwood plywood has better quality and fewer defective panels.

Table V-12
Hardwood plywood: Purchasers' responses to purchasing subject imports instead of domestic product

* * * * * * *

Of the 38 responding purchasers, 25 reported that U.S. producers had not reduced prices in order to compete with lower priced imports from China (table V-13; four reported that U.S. producers had reduced their prices by various amounts, and nine reported that they did not know). The reported estimated price reduction ranged from 10 to 18 percent. Purchasers *** stated the domestic producers offered lower prices only for mid- to low-grade hardwood plywood. Purchaser *** reported that the primary price reductions have been in birch products.

[7] Four purchasers (***) submitted lost sales lost revenue survey responses in the preliminary phase, but did not submit purchaser questionnaire responses in the final phase.

[8] Eight responding purchasers reported also importing 186 million square feet of hardwood plywood during 2014-16.

Table V-13
Hardwood plywood: Purchasers' responses to U.S. producer price reductions

* * * * * * *

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

INTRODUCTION

Eight U.S. producers (***) provided financial data on their operations on hardwood plywood.[1] [2] These data are believed to account for nearly all of U.S. production of hardwood plywood in 2016.[3] Net sales consisted primarily of commercial sales; however, four firms reported internal consumption or related party transfers. Combined, non-commercial sales accounted for 4.3 percent of total net sales value in 2016. Non-commercial sales are included but not shown separately in this section of the report.[4]

OPERATIONS ON HARDWOOD PLYWOOD

Table VI-1 presents aggregated data on U.S. producers' operations in relation to hardwood plywood. Table VI-2 shows the changes in average unit values of select financial indicators. Table VI-3 presents selected company-specific financial data.

The reported aggregate net sales quantity declined by 7.7 percent between 2014 and 2016 and the aggregate net sales value decreased by 7.8 percent. Operating costs and expenses (the aggregate cost of goods sold ("COGS") and selling, general, and administrative ("SG&A") expenses, combined) decreased by 4.6 percent during the same period. Gross, operating, and net income declined between 2014 and 2016 as a result of larger decreases in revenue compared to operating costs and expenses.

Net sales quantity, net sales value, and profitability were lower in January-June 2017 than in January-June 2016. The reported aggregate net sales quantity and value both were lower by 1.3 percent, respectively. Operating costs and expenses were 0.1 percent higher in January-June 2017 than in January-June 2016. Gross, operating, and net income were lower as a result of a reduction in revenue with an increase in operating costs and expenses.

---

[1] The producers with fiscal year ends other than December 31 are ***.

[2] Staff verified the financial data reported by ***. The verification adjustments were incorporated into this report. ***.

[3] *** did not provide any financial data for these investigations. Based on reported shipment data, the firm would represent approximately *** percent of total net sales quantity and *** percent of total net sales value in 2016.

[4] *** reported transfers to related firms, while *** reported internal consumption. All firms reported that non-commercial sales reflect fair market value. Emails from ***, September 5, 2017, ***, September 6, 2017, ***, September 7, 2017, and ***, September 7, 2017. Such shipments generally had ***. Emails from ***, December 7, 2016, and ***, December 8, 2016 and December 12, 2016. *Part III* provides additional details regarding transfers to related firms and internal consumption.

Table VI-1
Hardwood plywood: Results of operations of U.S. producers, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
Total net sales	671,730	650,301	620,049	320,085	315,796
	Value (1,000 dollars)				
Total net sales	812,565	788,737	748,961	388,534	383,495
Cost of goods sold.-- Raw materials	568,707	560,310	537,227	274,112	272,021
Direct labor	78,178	79,161	77,314	39,476	40,726
Other factory costs	69,616	69,046	67,559	34,064	35,831
Total COGS	716,501	708,517	682,100	347,652	348,578
Gross profit	96,064	80,220	66,861	40,882	34,917
SG&A expense	62,603	61,490	61,503	31,390	30,784
Operating income or (loss)	33,461	18,730	5,358	9,492	4,133
Interest expense	2,742	2,481	2,219	1,134	1,180
All other expenses	226	1,719	(613)	101	(165)
All other income	1,136	1,019	1,205	503	472
Net income or (loss)	31,629	15,549	4,957	8,760	3,590
Depreciation/amortization	13,802	13,941	14,983	7,555	7,602
Cash flow	45,431	29,490	19,940	16,315	11,192
	Ratio to net sales (percent)				
Cost of goods sold.-- Raw materials	70.0	71.0	71.7	70.6	70.9
Direct labor	9.6	10.0	10.3	10.2	10.6
Other factory costs	8.6	8.8	9.0	8.8	9.3
Average COGS	88.2	89.8	91.1	89.5	90.9
Gross profit	11.8	10.2	8.9	10.5	9.1
SG&A expense	7.7	7.8	8.2	8.1	8.0
Operating income or (loss)	4.1	2.4	0.7	2.4	1.1
Net income or (loss)	3.9	2.0	0.7	2.3	0.9

Table continued on the next page.

Table VI-1–Continued
Hardwood plywood: Results of operations of U.S. producers, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January - June	
	2014	2015	2016	2016	2017
	Ratio to total COGS (percent)				
Cost of goods sold.-- Raw materials	79.4	79.1	78.8	78.8	78.0
Direct labor	10.9	11.2	11.3	11.4	11.7
Other factory costs	9.7	9.7	9.9	9.8	10.3
Average COGS	100.0	100.0	100.0	100.0	100.0
	Unit value (dollars per square foot)				
Total net sales	1.21	1.21	1.21	1.21	1.21
Cost of goods sold.-- Raw materials	0.85	0.86	0.87	0.856	0.861
Direct labor	0.12	0.12	0.12	0.12	0.13
Other factory costs	0.10	0.11	0.11	0.11	0.11
Average COGS	1.07	1.09	1.10	1.09	1.10
Gross profit	0.14	0.12	0.11	0.13	0.11
SG&A expense	0.09	0.09	0.10	0.10	0.10
Operating income or (loss)	0.05	0.03	0.01	0.03	0.01
Net income or (loss)	0.05	0.02	0.01	0.03	0.01
	Number of firms reporting				
Operating losses	1	2	6	3	4
Net losses	1	3	5	3	4
Data	8	8	8	8	8

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

Table VI-2
Hardwood plywood: Changes in AUVs, between fiscal years and between partial year periods

Item	Between fiscal years			Between partial year period
	2014-16	2014-15	2015-16	2016-17
	Changes in AUVs (dollars per square foot)			
Total net sales	(0.002)	0.003	(0.005)	0.001
Cost of goods sold.-- Raw materials	0.02	0.01	0.005	0.005
Direct labor	0.01	0.01	0.003	0.01
Other factory costs	0.01	0.003	0.003	0.01
Average COGS	0.03	0.02	0.01	0.02
Gross profit	(0.04)	(0.02)	(0.02)	(0.02)
SG&A expense	0.01	0.001	0.005	(0.001)
Operating income or (loss)	(0.04)	(0.02)	(0.02)	(0.02)
Net income or (loss)	(0.04)	(0.02)	(0.02)	(0.02)

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

Table VI-3
Hardwood plywood: Select results of operations of U.S. producers, by company, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Total net sales (1,000 square feet)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total net sales quantity	671,730	650,301	620,049	320,085	315,796
	Total net sales (1,000 dollars)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total net sales value	812,565	788,737	748,961	388,534	383,495
	Cost of goods sold (1,000 dollars)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total COGS	716,501	708,517	682,100	347,652	348,578

Table continued on the next page.

Table VI-3—Continued
Hardwood plywood: Select results of operations of U.S. producers, by company, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Gross profit or (loss) (1,000 dollars)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total gross profit or (loss)	96,064	80,220	66,861	40,882	34,917
	SG&A expenses (1,000 dollars)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total SG&A expenses	62,603	61,490	61,503	31,390	30,784
	Operating income or (loss) (1,000 dollars)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total operating income or (loss)	33,461	18,730	5,358	9,492	4,133

Table continued on next page.

Table VI-3—Continued
Hardwood plywood: Select results of operations of U.S. producers, by company, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Net income or (loss) (1,000 dollars)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total net income or (loss)	31,629	15,549	4,957	8,760	3,590
	COGS to net sales ratio (percent)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average COGS to net sales ratio	88.2	89.8	91.1	89.5	90.9
	Gross profit or (loss) to net sales ratio (percent)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average gross profit or (loss) to net sales ratio	11.8	10.2	8.9	10.5	9.1

Table continued on next page.

Table VI-3—Continued
Hardwood plywood: Select results of operations of U.S. producers, by company, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	SG&A expense to net sales ratio (percent)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average SG&A expense to net sales ratio	7.7	7.8	8.2	8.1	8.0
	Operating income or (loss) to net sales ratio (percent)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average operating income or (loss) to net sales ratio	4.1	2.4	0.7	2.4	1.1
	Net income or (loss) to net sales ratio (percent)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average net income or (loss) to net sales ratio	3.9	2.0	0.7	2.3	0.9

Table continued on next page.

Table VI-3—Continued
Hardwood plywood: Select results of operations of U.S. producers, by company, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Unit net sales value (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit net sales value	1.21	1.21	1.21	1.21	1.21
	Unit raw materials (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit raw materials	0.85	0.86	0.87	0.86	0.86
	Unit direct labor (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit direct labor	0.12	0.12	0.12	0.12	0.13

Table continued on next page.

Table VI-3—Continued
Hardwood plywood: Select results of operations of U.S. producers, by company, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Unit other factory costs (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit other factory costs	0.10	0.11	0.11	0.11	0.11
	Unit COGS (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit COGS	1.07	1.09	1.10	1.09	1.10
	Unit gross profit or (loss) (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit gross profit or (loss)	0.14	0.12	0.11	0.13	0.11

Table continued on next page.

Table VI-3—Continued
Hardwood plywood: Select results of operations of U.S. producers, by company, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Unit SG&A expenses (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit SG&A expense	0.09	0.09	0.10	0.10	0.10
	Unit operating income or (loss) (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit operating income or (loss)	0.05	0.03	0.01	0.03	0.01
	Unit net income or (loss) (dollars per square foot)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Average unit net income or (loss)	0.05	0.02	0.01	0.03	0.01

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

Per-square foot revenue was unchanged from 2014 to 2016, and between the comparable interim periods.[5] On a per-square foot basis, raw material costs increased from 2014 to 2016, and were higher in January-June 2017 than in January-June 2016.[6] Direct labor costs were unchanged from 2014 to 2016 and were higher in January-June 2017 than in January-June 2016.[7] Other factory costs increased from 2014 to 2016, and were unchanged between the comparable interim periods.[8]

In combination, per-square foot COGS increased from 2014 to 2016, and was higher in January-June 2017 than in January-June 2016. Per-square foot SG&A expenses increased from 2014 to 2016 and were unchanged between the comparable interim periods. [9]

The aforementioned trends in per-square foot revenue and costs are reflected in declines in gross, operating, and net income from 2014 to 2016, and lower gross, operating, and net income in January-June 2017 than in January-June 2016.

As a ratio to net sales, all three components of COGS (raw materials, direct labor, and other factory costs) increased from 2014 to 2016, as well as between the comparable interim periods, which resulted in increases in total COGS as a ratio to net sales for the full and partial year periods. SG&A expenses increased as a ratio to net sales from 2014 to 2016, and were lower in January-June 2017 than in January-June 2016. Both the industry's COGS and SG&A expenses as a ratio to net sales moved within a relatively narrow band during the period examined.

The aforementioned trends in COGS and SG&A expenses as ratios to net sales resulted in declines in gross, operating, and net income-to-sales from 2014 to 2016, as well as lower gross, operating, and net income-to-sales in January-June 2017 compared to January-June 2016.

Raw material costs accounted for an average of 78.8 percent of total COGS from 2014 to June 2017, and had a notable impact on the trends in COGS during this time. Log costs comprise the large majority of raw material costs, and conference testimony indicated that in some markets these costs have increased since 2013.[10] Some U.S. producers are vertically integrated and obtain logs from related suppliers, while other firms purchase logs on a spot basis or through short or long term contracts.[11] [12]

---

[5] ***. Email from ***, September 6, 2017.

[6] Unit raw material costs increased by $0.02 per square foot between 2014 and 2016, and were higher by $0.005 in January-June 2017 compared to January-June 2016. In a variance to the industry trend, ***. According to ***. Email from ***, September 6, 2017.

[7] Direct labor costs were higher by $0.01 per square foot in January-June 2017 compared to January-June 2016.

[8] Other factory costs increased by $0.01 per square foot between 2014 and 2016.

[9] ***. According to ***. Email from ***, September 6, 2017.

[10] Conference transcript, pp. 81-83 (Thompson, Lynch, Howlett).

[11] Conference transcript, p. 110 (Thompson, Overgard, Lynch).

[12] *** reported some raw material purchases from related suppliers, primarily for veneer inputs. Most firms reported that such inputs were purchased at fair market value, and all firms *** reported in

(*continued*...)

Certain U.S. producers reported relatively greater operating profits as a ratio to net sales compared to the average results for all firms, most notably ***. According to ***.[13]

According to ***.[14]

While the U.S. industry overall reported a decline in profitability from 2014 to 2016, *** reported operating losses throughout all or most of the period for which data were requested. According to ***.[15]

According to ***.[16]

Variance analysis

The variance analysis presented in table VI-4 is based on the data in table VI-1.[17] The analysis shows that the decline in operating income from 2014 to 2016 is primarily attributable to unfavorable net cost/expense and price variances (costs and expenses increased and prices declined). The lower operating income in January-June 2017 compared to January-June 2016 is primarily attributable to an unfavorable net cost/expense variance despite a favorable price variance (costs and expenses increased more than prices).

(…*continued*)
a manner consistent with their accounting practices in the normal course of business. ***. U.S. producers' questionnaire response of ***, questions III-7 and III-8.

[13] Email from ***, September 8, 2017.

[14] Emails from ***, December 16, 2016 and ***, September 8, 2017.

[15] Emails from ***, December 15, 2016 and September 6, 2017.

[16] Emails from ***, December 16, 2016 and ***, September 5, 2017.

[17] 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 variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances.

Table VI-4
Hardwood plywood: Variance analysis for U.S. producers, between fiscal years and between partial year periods

Item	Between fiscal years			Between partial year period
	2014-16	2014-15	2015-16	2016-17
	Value (1,000 dollars)			
Net sales:				
Price variance	(1,088)	2,094	(3,084)	167
Volume variance	(62,516)	(25,922)	(36,692)	(5,206)
Net sales variance	(63,604)	(23,828)	(39,776)	(5,039)
COGS:				
Cost variance	(20,725)	(14,873)	(6,543)	(5,584)
Volume variance	55,126	22,857	32,960	4,658
COGS variance	34,401	7,984	26,417	(926)
Gross profit variance	(29,203)	(15,844)	(13,359)	(5,965)
SG&A expenses:				
Cost/expense variance	(3,716)	(884)	(2,874)	185
Volume variance	4,816	1,997	2,861	421
Total SG&A expense variance	1,100	1,113	(13)	606
Operating income variance	(28,103)	(14,731)	(13,372)	(5,359)
Summarized (at the operating income level) as:				
Price variance	(1,088)	2,094	(3,084)	167
Net cost/expense variance	(24,441)	(15,757)	(9,417)	(5,399)
Net volume variance	(2,574)	(1,067)	(871)	(127)

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

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-5 presents capital expenditures. All eight firms reported capital expenditure data, and no firms reported research and development ("R&D") expenses.[18] Aggregate capital expenditures increased irregularly from 2014 to 2016, but were lower in January-June 2017 compared to January-June 2016.

[18] According to ***. U.S. producers' questionnaire response of ***, question III-13.

Table VI-5
Hardwood plywood: Capital expenditures for U.S. producers, by firm, 2014-16, January to June 2016, and January to June 2017

Item	Fiscal year			January - June	
	2014	2015	2016	2016	2017
	Capital expenditures (1,000 dollars)				
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	15,158	21,853	16,536	9,515	4,613

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

ASSETS AND RETURN ON ASSETS

Table VI-6 presents data on the U.S. producers' total assets and their operating return on assets.[19] The total assets utilized in the production, warehousing, and sale of hardwood plywood increased from $223.2 million in 2014 to $239.7 million in 2015 before decreasing to $232.1 million in 2016. The ROA declined from 15.0 percent in 2014 to 2.3 percent in 2016.

[19] The return on assets is calculated as operating income divided by total assets. With respect to a firm's overall operations, the total asset value reflects an aggregation of a number of assets which are generally not product specific. Thus, high-level allocations were generally required in order to report a total asset value for hardwood plywood.

Table VI-6
Hardwood plywood: Value of assets used in production, warehousing, and sales, and return on assets for U.S. producers by firm, 2014-16

Firm	Fiscal years		
	2014	2015	2016
	Total net assets (1,000 dollars)		
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
Total	223,174	239,693	232,092
	Operating return on assets (percent)		
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
Average	15.0	7.8	2.3

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

CAPITAL AND INVESTMENT

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

Table VI-7
Hardwood plywood: Actual and anticipated negative effects of imports on investment and growth and development

Item	No	Yes
Negative effects on investment	1	7
Cancellation, postponement, or rejection of expansion projects		5
Denial or rejection of investment proposal		2
Reduction in the size of capital investments		5
Return on specific investments negatively impacted		5
Other		6
Negative effects on growth and development	1	7
Rejection of bank loans		1
Lowering of credit rating		0
Problem related to the issue of stocks or bonds		0
Ability to service debt		3
Other		6
Anticipated negative effects of imports	1	7

Note—All firms except *** reported that there were actual investment effects, and all firms except *** reported actual effects on growth and development. All firms except *** reported anticipated negative effects.

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

Table VI-8
Hardwood plywood: Narratives relating to actual and anticipated negative effects of imports on investment and growth and development, since January 1, 2014

* * * * * * *

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

[2] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

THE INDUSTRY IN CHINA

The petitioner provided the Commission with the names of 852 firms believed to produce and/or export hardwood plywood from China.[3] [4] Of these 852 firms, the Commission obtained valid email addresses for 323, to which the Commission issued foreign producers' or exporters' questionnaires.[5] An additional 21 firms that were not contained in the list provided by the petitioners but that submitted questionnaire responses in the preliminary phase of these investigations were also issued foreign producers' or exporters' questionnaires. Usable responses to the Commission's questionnaire were received from 92 firms, 53 of which identified themselves as producers of subject merchandise and 39 of which identified themselves as resellers of subject merchandise.[6] [7] These firms' exports to the United States were equivalent to 86.0 percent of reported U.S. imports of hardwood plywood from China in 2016. According to estimates requested of the responding Chinese producers, the production of hardwood plywood in China reported in this part of the report accounts for less than half of the overall production of hardwood plywood in China. Counsel for Chinese respondents also provided staff with the estimated capacity and production quantities of 90 nonresponding foreign producers of the subject merchandise in China in calendar year 2016, January to June 2016, and January to June 2017.[8] These non-responding foreign producers accounted for approximately 1.8 billion square feet of production capacity and 1.5 billion square feet of production of hardwood plywood in China in 2016. Together, the data provided by responding foreign producers and the estimates provided for non-responding foreign producers are

---

[3] Petitioners originally submitted the names of 942 firms believed to produce and/or export hardwood plywood from China, 90 of which were duplicates.

[4] According to the California Air Resources Board, 933 production facilities in China have obtained third-party certifications that their hardwood plywood is CARB-compliant. "*List of Mills Producing CARB Compliant Composite Wood Products*," California Air Resources Board, https://www.arb.ca.gov/toxics/compwood/tpc/listofmills.htm, retrieved November 2, 2017. This number may include multiple facilities owned by the same firm, as well as facilities that only produce out-of-scope merchandise hardwood plywood.

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

[6] Of the 93 responding firms in China, 83 reported exporting subject merchandise to the United States during 2014-2016.

[7] Commerce's final countervailing duty determination listed 61 individual rate producers in China, and its final antidumping duty determination listed 82 individual rate exporters in China. *Countervailing Duty Investigation of Certain Hardwood Plywood Products from the People's Republic of China: Final Affirmative Determination, and Final Affirmative Critical Circumstances Determination, in Part*, 82 FR 53473, November 16, 2017; *Certain Hardwood Plywood Products from the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part*, 82 FR 53460, November 16, 2017.

[8] Jeffrey Neeley, counsel for Chinese respondents, email message to USITC staff, August 17, 2017.

believed to account for the majority of the capacity and production of hardwood plywood in China in 2016.[9]

China's forestry industry is regulated by the *Forestry Law of the People's Republic of China*, which contains provisions that ban illegally harvested and traded timber products and derivatives.[10] However, China is reported to have no legislation preventing the importation of illegally sourced timber, resulting in claims that Chinese companies are importing illegally harvested wood.[11] In addition, Chinese respondents mention that new environmental enforcement activities are occurring in China.[12] Chinese authorities have recently increased inspections of businesses and shut down factories in order to control pollution and enforce China's environmental regulations.[13] According to research firm Euromonitor, wages in China have steadily increased and now exceed those in similar countries.[14]

Table VII-1 presents information on the hardwood plywood operations of the responding producers and exporters in China, plus certain non-responding producers in China ("Other producers"), in 2016.

[9] According to counsel for Chinese respondents, virtually all exports of hardwood plywood from China to the United States that were produced by a non-responding foreign producer are accounted for by the 39 resellers in China that provided the Commission with a questionnaire response. Ibid. Petitioners argue that available capacity in China is much higher than the above totals, citing numerous industry reports. Hearing transcript, pp. 83-84 (Kaplan). Each of these industry reports appears to include data related to out-of-scope merchandise.

[10] Congressional-Executive Commission on China, "Forestry Law of the People's Republic of China," (https://www.cecc.gov/resources/legal-provisions/forestry-law-of-the-peoples-republic-of-china-chinese-and-english-text, accessed November 15, 2017).

[11] Hearing transcripts, pp. 30-31 (Westerman); William Laurance, Yale School of Forestry & Environmental Studies, November 17, 2011, *Chinese Appetite for Wood Takes a Heavy Toll on Forests,* http://e360.yale.edu/features/chinas_appetite_for_wood_takes_a_heavy_toll_on_forests, accessed November 15, 2017.

[12] Chinese respondents' posthearing brief, p. 9.

[13] Bradsher, Keith, *The New York Times*, "China's New Antipollution Push could Cool its Growth Engine," https://www.nytimes.com/2017/10/23/business/china-pollution-economy.html, accessed November 15, 2017.

[14] Mohiuddin, Oru, *Euromonitor*, "China Still Lucrative for Businesses Despite the Rising Wage Rates," http://blog.euromonitor.com/2017/03/china-still-lucrative-businesses-despite-rising-wage-rates.html, accessed November 16, 2017.

Table VII-1
Hardwood plywood: Summary data for producers in China, 2016

Firm	Production (1,000 square feet)	Share of reported production (percent)	Exports to the United States (1,000 square feet)	Share of reported exports to the United States (percent)	Total shipments (1,000 square feet)	Share of firm's total shipments exported to the United States (percent)
Anhui Fuyang	***	***	***	***	***	***
Feixian Jinde	***	***	***	***	***	***
Happy Wood	***	***	***	***	***	***
Henan Hongda	***	***	***	***	***	***
International Wood	***	***	***	***	***	***
Jiangsu Shengyang Industrial	***	***	***	***	***	***
Jiangsu Shuren	***	***	***	***	***	***
Jiashan Dalin	***	***	***	***	***	***
Jiaxing Kaochuan	***	***	***	***	***	***
Leadwood Industrial	***	***	***	***	***	***
Lin Yi Tian He	***	***	***	***	***	***
Linyi Jiahe	***	***	***	***	***	***
Linyi Celtic	***	***	***	***	***	***
Linyi City Dongfang Fukai	***	***	***	***	***	***
Linyi City Dongfang Jinxin	***	***	***	***	***	***
Linyi Dahua	***	***	***	***	***	***
Linyi Dongfangjuxin	***	***	***	***	***	***
Linyi Evergreen	***	***	***	***	***	***
Linyi Glary	***	***	***	***	***	***
Linyi Hengsheng	***	***	***	***	***	***
Linyi Huayuan	***	***	***	***	***	***
Linyi Huifeng	***	***	***	***	***	***
Linyi Linhai	***	***	***	***	***	***
Linyi Longxin	***	***	***	***	***	***
Linyi Mingzhu	***	***	***	***	***	***
Linyi Qianfeng	***	***	***	***	***	***
Linyi Sanfortune	***	***	***	***	***	***
Linyi Shixicheng	***	***	***	***	***	***
Linyi Tuopu Zhixin	***	***	***	***	***	***
Luli Group	***	***	***	***	***	***
Pingyi Jinniu	***	***	***	***	***	***
Pizhou Jiangshan	***	***	***	***	***	***
Qufu Shengfu	***	***	***	***	***	***

Table continued on next page.

Table VII-1--Continued
Hardwood plywood: Summary data for producers in China, 2016

Firm	Production (1,000 square feet)	Share of reported production (percent)	Exports to the United States (1,000 square feet)	Share of reported exports to the United States (percent)	Total shipments (1,000 square feet)	Share of firm's total shipments exported to the United States (percent)
Shandong Anxin	***	***	***	***	***	***
Shandong Dongfang Bayley	***	***	***	***	***	***
Shandong Huaxin Jiasheng	***	***	***	***	***	***
Shandong Jinqiu Wood	***	***	***	***	***	***
Shandong Junxing	***	***	***	***	***	***
Shandong Union	***	***	***	***	***	***
Suining Pengxiang	***	***	***	***	***	***
Suqian Bairun	***	***	***	***	***	***
Suqian Welcomewood	***	***	***	***	***	***
Suzhou Dongsheng	***	***	***	***	***	***
Weifang Hanlin	***	***	***	***	***	***
Xuzhou Camry	***	***	***	***	***	***
Xuzhou Chengxin	***	***	***	***	***	***
Xuzhou Dilun	***	***	***	***	***	***
Xuzhou Hongda	***	***	***	***	***	***
Xuzhou Jiangyang	***	***	***	***	***	***
Xuzhou Longyuan	***	***	***	***	***	***
Xuzhou Tianshan	***	***	***	***	***	***
Yishui Zelin	***	***	***	***	***	***
Yutai Zezhong	***	***	***	***	***	***
Other producers[1]	1,467,910	50.9	([2])	([2])	([2])	([2])
Total	2,882,805	100.0	483,862	100.0	1,428,195	33.9

[1] Estimated capacity and production of 90 non-responding producers in China. Jeffrey Neeley, counsel for Chinese respondents, email message to USITC staff, August 17, 2017.
[2] Data not provided.

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

Table VII-2 presents export data for the responding resale exporters in China in 2016.

Table VII-2
Hardwood plywood: Summary data on resellers in China, 2016

Firm	Resales exported to the United States (1,000 square feet)	Share of reported resales exported to the United States (percent)
Anhui Hoda	***	***
Celtic	***	***
Cosco Star	***	***
Golder International	***	***
Highland	***	***
Huainan Mengping	***	***
Jiangsu Hanbao	***	***
Jiangsu High Hope	***	***
Jiangsu Top Point	***	***
Lianyungang Yuantai	***	***
Linyi City Shenrui	***	***
Pizhou Dayun	***	***
Qingdao Good Faith	***	***
Qingdao Top	***	***
Shandong Huiyu	***	***
Shandong Jinhua	***	***
Shandong Jinluda	***	***
Shandong Johnson	***	***
Shandong Qishan	***	***
Shandong Senmanqi	***	***
Shandong Shengdi	***	***
Shanghai Brightwood	***	***
Shanghai Fei Chuan	***	***
Shanghai Futuwood	***	***
Shanghai S&M	***	***
Suqian Hopeway	***	***
Suqian Yaorun	***	***
Suzhou Fengshuwan	***	***
Suzhou Oriental Dragon	***	***
Xuzhou Andefu	***	***
Xuzhou DNT	***	***
Xuzhou Eastern Huatai	***	***
Xuzhou Huamu	***	***
Xuzhou Pinlin	***	***
Xuzhou Shelter	***	***
Xuzhou Shuiwangxing	***	***
Xuzhou Timber	***	***
Yangzhou Hanov	***	***
Zhejiang Dehua	***	***
Total	787,016	100.0

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

Changes in operations

Producers and exporters in China were asked to indicate whether their firm had experienced any plant openings, relocations, expansions, acquisitions, consolidations, closures, or prolonged shutdowns because of strikes or equipment failure; curtailment of production because of shortages of materials or other reasons, including revision of labor agreements; or any other change in the character of their operations or organization relating to the production of hardwood plywood since 2014. Eleven of the 53 responding producers in China indicated that they had experienced such changes; their responses are presented in table VII-3. No responding resellers in China indicated any changes in operations.

Table VII-3
Hardwood plywood: Chinese producers' reported changes in operations, since January 1, 2014

* * * * * * *

Operations on hardwood plywood

Table VII-4 presents aggregate capacity, production, shipments, and inventories data for responding producers in China, as well as export data for responding resale exporters in China. Reported capacity increased by 5.0 percent from 2014 to 2016, and is projected to be approximately 2 percent lower in 2017 and 2018 than in 2016. Reported production increased by 12.6 percent from 2014 to 2016, and is projected to decrease by 9.1 percent in 2017 before returning to 2014 levels in 2018. Responding producers in China reported that 6.7 percent of their production of hardwood plywood in 2016 was made using a one-step process, with the remainder having been made using a two-step process. Reported capacity utilization increased by 5.4 percentage points from 2014 to 2016.[15] As a share of foreign producers' total shipments, home market shipments in China declined by 1.3 percentage points from 2014 to 2016,[16] while exports to the United States increased by 2.9 percentage points and total exports increased by 2.2 percentage points from 2014 to 2016. Home market shipments are projected to increase by 2018, whereas exports to the United States and total exports are projected to decrease.

[15] Counsel for Chinese respondents estimated a capacity utilization rate of 80.4 percent for non-responding producers in China in 2016.

[16] Petitioners argue that because new housing starts in China have declined recently, domestic demand in China for hardwood plywood will likely decline as well, leading to an increase in excess capacity in the near future. Petitioners' postconference brief, pp. 42-43 and Petitions vol. 1, Exhibit I-17. Chinese respondents submitted a graph that shows housing construction in China will remain steady from 2015 to 2016 and increase slightly from 2016 to 2017. Chinese respondents' postconference brief, Exhibit 10.

Table VII-4
Hardwood plywood: Data for producers in China, 2014-16, January to June 2016, and January to June 2017

Item	Actual experience					Projections	
	Calendar year			January to June		Calendar year	
	2014	2015	2016	2016	2017	2017	2018
	Quantity (1,000 square feet)						
Capacity[1]	1,685,782	1,717,976	1,770,610	924,975	919,603	1,742,296	1,741,096
Production[1]	1,256,341	1,354,530	1,414,895	678,949	714,940	1,286,416	1,260,162
End-of-period inventories	83,486	90,963	77,805	97,261	90,746	88,080	94,905
Shipments:							
Home market shipments:							
Internal consumption/ transfers	102,809	100,238	99,065	54,888	76,936	102,482	212,539
Commercial home market shipments	598,028	647,566	668,174	298,406	342,599	650,592	688,792
Total home market shipments	700,837	747,804	767,239	353,294	419,535	753,074	901,331
Export shipments to:							
United States	388,632	437,253	483,862	232,450	180,348	307,021	197,143
All other markets	164,254	161,996	177,094	85,657	100,884	216,364	253,963
Total exports	552,886	599,249	660,956	318,107	281,232	523,385	451,106
Total shipments	1,253,723	1,347,053	1,428,195	671,401	700,767	1,276,459	1,352,437
	Ratios and shares (percent)						
Capacity utilization	74.5	78.8	79.9	73.4	77.7	73.8	72.4
Inventories/production	6.6	6.7	5.5	7.2	6.3	6.8	7.5
Inventories/total shipments	6.7	6.8	5.4	7.2	6.5	6.9	7.0
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	8.2	7.4	6.9	8.2	11.0	8.0	15.7
Commercial home market shipments	47.7	48.1	46.8	44.4	48.9	51.0	50.9
Total home market shipments	55.9	55.5	53.7	52.6	59.9	59.0	66.6
Export shipments to:							
United States	31.0	32.5	33.9	34.6	25.7	24.1	14.6
All other markets	13.1	12.0	12.4	12.8	14.4	17.0	18.8
Total exports	44.1	44.5	46.3	47.4	40.1	41.0	33.4
Total shipments	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table continued on next page.

Table VII-4--Continued
Hardwood plywood: Data for producers in China, 2014-16, January to June 2016, and January to June 2017

Item	Actual experience					Projections	
	Calendar year			January to June		Calendar year	
	2014	2015	2016	2016	2017	2017	2018
	Quantity (1,000 square feet)						
Resales exported to the United States	465,029	664,471	787,016	368,595	290,327	410,021	216,148
Total exports to the United States	853,661	1,101,724	1,270,878	601,045	470,675	717,042	413,291
	Ratios and shares (percent)						
Share of total exports to the United States.--							
Exported by producers	45.5	39.7	38.1	38.7	38.3	42.8	47.7
Exported by resellers	54.5	60.3	61.9	61.3	61.7	57.2	52.3
Adjusted share of total shipments exported to US[2]	68.1	81.8	89.0	89.5	67.2	56.2	30.6

[1] Data does not include the estimated capacity and production data provided for the 90 non-responding producers in China.
[2] Adjusted U.S. export shares are likely overstated. Commercial home market shipments by responding producers in China are noticeably less than exports to the United States by responding resellers, indicating that responding resellers account for a greater share of hardwood plywood resales in China than responding producers do for hardwood plywood manufacturing industry in China.

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

Responding producers and resellers in China provided the Commission with additional information on the face veneer thicknesses of their total shipments of hardwood plywood.[17] In 2016, 81.6 percent of exports reported by responding producers in China had face veneers less than 0.3 millimeters thick, 14.2 percent had face veneers 0.3 millimeters to 0.39 millimeters thick, 1.9 percent had face veneers 0.4 millimeters to 0.49 millimeters thick, 1.8 percent had face veneers 0.5 millimeters to 0.59 millimeters thick, and 0.6 percent had face veneers greater than 0.6 millimeters thick.[18] Chinese respondents argue that producers in China specialize in thin-veneer products because thin-veneer products require manual labor in order to be produced in commercial quantities, making thin veneers unsuitable for the U.S. industry's more automated manufacturing process.[19] Furthermore, an AAHP respondent witness testified that U.S. producers of hardwood plywood cannot peel veneers thinner than 0.4 millimeters and apply a dry layup process.[20] Petitioners argue that the U.S. domestic industry can and does

[17] Jeffrey Neeley, counsel for Chinese respondents, email message to USITC staff, August 17, 2017.
[18] Based on questionnaire data, responding producer and resellers in China reported total shipments of 1.43 billion square feet in 2016, whereas the supplemental total shipment data provided totaled 1.41 billion square feet in 2016.
[19] Chinese respondents' postconference brief, pp. 4-5.
[20] Conference transcript, p. 129 (Simon).

produce face veneers with a thickness of less than 0.4 millimeters.[21] Responding U.S. producers reported that *** percent of their commercial U.S. shipments of hardwood plywood from 2014 to 2016 had a face veneer thickness of less than 0.4 millimeters (see *Part III*, table III-7).

Alternative products

When asked whether they produced products other than hardwood plywood on machinery and equipment used to produce hardwood plywood, two producers in China, *** reported producing ***. Three other producers, *** reported out-of-scope production ***, but did not specific the product type. Table VII-5 presents responding Chinese producers' overall capacity and production of products on the same machinery used to produce hardwood plywood.

Table VII-5
Hardwood plywood: Chinese producers' overall capacity and production on the same equipment as subject production, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
Overall capacity	1,690,282	1,722,476	1,775,110	921,895	914,623
Production:					
Hardwood plywood	1,256,341	1,354,530	1,414,895	678,949	714,940
Softwood plywood	***	***	***	***	***
Other products	***	***	***	***	***
Out-of-scope production[1]	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Overall capacity utilization	***	***	***	***	***
Share of production:					
Hardwood plywood	***	***	***	***	***
Softwood plywood	***	***	***	***	***
Other products	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	100.0	100.0	100.0	100.0	100.0

[1] ***.

Note.--Data in this table does not include the estimates provided for the 90 non-responding producers in China.

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

[21] Petitioners' postconference brief, p. 23.

Exports

Table VII-6 presents data from the Global Trade Atlas for exports from China of plywood and wood flooring products from 2014 to 2016.[22] The United States accounted for the largest share of exports from China in 2016, followed by the United Kingdom, the Philippines, and Japan.

Table IV-6:
Plywood and wood flooring products: Exports from China, 2014-16

Destination market	Calendar year		
	2014	2015	2016
	Value (1,000 dollars)		
China exports to the United States	1,281,806	1,376,049	1,400,167
China exports to other major destination markets.--			
United Kingdom	349,686	355,274	322,679
Philippines	290,811	266,900	312,784
Japan	412,549	312,618	281,430
United Arab Emirates	255,871	319,811	242,715
Korea South	277,318	251,586	211,381
Canada	175,521	174,827	195,815
Vietnam	116,405	121,537	133,663
Israel	118,357	117,151	126,393
All other destination markets	2,535,381	2,191,942	2,048,746
Total China exports	5,813,705	5,487,696	5,275,773
	Share of value (percent)		
China exports to the United States	22.0	25.1	26.5
China exports to other major destination markets.--			
United Kingdom	6.0	6.5	6.1
Philippines	5.0	4.9	5.9
Japan	7.1	5.7	5.3
United Arab Emirates	4.4	5.8	4.6
Korea South	4.8	4.6	4.0
Canada	3.0	3.2	3.7
Vietnam	2.0	2.2	2.5
Israel	2.0	2.1	2.4
All other destination markets	43.6	39.9	38.8
Total China exports	100.0	100.0	100.0

Source: Official Chinese exports statistics under HS subheadings 4412.10, 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99 as reported by China Customs in the IHS/GTA database, accessed August 3, 2017.

[22] The trade data presented are compiled from HS subheadings 4412.10, 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99, which contain some out-of-scope merchandise, including bamboo plywood, multilayered wood flooring, structural plywood, and wood products with a softwood veneer.

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-7 presents data on U.S. importers' reported inventories of hardwood plywood from China and all other sources. With respect to imports from China, inventories increased by 21.0 percent from 2014 to 2015 before decreasing by 8.8 percent from 2015 to 2016, and were equivalent to approximately 30 percent of U.S. imports, U.S. shipments, and total shipments. With respect to imports from nonsubject sources, inventories increased by 67.6 percent from 2014 to 2015 before decreasing by 12.5 percent from 2015 to 2016, and were equivalent to approximately 25 to 35 percent of U.S. imports, U.S. shipments, and total shipments.

Table VII-7
Hardwood plywood: U.S. importers' inventories, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Inventories (1,000 square feet); Ratios (percent)				
Imports from China					
Inventories	377,297	456,457	416,288	355,149	480,086
Ratio to U.S. imports	31.0	30.9	28.2	27.1	29.1
Ratio to U.S. shipments of imports	29.8	33.0	27.6	23.6	32.7
Ratio to total shipments of imports	29.6	32.9	27.5	23.5	32.5
Imports from all other sources:					
Inventories	318,312	533,570	467,001	454,695	423,227
Ratio to U.S. imports	24.9	31.6	30.3	27.7	23.7
Ratio to U.S. shipments of imports	23.2	36.4	29.2	25.4	22.7
Ratio to total shipments of imports	23.1	36.3	29.1	25.4	22.6
Imports from all import sources:					
Inventories	695,609	990,027	883,289	809,844	903,313
Ratio to U.S. imports	27.9	31.3	29.3	27.5	26.3
Ratio to U.S. shipments of imports	26.4	34.7	28.4	24.6	27.1
Ratio to total shipments of imports	26.3	34.7	28.3	24.5	27.0

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 hardwood plywood from China and select nonsubject sources after June 30, 2017. Table VII-8 presents U.S. import shipments of hardwood plywood arranged for importation after June 30, 2017. Thirty-five responding importers reported arranging for imports of hardwood plywood from China after June 30, 2017. For the period July 2017 through June 2018, arranged imports from Indonesia and Malaysia accounted for approximately two-

thirds of all arranged imports, and arranged imports from China accounted for 14.3 percent of all arranged imports.

Table VII-8
Hardwood plywood: Arranged imports, July 2017 through June 2018

Item	Period				
	Jul-Sep 2017	Oct-Dec 2017	Jan-Mar 2018	Apr-Jun 2018	Total
China	95,785	48,362	6,453	8,952	159,552
Canada	***	***	***	***	1,119
Ecuador	***	***	***	***	***
Indonesia	272,157	156,938	47,628	***	476,843
Malaysia	146,037	78,278	36,753	***	261,380
Russia	61,688	25,764	2,240	3,101	92,793
All other sources	***	***	***	***	***
Nonsubject sources	531,295	294,856	105,363	21,191	952,705
All sources	627,080	343,218	111,816	30,143	1,112,257

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

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

The following third-country markets currently impose antidumping duties on hardwood plywood products from China: Columbia has maintained antidumping duties on wood-based panels from China classified under HTS numbers 4412.31 and 4412.32 since 2014; the European Union has maintained antidumping duties on imports okoumé plywood from China since 2004; Turkey has maintained antidumping duties on Chinese plywood since 2006; and South Korea has maintained duties on Chinese plywood products since 2013 and imposed final antidumping duty orders on coniferous wood plywood from China in March 2016.[23] In addition, Argentina currently imposes mandatory reference prices on imports of certain wood products from China under the HTS heading 4412.[24]

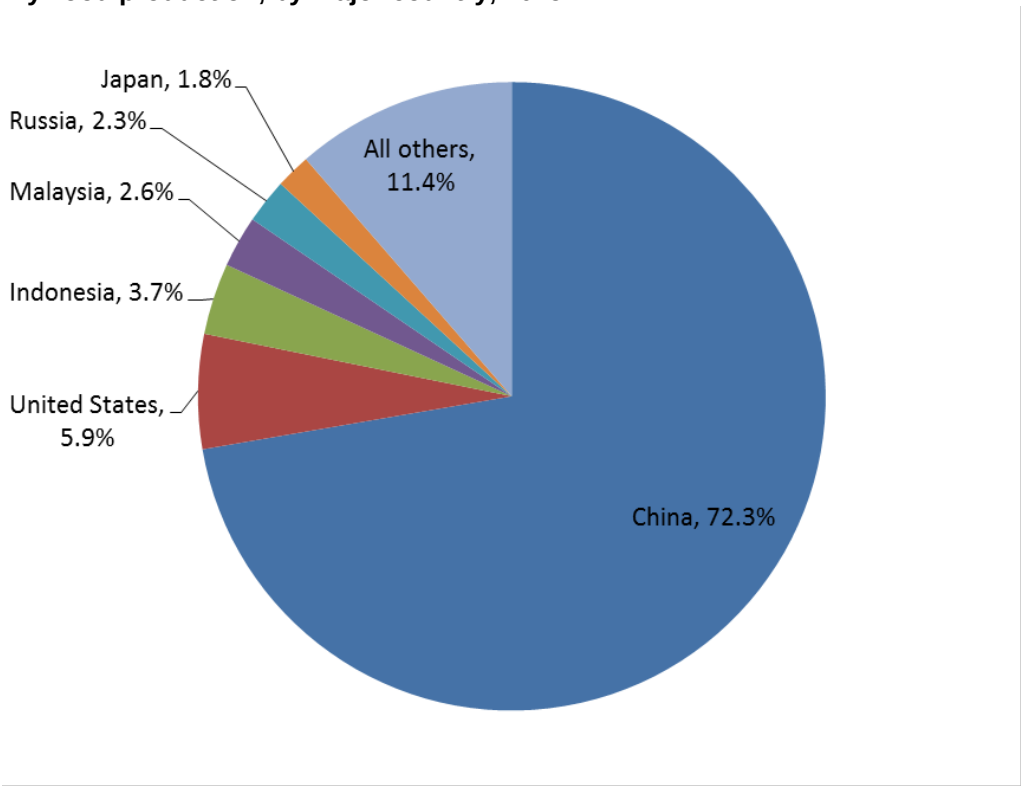
The Commission requested foreign producers/exports in China to indicate whether hardwood plywood exported by their firm is subject to any third-country antidumping duty, countervailing duty, safeguard findings, remedies, or proceedings. No foreign producers/exporters reported any of the above measures in third-country markets.

[23] Petitioners' postconference brief, Exhibit 1, p. 39 and Exhibit 22.
[24] Ibid.

INFORMATION ON NONSUBJECT COUNTRIES

Besides the United States and China, other large producers of plywood products include Indonesia, Malaysia, Russia, and Japan. The Food and Agriculture Organization ("FAO") collects production data for plywood.[25] However, these data include not only hardwood plywood but also other wood products, such as structural plywood and multilayered wood flooring; they provide only a rough approximation of major country production of hardwood plywood. In 2015, the most recent year available, global production of plywood totaled 156.9 million cubic meters, or approximately 5.54 billion cubic feet.[26] Figure VII-1 shows that China was, by far, the largest producer, accounting for 72.3 percent of global production of plywood. The United States was the second largest producer, accounting for 5.9 percent of global production. Indonesia, Malaysia, Russia, and Japan each accounted for less than 5 percent of global production.

Figure VII-1
Plywood production, by major country, 2015



Source: Food and Agriculture Organization of the United Nations. FAO Yearbook, Forest Products, 2011-2015, 2017, pp. 111-3.

[25] These data on plywood include HS subheadings 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99. Food and Agriculture Organization of the United Nations. *FAO Yearbook, Forest Products, 2011-2015,* 2017, p. xxvi.

[26] Cubic meters (m^3) are converted to cubic feet (ft^3) using a factor of 35.3147 ft^3 per m^3.

Table VII-9 presents the largest global export sources of plywood and wood flooring products during 2014-16.[27] China accounted for the largest share of global exports of plywood and wood flooring products in 2016 (36.2 percent), followed by Indonesia (15.2 percent), Malaysia (7.2 percent), and Russia (6.5 percent). These data further show that global exports decreased by 11.28 percent from 2014 to 2016. During the last three years, the United States' share decreased slightly. Other countries on this list also lost export market share (including Malaysia, Russia, and Finland). At the same time, China has increased its share of these exports from 35.3 percent of the total in 2014 to 36.2 percent in 2016. Other growing sources of supply during this period include Indonesia, Canada, Brazil, Chile, Germany, Latvia, and Spain.

[27] The trade data presented are compiled from HS subheadings 4412.10, 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99, which contain some out-of-scope merchandise including bamboo plywood, multilayered wood flooring, structural plywood, and wood products with a softwood veneer.

Table VII-9
Plywood and wood flooring products: Global exports by major source, 2014-16

Exporter	Calendar year		
	2014	2015	2016
	Value (1,000 dollars)		
United States	420,856	351,281	351,013
China	5,813,705	5,487,696	5,275,773
All other major reporting exporters.-- Indonesia	2,372,471	2,341,923	2,211,610
Malaysia	1,586,222	1,201,616	1,053,600
Russia	1,173,867	989,735	945,294
Finland	708,899	593,547	569,018
Brazil	467,760	482,206	478,097
Chile	327,760	349,544	348,305
Canada	251,298	279,253	327,969
Germany	285,865	253,736	278,660
Latvia	240,194	220,349	255,166
Spain	222,620	219,810	241,685
All other	2,578,494	2,379,504	2,256,729
Total exports	16,450,013	15,150,200	14,592,919
	Share of value (percent)		
United States	2.6	2.3	2.4
China	35.3	36.2	36.2
All other major reporting exporters.-- Indonesia	14.4	15.5	15.2
Malaysia	9.6	7.9	7.2
Russia	7.1	6.5	6.5
Finland	4.3	3.9	3.9
Brazil	2.8	3.2	3.3
Chile	2.0	2.3	2.4
Canada	1.5	1.8	2.2
Germany	1.7	1.7	1.9
Latvia	1.5	1.5	1.7
Spain	1.4	1.5	1.7
All other	15.7	15.7	15.5
Total exports	100.0	100.0	100.0

Source: Official exports statistics under HS subheadings 4412.10, 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99, which contain some out-of-scope merchandise including bamboo plywood, multilayered wood flooring, structural plywood, and wood products with a softwood veneer, as reported by various national statistical authorities in the GTIS/GTA database, accessed August 4, 2017.

Global Trade Atlas export data for China, the largest global exporter of plywood and wood flooring products, were presented earlier in table VII-6. Table VII-10 presents data from the Global Trade Atlas for exports from Indonesia, the second largest global exporter,[28] of plywood and wood flooring products from 2014 to 2016.[29] The United States accounted for the fourth largest country-share of exports from Indonesia in 2016. The larger shares of exports were to Japan, China, and Korea. The share of Indonesia's exports to the United States increased from 6.4 percent in 2014 to 8.0 percent in 2016. During that same time, Indonesia's exports also increased to Korea by 4.3 percent and decreased to Japan by 5.3 percent.

[28] Based on importer questionnaire responses, Indonesia is a leading source of U.S. imports of hardwood plywood.

[29] The trade data presented are compiled from HS subheadings 4412.10, 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99, which contain some out-of-scope merchandise including bamboo plywood, multilayered wood flooring, structural plywood, and wood products with a softwood veneer.

Table VII-10
Plywood and wood flooring products: Indonesia exports by destination market, 2014-16

Destination market	Calendar year		
	2014	2015	2016
	Value (1,000 dollars)		
Indonesia exports to the United States	151,430	217,309	176,014
Indonesia exports to other major destination markets.--			
Japan	743,476	597,770	576,357
China	532,113	554,532	526,308
South Korea	129,215	175,828	214,498
Taiwan	147,479	117,050	135,229
Saudi Arabia	151,069	179,947	73,924
Malaysia	58,355	66,528	62,447
Australia	36,862	37,026	45,426
Germany	51,245	41,172	42,642
All other	371,227	354,760	358,764
Total Indonesia exports	2,372,471	2,341,923	2,211,610
	Share of value (percent)		
Indonesia exports to the United States	6.4	9.3	8.0
Indonesia exports to other major destination markets.--			
Japan	31.3	25.5	26.1
China	22.4	23.7	23.8
South Korea	5.4	7.5	9.7
Taiwan	6.2	5.0	6.1
Saudi Arabia	6.4	7.7	3.3
Malaysia	2.5	2.8	2.8
Australia	1.6	1.6	2.1
Germany	2.2	1.8	1.9
All other	15.6	15.1	16.2
Total Indonesia exports	100.0	100.0	100.0

Source: Official exports statistics under HS subheadings 4412.10, 4412.31, 4412.32, 4412.39, 4412.94, and 4412.99, which contain some out-of-scope merchandise including bamboo plywood, multilayered wood flooring, structural plywood, and wood products with a softwood veneer, as reported by Statistics Indonesia in the IHS/GTA database, accessed September 27, 2017.

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
81 FR 85639, November 28, 2016	*Hardwood Plywood From China; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.federalregister.gov/d/2016-28485
81 FR 91125, December 16, 2016	*Certain Hardwood Plywood Products From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*	https://www.federalregister.gov/d/2016-30305
81 FR 91131, December 16, 2016	*Certain Hardwood Plywood Products From the People's Republic of China: Initiation of Countervailing Duty Investigation*	https://www.federalregister.gov/d/2016-30304
82 FR 19022, April 25, 2017	*Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination, Preliminary Affirmative Critical Circumstances Determination, in Part, and Alignment of Final Determination With Final Antidumping Duty Determination*	https://www.federalregister.gov/d/2017-08328
82 FR 28629, June 23, 2017	*Certain Hardwood Plywood Products From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Affirmative Determination of Critical Circumstances, in Part*	https://www.federalregister.gov/d/2017-13125

Tabulation continued on next page.

Citation	Title	Link
82 FR 29827, June 30, 2017	*Certain Hardwood Plywood Products From the People's Republic of China: Postponement of Final Determination of Sales at Less Than Fair Value Investigation*	https://www.federalregister.gov/d/2017-13792
82 FR 23011, July 11, 2017	*Hardwood Plywood From China; Scheduling of the Final Phase of Countervailing Duty and Antidumping Duty Investigations*	https://www.federalregister.gov/d/2017-14499
82 FR 32683, July 17, 2017	*Certain Hardwood Plywood Products From the People's Republic of China: Amended Preliminary Determination of Sales at Less Than Fair Value*	https://www.federalregister.gov/d/2017-14956
82 FR 53460, November 16, 2017	*Certain Hardwood Plywood Products from the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, in Part*	https://www.federalregister.gov/d/2017-24863
82 FR 53473, November 16, 2017	*Countervailing Duty Investigation of Certain Hardwood Plywood Products from the People's Republic of China: Final Affirmative Determination, and Final Affirmative Critical Circumstances Determination, in Part*	https://www.federalregister.gov/d/2017-24864

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: Hardwood Plywood from China

Inv. Nos.: 701-TA-565 and 731-TA-1341 (Final)

Date and Time: October 26, 2017 - 9:30 a.m.

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

CONGRESSIONAL APPEARANCES:

The Honorable Ron Wyden, United States Senator, Oregon

The Honorable Peter DeFazio, U.S. Representative, 4th District, Oregon

The Honorable Greg Walden, U.S. Representative, 2nd District, Oregon

The Honorable Bruce Poliquin, U.S. Representative, 2nd District, Maine

The Honorable Bruce Westerman, U.S. Representative, 4th District, Arkansas

OPENING REMARKS:

Petitioners (**Timothy C. Brightbill**, Wiley Rein LLP)
Respondents (**Jeffrey S. Grimson**, Mowry & Grimson, PLLC)

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

Wiley Rein LLP
Washington, DC
on behalf of

Petitioners

Brad Thompson, Chief Executive Officer, Columbia Forest Products

Gary Gillespie, Executive Vice President, Columbia Forest Products

Joe Gonyea, III, Partner and Co-Chair, Timber Products Company

Josh Gibeau, International Division Manager, Timber Products Company

Ashlee Cribb, Sales Director for Solid Wood Business, Roseburg Forest Products Co.

Kelly Roberston, Hardwood Plywood Sales Manager, Roseburg Forest Products Co.

Kris York, General Manager, Murphy Plywood

Mike Taylor, President, State Industries

Bill Caine, President, Commonwealth Plywood, Inc.

Kip Howlett, President, Hardwood Plywood & Veneer Association

Donald Schalk, Director of Business and Corporate Development for Alvernia University

David Mashburn, Consultant Mashburn Marketing, LLC

Dr. Seth Kaplan, Economist, International Economic Research, LLC

Timothy C. Brightbill)
Tessa V. Capeloto) – OF COUNSEL
Stephanie M. Bell)

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

Mowry & Grimson, PLLC
Washington, DC
on behalf of

American Alliance for Hardwood Plywood

Greg Simon, Executive Vice President, Far East American; and Chairman of the American Alliance for Hardwood Plywood

Shawn Dougherty, Director of Asia, Northwest Hardwoods

David M. Randich, President, Masterbrand Cabinets, Inc.

Aaron J. Songer, Director, Strategic Sourcing, Masterbrand Cabinets, Inc.

Leigh N. Asec, Division General Counsel, Masterbrand Cabinets, Inc.; and Associate General Counsel, Fortune Brands Home & Security, Inc.

Kyle Bressler, Vice President, Lanz Cabinets

Joe Smucker, Business Unit Director, Parkland Plastics

Matt Hazelbaker, Vice President, Genesis Products LLC

Joe Caldwell, President and Chief Executive Officer, MJB Wood Group, Inc.

Paul Gosnell, Vice President, Patriot Timber Products, Inc.

Jonas Israel, Chief Executive Officer, McCorry & Co. Ltd.

Cindy Squires, Executive Director, International Wood Products Association

Thomas L. Rogers, Principal, Capital Trade Inc.

Natalia King, Associate, Capital Trade Inc.

Jeffrey S. Grimson)
) – OF COUNSEL
Kristin H. Mowry)

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

Husch Blackwell LLP
Washington, DC
on behalf of

Chinese Respondents

Wu Shengfu, Vice Chairman, China National Forest Products Industry Association

Ran Xiangliang, Chief Executive Officer, Linyi Sanfortune Wood Co., Ltd.

Jeffrey S. Neeley) – OF COUNSEL

REBUTTAL/CLOSING REMARKS:

Petitioners (**Timothy C. Brightbill,** Wiley Rein LLP; and **Dr. Seth T. Kaplan**, International Economic Research, LLC)
Respondents (**Jeffrey S. Grimson**, Mowry & Grimson, PLLC)

-END-

APPENDIX C

SUMMARY DATA

Table C-1
Hardwood plywood: Summary data concerning the U.S. market, 2014-16, January to June 2016, and January to June 2017
(Quantity=1,000 square feet; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per square foot; Period changes=percent--exceptions noted)

	Reported data					Period changes			
		Calendar year		January to June			Calendar year		Jan-Jun
	2014	2015	2016	2016	2017	2014-16	2014-15	2015-16	2016-17
U.S. consumption quantity:									
Amount	3,338,720	3,529,146	3,763,007	1,984,695	1,998,407	12.7	5.7	6.6	0.7
Producers' share (fn1)	21.0	19.3	17.3	17.0	16.5	(3.7)	(1.7)	(2.0)	(0.5)
Importers' share (fn1):									
China	37.9	39.2	40.1	37.9	36.7	2.2	1.3	0.9	(1.2)
Nonsubject sources	41.1	41.5	42.6	45.1	46.7	1.5	0.4	1.0	1.7
All import sources	79.0	80.7	82.7	83.0	83.5	3.7	1.7	2.0	0.5
U.S. consumption value:									
Amount	1,953,524	2,016,893	2,025,340	1,063,448	1,076,692	3.7	3.2	0.4	1.2
Producers' share (fn1)	43.6	41.1	39.1	38.8	37.4	(4.6)	(2.5)	(2.0)	(1.4)
Importers' share (fn1):									
China	31.5	34.1	35.3	34.3	35.7	3.8	2.6	1.2	1.4
Nonsubject sources	24.8	24.8	25.6	26.9	26.9	0.8	(0.0)	0.8	(0.0)
All import sources	56.4	58.9	60.9	61.2	62.6	4.6	2.5	2.0	1.4
U.S. importers' U.S. shipment from:									
China:									
Quantity	1,265,296	1,382,815	1,509,584	753,078	734,088	19.3	9.3	9.2	(2.5)
Value	615,915	687,950	715,708	364,734	384,238	16.2	11.7	4.0	5.3
Unit value	$0.49	$0.50	$0.47	$0.48	$0.52	(2.6)	2.2	(4.7)	8.1
Ending inventory quantity	377,297	456,457	416,288	355,149	480,086	10.3	21.0	(8.8)	35.2
Nonsubject sources:									
Quantity	1,372,668	1,466,287	1,601,865	894,226	934,002	16.7	6.8	9.2	4.4
Value	485,314	500,088	518,699	286,387	289,573	6.9	3.0	3.7	1.1
Unit value	$0.35	$0.34	$0.32	$0.32	$0.31	(8.4)	(3.5)	(5.1)	(3.2)
Ending inventory quantity	318,312	533,570	467,001	454,695	423,227	46.7	67.6	(12.5)	(6.9)
All import sources:									
Quantity	2,637,964	2,849,102	3,111,449	1,647,304	1,668,090	17.9	8.0	9.2	1.3
Value	1,101,229	1,188,038	1,234,407	651,121	673,811	12.1	7.9	3.9	3.5
Unit value	$0.42	$0.42	$0.40	$0.40	$0.40	(5.0)	(0.1)	(4.9)	2.2
Ending inventory quantity	695,609	990,027	883,289	809,844	903,313	27.0	42.3	(10.8)	11.5
U.S. producers':									
Average capacity quantity	1,435,359	1,433,299	1,428,894	715,502	718,663	(0.5)	(0.1)	(0.3)	0.4
Production quantity	723,513	692,094	660,502	346,992	336,866	(8.7)	(4.3)	(4.6)	(2.9)
Capacity utilization (fn1)	50.4	48.3	46.2	48.5	46.9	(4.2)	(2.1)	(2.1)	(1.6)
U.S. shipments:									
Quantity	700,756	680,044	651,558	337,391	330,317	(7.0)	(3.0)	(4.2)	(2.1)
Value	852,295	828,855	790,933	412,327	402,881	(7.2)	(2.8)	(4.6)	(2.3)
Unit value	$1.22	$1.22	$1.21	$1.22	$1.22	(0.2)	0.2	(0.4)	(0.2)
Export shipments:									
Quantity	17,420	12,824	10,651	5,468	5,278	(38.9)	(26.4)	(16.9)	(3.5)
Value	21,760	15,751	13,217	6,730	6,888	(39.3)	(27.6)	(16.1)	2.3
Unit value	$1.25	$1.23	$1.24	$1.23	$1.31	(0.7)	(1.7)	1.0	6.0
Ending inventory quantity	42,388	41,614	39,907	45,747	41,178	(5.9)	(1.8)	(4.1)	(10.0)
Inventories/total shipments (fn1)	5.9	6.0	6.0	6.7	6.1	0.1	0.1	0.0	(0.5)
Production workers	2,430	2,368	2,294	2,311	2,264	(5.6)	(2.6)	(3.1)	(2.0)
Hours worked (1,000s)	4,874	5,037	4,648	2,316	2,331	(4.6)	3.3	(7.7)	0.6
Wages paid ($1,000)	94,076	99,561	97,464	47,313	49,553	3.6	5.8	(2.1)	4.7
Hourly wages (dollars)	$19.30	$19.77	$20.97	$20.43	$21.26	8.6	2.4	6.1	4.1
Productivity (square feet per hour) (fn3)	138.9	128.7	133.2	140.0	136.1	(4.1)	(7.4)	3.5	(2.8)
Unit labor costs (fn3)	$0.14	$0.15	$0.16	$0.15	$0.16	13.3	10.5	2.5	7.1
Net sales:									
Quantity	671,730	650,301	620,049	320,085	315,796	(7.7)	(3.2)	(4.7)	(1.3)
Value	812,565	788,737	748,961	388,534	383,495	(7.8)	(2.9)	(5.0)	(1.3)
Unit value	$1.21	$1.21	$1.21	$1.21	$1.21	(0.1)	0.3	(0.4)	0.0
Cost of goods sold (COGS)	716,501	708,517	682,100	347,652	348,578	(4.8)	(1.1)	(3.7)	0.3
Gross profit or (loss)	96,064	80,220	66,861	40,882	34,917	(30.4)	(16.5)	(16.7)	(14.6)
SG&A expenses	62,603	61,490	61,503	31,390	30,784	(1.8)	(1.8)	0.0	(1.9)
Operating income or (loss)	33,461	18,730	5,358	9,492	4,133	(84.0)	(44.0)	(71.4)	(56.5)
Net income or (loss)	31,629	15,549	4,957	8,760	3,590	(84.3)	(50.8)	(68.1)	(59.0)
Capital expenditures	15,158	21,853	16,536	9,515	4,613	9.1	44.2	(24.3)	(51.5)
Unit COGS	$1.07	$1.09	$1.10	$1.09	$1.10	3.1	2.1	1.0	1.6
Unit SG&A expenses	$0.09	$0.09	$0.10	$0.10	$0.10	6.4	1.5	4.9	(0.6)
Unit operating income or (loss)	$0.05	$0.03	$0.01	$0.03	$0.01	(82.7)	(42.2)	(70.0)	(55.9)
Unit net income or (loss)	$0.05	$0.02	$0.01	$0.03	$0.01	(83.0)	(49.2)	(66.6)	(58.5)
COGS/sales (fn1)	88.2	89.8	91.1	89.5	90.9	2.9	1.7	1.2	1.4
Operating income or (loss)/sales (fn1)	4.1	2.4	0.7	2.4	1.1	(3.4)	(1.7)	(1.7)	(1.4)
Net income or (loss)/sales (fn1)	3.9	2.0	0.7	2.3	0.9	(3.2)	(1.9)	(1.3)	(1.3)

Notes:

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Undefined.
fn3.--These ratios are based on production excluding [***] which did not provide employment data.

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

APPENDIX D

OFFICIAL IMPORT STATISTICS

Table D-1
Hardwood plywood: U.S. imports (initiation HTS numbers less six disputed wood flooring HTS numbers), by source, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. imports from.--					
China	1,257,346	1,495,441	1,575,995	737,305	847,440
Brazil	24,047	21,340	21,216	11,234	13,240
Canada	129,974	137,765	139,570	74,877	90,813
Ecuador	48,513	60,782	78,285	38,042	45,196
Indonesia[1]	257,850	340,776	318,511	173,610	173,088
Malaysia	82,328	93,141	75,827	41,162	64,892
Russia	294,305	306,977	364,513	176,785	195,525
All other sources	200,729	238,929	209,712	101,767	129,014
Nonsubject sources	1,037,745	1,199,710	1,207,634	617,477	711,767
Total U.S. imports	2,295,091	2,695,151	2,783,629	1,354,782	1,559,207
	Value (1,000 dollars)				
U.S. imports from.--					
China	658,449	745,267	720,373	338,672	396,233
Brazil	17,690	15,620	14,127	7,517	8,078
Canada	89,415	97,238	122,141	61,655	69,498
Ecuador	26,479	33,103	41,606	19,929	24,587
Indonesia	183,534	248,887	220,754	123,027	111,943
Malaysia	56,436	68,557	56,243	31,566	40,886
Russia	162,414	162,217	143,889	66,726	91,065
All other sources	112,606	125,665	143,058	69,182	79,516
Nonsubject sources	648,574	751,287	741,819	379,601	425,572
Total U.S. imports	1,307,022	1,496,553	1,462,192	718,274	821,805
	Unit value (dollars per square foot)				
U.S. imports from.--					
China	0.52	0.50	0.46	0.46	0.47
Brazil	0.74	0.73	0.67	0.67	0.61
Canada	0.69	0.71	0.88	0.82	0.77
Ecuador	0.55	0.54	0.53	0.52	0.54
Indonesia[1]	0.71	0.73	0.69	0.71	0.65
Malaysia	0.69	0.74	0.74	0.77	0.63
Russia	0.55	0.53	0.39	0.38	0.47
All other sources	0.56	0.53	0.68	0.68	0.62
Nonsubject sources	0.62	0.63	0.61	0.61	0.60
Total U.S. imports	0.57	0.56	0.53	0.53	0.53

Table continued on next page.

Table D-1—Continued
Hardwood plywood: U.S. imports (initiation HTS numbers less six disputed wood flooring HTS numbers), by source, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Share of quantity (percent)				
U.S. imports from.--					
China	54.8	55.5	56.6	54.4	54.4
Brazil	1.0	0.8	0.8	0.8	0.8
Canada	5.7	5.1	5.0	5.5	5.8
Ecuador	2.1	2.3	2.8	2.8	2.9
Indonesia	11.2	12.6	11.4	12.8	11.1
Malaysia	3.6	3.5	2.7	3.0	4.2
Russia	12.8	11.4	13.1	13.0	12.5
All other sources	8.7	8.9	7.5	7.5	8.3
Nonsubject sources	45.2	44.5	43.4	45.6	45.6
Total U.S. imports	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)				
U.S. imports from.--					
China	50.4	49.8	49.3	47.2	48.2
Brazil	1.4	1.0	1.0	1.0	1.0
Canada	6.8	6.5	8.4	8.6	8.5
Ecuador	2.0	2.2	2.8	2.8	3.0
Indonesia	14.0	16.6	15.1	17.1	13.6
Malaysia	4.3	4.6	3.8	4.4	5.0
Russia	12.4	10.8	9.8	9.3	11.1
All other sources	8.6	8.4	9.8	9.6	9.7
Nonsubject sources	49.6	50.2	50.7	52.8	51.8
Total U.S. imports	100.0	100.0	100.0	100.0	100.0

Table continued on next page.

Table D-1—Continued
Hardwood plywood: U.S. imports (initiation HTS numbers less six disputed wood flooring HTS numbers), by source, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Ratio to U.S. production				
U.S. imports from.--					
China	173.8	216.1	238.6	212.5	251.6
Brazil	3.3	3.1	3.2	3.2	3.9
Canada	18.0	19.9	21.1	21.6	27.0
Ecuador	6.7	8.8	11.9	11.0	13.4
Indonesia	35.6	49.2	48.2	50.0	51.4
Malaysia	11.4	13.5	11.5	11.9	19.3
Russia	40.7	44.4	55.2	50.9	58.0
All other sources	27.7	34.5	31.8	29.3	38.3
Nonsubject sources	143.4	173.3	182.8	178.0	211.3
Total U.S. imports	317.2	389.4	421.4	390.4	462.9

[1] Quantities from Indonesia may be understated and unit values overstated due to deviations in panel thickness from the standard 10.3 mm used when converting from cubic meters to square feet. The vast majority of data for Indonesia provided by questionnaire respondents are for panels that are *** thick, resulting in a higher square footage per cubic meter than the official U.S. import statistics based on the 1.024 conversion factor used. *** email message to USITC staff, ***; *** email message to USITC staff, ***; and *** email message to USITC staff, ***.

Note.--The primary HTS statistical reporting numbers (which are listed in Part I of this report) are a subset of the HTS statistical reporting numbers listed in Commerce's preliminary LTFV determinations less these six (6) HTS statistical reporting numbers that are believed to contain primarily out-of-scope wood flooring: 4412.31.4075, 4412.31.5125, 4412.32.0565, 4412.32.2525, 4412.32.3125, and 4412.94.3105.

Source: Compiled from official U.S. import statistics using primary HTS numbers less six wood flooring HTS numbers, accessed September 29, 2017. Quantities in meters cubed converted to 1,000 square feet using 1.024 conversion factor.

Table D-2
Hardwood plywood: U.S. imports by HTS classification groups, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. imports from.--					
China.--					
Primary HTS numbers	658,449	745,267	720,373	338,672	396,233
Wood flooring HTS numbers	552,896	549,869	527,523	245,204	8,302
Both HTS groups (used in related case)	1,211,345	1,295,136	1,247,896	583,876	404,534
Nonsubject sources.--					
Primary HTS numbers	648,574	751,287	741,819	379,601	425,572
Wood flooring HTS numbers	94,930	129,946	172,885	76,944	16,547
Both HTS groups (used in related case)	743,504	881,233	914,704	456,545	442,119
All sources.--					
Primary HTS numbers	1,307,022	1,496,553	1,462,192	718,274	821,805
MLWF HTS numbers	647,826	679,816	700,409	322,148	24,849
Both HTS groups (used in related case)	1,954,849	2,176,369	2,162,600	1,040,421	846,653
	Source shares within HTS classification groups (percent)				
U.S. imports from.--					
China.--					
Primary HTS numbers	50.4	49.8	49.3	47.2	48.2
Wood flooring HTS numbers	85.3	80.9	75.3	76.1	33.4
Both HTS groups (used in related case)	62.0	59.5	57.7	56.1	47.8
Nonsubject sources.--					
Primary HTS numbers	49.6	50.2	50.7	52.8	51.8
Wood flooring HTS numbers	14.7	19.1	24.7	23.9	66.6
Both HTS groups (used in related case)	38.0	40.5	42.3	43.9	52.2
All sources.--					
Primary HTS numbers	66.9	68.8	67.6	69.0	97.1
Wood flooring HTS numbers	33.1	31.2	32.4	31.0	2.9
Both HTS groups (used in related case)	100.0	100.0	100.0	100.0	100.0

Table continued on next page.

Table D-2--Continued
Hardwood plywood: U.S. imports by HTS classification groups, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	HTS classification group shares within sources (percent)				
U.S. imports from.--					
China.--					
Primary HTS numbers	54.4	57.5	57.7	58.0	97.9
Wood flooring HTS numbers	45.6	42.5	42.3	42.0	2.1
Both HTS groups (used in related case)	100.0	100.0	100.0	100.0	100.0
Nonsubject sources.--					
Primary HTS numbers	87.2	85.3	81.1	83.1	96.3
Wood flooring HTS numbers	12.8	14.7	18.9	16.9	3.7
Both HTS groups (used in related case)	100.0	100.0	100.0	100.0	100.0
All sources.--					
Primary HTS numbers	66.9	68.8	67.6	69.0	97.1
Wood flooring HTS numbers	33.1	31.2	32.4	31.0	2.9
Both HTS groups (used in related case)	100.0	100.0	100.0	100.0	100.0

Note.--The primary HTS numbers (listed in *Part I* of this report) are a subset of the primary HTS numbers used in Commerce's scope, less six (6) HTS numbers argued to contain mostly out-of-scope wood flooring: 4412.31.4075, 4412.31.5125, 4412.32.0565, 4412.32.2525, 4412.32.3125, and 4412.94.3105.

Source: Compiled from official U.S. import statistics using primary HTS numbers and six wood flooring HTS numbers, accessed September 29, 2017. Quantities in meters cubed converted to 1,000 square feet using 1.024 conversion factor.

APPENDIX E

NONSUBJECT COUNTRY PRICE DATA

Eleven importers reported price data for Russia for products 1, 2, 3, and 6. Price data reported by these firms accounted for less than 1 percent of U.S. commercial shipments from all nonsubject sources. These price items and accompanying data are comparable to those presented in tables V-3, 4, 5, and 8. Price and quantity data for Russia are shown in tables E-1 to E-4 (with domestic sources) and in figures E-1 to E-4 (with domestic and subject sources). Importers of Russian hardwood plywood reported generally comparable products, although some reported pricing data for products that were of a higher grade or greater thickness than the defined pricing product.

In comparing nonsubject country pricing data with U.S. producer pricing data, prices for hardwood plywood imported from Russia were lower than prices for U.S.-produced hardwood plywood in *** instances and higher in *** instances. In comparing nonsubject country pricing data with subject country pricing data, prices for hardwood plywood imported from Russia were lower than prices for hardwood plywood imported from China in *** instances and higher in *** instances. A summary of price differentials is presented in table E-5.

Table E-1
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and nonsubject product 1[1], by quarters, January 2014-June 2017

Period	United States		Russia	
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)
2014:				
Jan.-Mar.	0.92	3,078,128	0.85	267,722
Apr.-Jun.	0.93	2,542,640	0.98	238,400
Jul.-Sep.	0.94	2,379,968	1.06	190,852
Oct.-Dec.	0.94	2,345,456	0.91	303,647
2015:				
Jan.-Mar.	0.95	2,320,352	0.99	211,531
Apr.-Jun.	0.96	2,704,496	0.96	264,161
Jul.-Sep.	0.95	2,564,984	0.86	102,400
Oct.-Dec.	0.94	2,685,032	0.63	602,827
2016:				
Jan.-Mar.	0.93	2,665,664	0.64	583,801
Apr.-Jun.	0.91	2,833,360	0.51	888,604
Jul.-Sep.	0.91	2,465,056	0.50	935,589
Oct.-Dec.	0.91	2,203,184	0.63	948,370
2017:				
Jan.-Mar.	0.90	2,770,872	0.77	370,512
Apr.-Jun.	0.91	2,567,040	0.63	977,873

[1] Product 1: 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Notes.-- Importer *** reported pricing data for a comparable but “higher grade” product; *** reported for product that was “close to C-grade” but that back grades were less than 2; and *** reported that their product was graded on Russian Gosudarstvenii Standart (“GOST”) standards (equivalent to ANSI) and that veneers for Russian product are thicker than U.S. hardwood plywood.

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

Table E-2
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and nonsubject product 2[1], by quarters, January 2014-June 2017

Period	United States		Russia	
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)
2014:				
Jan.-Mar.	1.17	217,760	--	0
Apr.-Jun.	1.11	191,904	--	0
Jul.-Sep.	1.15	167,968	--	0
Oct.-Dec.	1.11	170,016	***	***
2015:				
Jan.-Mar.	1.17	253,120	***	***
Apr.-Jun.	1.19	175,168	***	***
Jul.-Sep.	***	***	--	0
Oct.-Dec.	1.20	129,888	***	***
2016:				
Jan.-Mar.	1.09	207,144	--	0
Apr.-Jun.	1.22	127,232	***	***
Jul.-Sep.	1.09	200,896	***	***
Oct.-Dec.	1.15	75,424	--	0
2017:				
Jan.-Mar.	1.13	113,088	***	***
Apr.-Jun.	1.12	141,376	--	0

[1] Product 2: 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, prefinished.

Note.-- Importer *** reported pricing data for BB/BB grade unfinished12 mm Russian Birch hardwood plywood and indicated that ***.

BB/BB grade is “Single piece face and back. Both face and back veneers allow 3-6 small color-matched patches on average and some light mineral streaks. Tight pin knots may be present. Inner cores are solid single piece veneers.” Wolstenhome International, https://www.wolstenholme.com/plywood-products/baltic-birch/grading/, accessed October 3, 2017.

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

Table E-3
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and nonsubject product 3[1], by quarters, January 2014-June 2017

Period	United States		Russia	
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)
2014:				
Jan.-Mar.	1.14	11,211,240	1.38	140,198
Apr.-Jun.	1.15	9,950,456	1.45	116,881
Jul.-Sep.	1.14	10,181,416	1.46	157,265
Oct.-Dec.	1.15	9,468,704	1.45	111,046
2015:				
Jan.-Mar.	1.16	10,823,341	1.53	116,672
Apr.-Jun.	1.16	9,507,896	1.42	153,238
Jul.-Sep.	1.16	8,024,120	1.34	79,154
Oct.-Dec.	1.14	8,794,192	0.95	421,450
2016:				
Jan.-Mar.	1.15	9,667,608	0.87	552,576
Apr.-Jun.	1.14	7,916,072	0.70	814,572
Jul.-Sep.	1.13	7,295,328	***	***
Oct.-Dec.	1.12	6,276,272	***	***
2017:				
Jan.-Mar.	1.12	7,390,992	***	***
Apr.-Jun.	1.12	7,176,448	1.03	653,662

[1] Product 3: 18 mm (3/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

Notes.-- Importer *** reported pricing data for a comparable but “higher grade” product; *** reported for product that was “close to C-grade” but that back grades were less than 2; and *** reported that their product was graded on GOST standards and that veneers for Russian product are thicker than U.S. hardwood plywood.

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

Table E-4
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and nonsubject product 6[1], by quarters, January 2014-June 2017

Period	United States		Russia	
	Price (dollars per square foot)	Quantity (square feet)	Price (dollars per square foot)	Quantity (square feet)
2014:				
Jan.-Mar.	0.60	668,512	***	***
Apr.-Jun.	0.60	559,136	***	***
Jul.-Sep.	0.60	510,528	***	***
Oct.-Dec.	0.58	592,960	***	***
2015:				
Jan.-Mar.	0.59	637,680	***	***
Apr.-Jun.	0.58	1,385,696	***	***
Jul.-Sep.	0.56	2,331,544	***	***
Oct.-Dec.	0.57	2,909,568	0.46	127,096
2016:				
Jan.-Mar.	0.57	2,838,288	0.54	28,960
Apr.-Jun.	0.57	2,814,672	***	***
Jul.-Sep.	***	***	0.38	89,000
Oct.-Dec.	***	***	***	***
2017:				
Jan.-Mar.	***	***	***	***
Apr.-Jun.	***	***	***	***

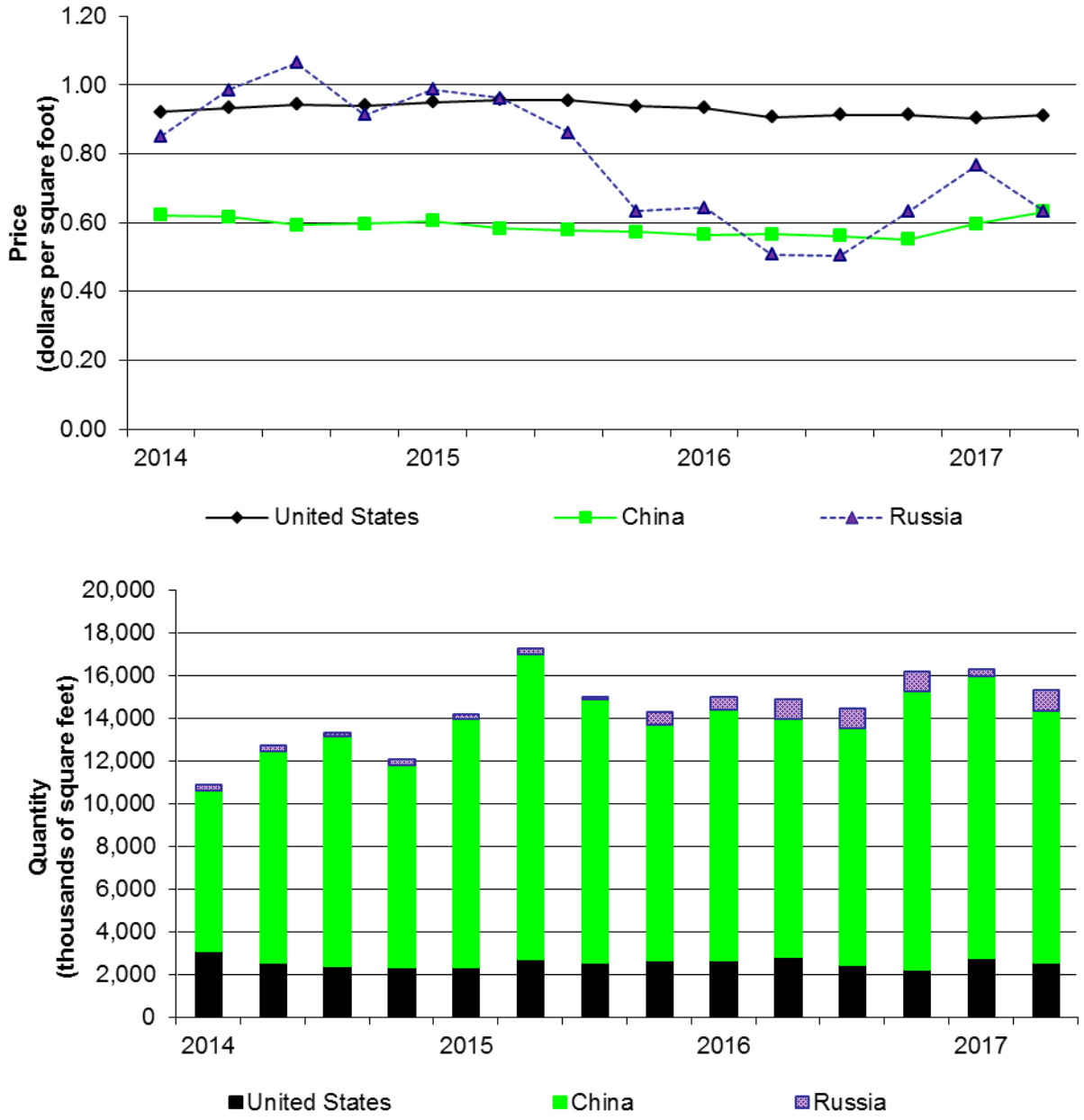
[1] Product 6: 5.2 mm (1/4") thickness (actual or nominal), 4x8 panel size, Birch face (whether plain or rotary sliced), face Grade C or substantially equivalent, back face of Birch or other, Grade 2/3 or substantially equivalent, veneer core, unfinished.

Notes.-- Importer *** reported pricing data for Russian Birch, 6 mm hardwood plywood, BB/CP grade with thicker a thicker back face than other imports and *** reported that their product was graded on GOST standards and that veneers for Russian product are thicker than U.S. hardwood plywood.

BB/CP grade is “Single piece face and back. The “CP” back veneers are downgraded from “BB” grade veneers, which allow for unlimited patches and sound knots, but does not allow for open defects. Inner cores are solid birch single piece veneers.” Wolstenhome International, https://www.wolstenholme.com/plywood-products/baltic-birch/grading/, accessed October 3, 2017.

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

Figure E-1
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1], by quarters, January 2014-June 2017



[1] Product 1: 12 mm (1/2") thickness (actual or nominal), 4x8 panel size, Birch face (whether white birch, natural birch or artisan birch; whole piece), face Grade C/D+ or substantially equivalent, Birch back (whether white birch, natural birch or artisan birch), back grade 2/3 or substantially equivalent, veneer core, unfinished.

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

Figure E-2
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1], by quarters, January 2014-June 2017

* * * * * * *

Figure E-3
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 3[1], by quarters, January 2014-June 2017

* * * * * * *

Figure E-4
Hardwood plywood: Weighted-average f.o.b. prices and quantities of domestic and imported product 6[1], by quarters, January 2014-June 2017

* * * * * * *

Table E-5

Hardwood plywood: Summary of underselling/(overselling), by country, January 2014-June 2017

Comparison	Total number of comparisons	Nonsubject lower than the comparison source		Nonsubject higher than the comparison source	
		Number of quarters	Quantity (square feet)	Number of quarters	Quantity (square feet)
Nonsubject vs United States.--					
Russia vs. United States	49	***	***	***	***
Nonsubject vs Subject.--					
Russia vs. China	49	***	***	***	***

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

APPENDIX F

COMPARISON OF U.S. PRODUCERS' AND IMPORTERS' U.S. SHIPMENTS, BY ATTRIBUTE

U.S. PRODUCERS – FACE VENEER THICKNESS

Table III-7
Hardwood plywood: U.S. producers' commercial U.S. shipments by face veneer thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: >= 0.6 mm	359,885	346,524	323,671	167,757	164,561
Face veneer: 0.5mm to 0.59mm	300,175	293,599	287,198	147,930	144,819
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	***	***	***	***	***
Total commercial US shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: >= 0.6 mm	53.4	53.0	52.0	52.2	52.2
Face veneer: 0.5mm to 0.59mm	44.5	44.9	46.1	46.0	45.9
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	***	***	***	***	***
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0

[1] ***.

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

IMPORTERS – FACE VENEER THICKNESS

Table IV-7
Hardwood plywood: U.S. importers' commercial U.S. shipments by face veneer thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China.-- Face veneer: >= 0.6 mm	6,652	7,969	4,115	2,213	2,628
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	1,123,456	1,222,707	1,333,262	660,248	633,889
Total commercial U.S. shipments	1,187,632	1,302,948	1,420,206	703,603	681,042
	Share of quantity (percent)				
U.S. importers: China.-- Face veneer: >= 0.6 mm	0.6	0.6	0.3	0.3	0.4
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	94.6	93.8	93.9	93.8	93.1
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: Nonsubject sources.-- Face veneer: >= 0.6 mm	504,898	581,118	618,938	332,583	355,188
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	738,975	727,466	769,579	454,949	438,867
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,086	929,896
	Share of quantity (percent)				
U.S. importers: Nonsubject sources.-- Face veneer: >= 0.6 mm	37.0	39.9	38.9	37.4	38.2
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	54.1	49.9	48.3	51.1	47.2
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: All sources.-- Face veneer: >= 0.6 mm	511,550	589,087	623,053	334,796	357,816
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	1,862,431	1,950,173	2,102,841	1,115,197	1,072,756
Total commercial U.S. shipments	2,553,563	2,760,522	3,013,143	1,593,689	1,610,938
	Share of quantity (percent)				
U.S. importers: All sources.-- Face veneer: >= 0.6 mm	20.0	21.3	20.7	21.0	22.2
Face veneer: 0.5mm to 0.59mm	***	***	***	***	***
Face veneer: 0.4mm to 0.49mm	***	***	***	***	***
Face veneer: <0.4mm	72.9	70.6	69.8	70.0	66.6
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

U.S. PRODUCERS – OVERALL THICKNESS

Table III-8
Hardwood plywood: U.S. producers' commercial U.S. shipments by overall plywood thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.-- Plywood thickness: >=20.0mm	8,338	7,429	7,081	3,698	3,808
Plywood thickness: 16mm to 19.99mm	381,044	366,673	346,658	181,100	176,872
Plywood thickness: 6.5mm to 15.99mm	133,329	133,731	127,736	65,521	64,801
Plywood thickness: <6.5mm	151,182	145,423	140,935	71,339	69,747
Total commercial U.S. shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.-- Plywood thickness: >=20.0mm	1.2	1.1	1.1	1.1	1.2
Plywood thickness: 16mm to 19.99mm	56.5	56.1	55.7	56.3	56.1
Plywood thickness: 6.5mm to 15.99mm	19.8	20.5	20.5	20.4	20.6
Plywood thickness: <6.5mm	22.4	22.3	22.6	22.2	22.1
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

IMPORTERS – OVERALL THICKNESS

Table IV-8
Hardwood plywood: U.S. importers' commercial U.S. shipments by overall plywood thickness, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China.-- Plywood thickness: >=20.0mm	2,988	3,766	4,567	2,440	1,467
Plywood thickness: 16mm to 19.99mm	286,967	318,901	349,190	177,453	147,245
Plywood thickness: 6.5mm to 15.99mm	241,934	270,731	285,908	137,806	142,139
Plywood thickness: <6.5mm	655,739	709,547	780,536	385,906	390,190
Total commercial U.S. shipments	1,187,628	1,302,945	1,420,201	703,605	681,041
	Share of quantity (percent)				
U.S. importers: China.-- Plywood thickness: >=20.0mm	0.3	0.3	0.3	0.3	0.2
Plywood thickness: 16mm to 19.99mm	24.2	24.5	24.6	25.2	21.6
Plywood thickness: 6.5mm to 15.99mm	20.4	20.8	20.1	19.6	20.9
Plywood thickness: <6.5mm	55.2	54.5	55.0	54.8	57.3
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importer: Nonsubject sources.-- Plywood thickness: >=20.0mm	7,576	4,650	8,260	4,162	2,791
Plywood thickness: 16mm to 19.99mm	55,446	45,143	69,606	35,634	34,695
Plywood thickness: 6.5mm to 15.99mm	174,135	175,516	211,410	107,731	107,013
Plywood thickness: <6.5mm	1,128,774	1,232,265	1,303,661	742,560	785,398
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,087	929,897
	Share of quantity (percent)				
U.S. importers: Nonsubject sources.-- Plywood thickness: >=20.0mm	0.6	0.3	0.5	0.5	0.3
Plywood thickness: 16mm to 19.99mm	4.1	3.1	4.4	4.0	3.7
Plywood thickness: 6.5mm to 15.99mm	12.7	12.0	13.3	12.1	11.5
Plywood thickness: <6.5mm	82.6	84.5	81.8	83.4	84.5
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: All sources.-- Plywood thickness: >=20.0mm	10,564	8,416	12,827	6,602	4,258
Plywood thickness: 16mm to 19.99mm	342,413	364,044	418,796	213,087	181,940
Plywood thickness: 6.5mm to 15.99mm	416,069	446,247	497,318	245,537	249,152
Plywood thickness: <6.5mm	1,784,513	1,941,812	2,084,197	1,128,466	1,175,588
Total commercial U.S. shipments	2,553,559	2,760,519	3,013,138	1,593,692	1,610,938
	Share of quantity (percent)				
U.S. importers: All sources.-- Plywood thickness: >=20.0mm	0.4	0.3	0.4	0.4	0.3
Plywood thickness: 16mm to 19.99mm	13.4	13.2	13.9	13.4	11.3
Plywood thickness: 6.5mm to 15.99mm	16.3	16.2	16.5	15.4	15.5
Plywood thickness: <6.5mm	69.9	70.3	69.2	70.8	73.0
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

U.S. PRODUCERS – CORE WOOD TYPE

Table III-9
Hardwood plywood: U.S. producers' commercial U.S. shipments by core wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.-- Core: Hardwood	***	***	***	***	***
Core: Softwood	247,795	238,491	223,246	116,900	112,198
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.-- Core: Hardwood	***	***	***	***	***
Core: Softwood	36.8	36.5	35.9	36.3	35.6
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

IMPORTERS – CORE WOOD TYPE

Table IV-9
Hardwood plywood: U.S. importers' commercial U.S. shipments by core wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China-- Core: Hardwood	1,148,082	1,253,068	1,368,164	676,242	654,598
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	1,187,682	1,302,998	1,420,256	703,628	679,324
	Share of quantity (percent)				
U.S. importers: China.-- Core: Hardwood	96.7	96.2	96.3	96.1	96.4
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: Nonsubject sources-- Core: Hardwood	1,343,203	1,439,262	1,572,890	879,883	915,195
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,086	929,896
	Share of quantity (percent)				
U.S. importers Nonsubject sources-- Core: Hardwood	98.3	98.7	98.7	98.9	98.4
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: All sources-- Core: Hardwood	2,491,285	2,692,330	2,941,054	1,556,125	1,569,793
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	2,553,613	2,760,572	3,013,193	1,593,714	1,609,220
	Share of quantity (percent)				
U.S. importers: All sources-- Core: Hardwood	97.6	97.5	97.6	97.6	97.5
Core: Softwood	***	***	***	***	***
Core: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

U.S. PRODUCERS – FACE VENEER WOOD TYPE

Table III-10
Hardwood plywood: U.S. producers' commercial U.S. shipments by face veneer wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: Hardwood	668,997	647,924	613,763	316,848	310,947
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	673,893	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.--					
Face veneer: Hardwood	99.3	99.2	98.6	98.5	98.6
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

[1] ***.

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

IMPORTERS – FACE VENEER WOOD TYPE

Table IV-10
Hardwood plywood: U.S. importers' commercial U.S. shipments by face veneer wood type, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. importers: China.-- Face veneer: Hardwood	1,180,721	1,291,052	1,399,603	694,191	671,105
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	1,187,682	1,302,998	1,420,256	703,628	679,324
	Share of quantity (percent)				
U.S. importers China.-- Face veneer: Hardwood	99.4	99.1	98.5	98.7	98.8
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: Nonsubject sources-- Face veneer: Hardwood	1,356,084	1,454,147	1,585,470	886,231	925,520
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	1,365,931	1,457,574	1,592,937	890,086	929,896
	Share of quantity (percent)				
U.S. importers: Nonsubject sources-- Face veneer: Hardwood	99.3	99.8	99.5	99.6	99.5
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0
	Quantity (1,000 square feet)				
U.S. importers: All sources-- Face veneer: Hardwood	2,536,805	2,745,199	2,985,073	1,580,422	1,596,625
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	2,553,613	2,760,572	3,013,193	1,593,714	1,609,220
	Share of quantity (percent)				
U.S. importers: All sources.-- Face veneer: Hardwood	99.3	99.4	99.1	99.2	99.2
Face veneer: Softwood	***	***	***	***	***
Face veneer: Other	***	***	***	***	***
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

U.S. PRODUCERS – GRADE AND FACE VENEER WOOD SPECIES

Table III-11
Hardwood plywood: U.S. producers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Other	All grades
	Quantity (1,000 square feet)							
U.S. producers' commercial U.S. shipments.-- Face veneer: Birch	***	***	***	***	***	***	***	129,662
Face veneer: Maple	***	***	***	***	***	***	***	275,478
Face veneer: Oak	***	***	***	***	***	***	***	74,062
Face veneer: Walnut	***	***	***	***	***	***	***	***
Face veneer: Tropical	***	***	***	***	***	***	***	***
Face veneer: Other	***	***	***	***	***	***	***	123,063
Face veneer: Any species	***	100,143	165,063	201,070	48,084	***	98,197	622,410
	Share of quantity across (percent)							
U.S. producers' commercial U.S. shipments.-- Face veneer: Birch	***	***	***	***	***	***	***	100.0
Face veneer: Maple	***	***	***	***	***	***	***	100.0
Face veneer: Oak	***	***	***	***	***	***	***	100.0
Face veneer: Walnut	***	***	***	***	***	***	***	100.0
Face veneer: Tropical	***	***	***	***	***	***	***	100.0
Face veneer: Other	***	***	***	***	***	***	***	100.0
Face veneer: Any species	***	16.1	26.5	32.3	7.7	***	15.8	100.0
	Share of quantity down (percent)							
U.S. producers' commercial U.S. shipments.-- Face veneer: Birch	***	***	***	***	***	***	***	20.8
Face veneer: Maple	***	***	***	***	***	***	***	44.3
Face veneer: Oak	***	***	***	***	***	***	***	11.9
Face veneer: Walnut	***	***	***	***	***	***	***	***
Face veneer: Tropical	***	***	***	***	***	***	***	***
Face veneer: Other	***	***	***	***	***	***	***	19.8
Face veneer: Any species	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] ***.

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

IMPORTERS – GRADE AND FACE VENEER WOOD SPECIES

Table IV-11
Hardwood plywood: U.S. importers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Others	All Grades
	Quantity (1,000 square feet)							
U.S. importers: China.-- Face veneer: Birch	---	***	***	***	***	***	***	1,104,162
Face veneer: Maple	---	***	***	***	***	***	***	31,489
Face veneer: Oak	---	***	***	***	***	***	***	25,170
Face veneer: Walnut	---	***	***	***	***	***	***	748
Face veneer: Tropical	---	***	***	***	***	***	***	184,866
Face veneer: Other	---	***	***	***	***	***	***	73,816
Face veneer: Any Species	---	5,521	93,215	237,790	355,533	216,154	512,038	1,420,251
	Share of quantity across (percent)							
U.S. importers: China.-- Face veneer: Birch	---	***	***	***	***	***	***	100.0
Face veneer: Maple	---	***	***	***	***	***	***	100.0
Face veneer: Oak	---	***	***	***	***	***	***	100.0
Face veneer: Walnut	---	***	***	***	***	***	***	100.0
Face veneer: Tropical	---	***	***	***	***	***	***	100.0
Face veneer: Other	---	***	***	***	***	***	***	100.0
Face veneer: Any Species	---	0.4	6.6	16.7	25.0	15.2	36.1	100.0
	Share of quantity down (percent)							
U.S. importers: China.-- Face veneer: Birch	---	***	***	***	***	***	***	77.7
Face veneer: Maple	---	***	***	***	***	***	***	2.2
Face veneer: Oak	---	***	***	***	***	***	***	1.8
Face veneer: Walnut	---	***	***	***	***	***	***	0.1
Face veneer: Tropical	---	***	***	***	***	***	***	13.0
Face veneer: Other	---	***	***	***	***	***	***	5.2
Face veneer: Any Species	---	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table continued on the next page.

Table IV-11--Continued
Hardwood plywood: U.S. importers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Others	All Grades
	Quantity (1,000 square feet)							
U.S. importers: Nonsubject sources.-- Face veneer: Birch	***	***	***	***	***	***	***	265,655
Face veneer: Maple	***	***	***	***	***	***	***	5,212
Face veneer: Oak	***	***	***	***	***	***	***	5,849
Face veneer: Walnut	***	***	***	***	***	***	***	670
Face veneer: Tropical	***	***	***	***	***	***	***	1,294,691
Face veneer: Other	***	***	***	***	***	***	***	21,260
Face veneer: Any Species	7,082	48,367	526,291	267,572	75,029	80,702	588,294	1,593,337
	Share of quantity across (percent)							
U.S. importers: Nonsubject sources.-- Face veneer: Birch	***	***	***	***	***	***	***	100.0
Face veneer: Maple	***	***	***	***	***	***	***	100.0
Face veneer: Oak	***	***	***	***	***	***	***	100.0
Face veneer: Walnut	***	***	***	***	***	***	***	100.0
Face veneer: Tropical	***	***	***	***	***	***	***	100.0
Face veneer: Other	***	***	***	***	***	***	***	100.0
Face veneer: Any Species	0.4	3.0	33.0	16.8	4.7	5.1	36.9	100.0
	Share of quantity down (percent)							
U.S. importers: Nonsubject sources.-- Face veneer: Birch	***	***	***	***	***	***	***	16.7
Face veneer: Maple	***	***	***	***	***	***	***	0.3
Face veneer: Oak	***	***	***	***	***	***	***	0.4
Face veneer: Walnut	***	***	***	***	***	***	***	(1)
Face veneer: Tropical	***	***	***	***	***	***	***	81.3
Face veneer: Other	***	***	***	***	***	***	***	1.3
Face veneer: Any Species	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table continued on the next page.

Table IV-11--Continued
Hardwood plywood: U.S. importers' commercial U.S. shipments by grade and face veneer wood species, 2016

Item	Grade							
	AA	A	B	C	D	E	Others	All Grades
	Quantity (1,000 square feet)							
U.S. importers: All sources.-- Face veneer: Birch	***	***	***	***	***	***	***	1,369,817
Face veneer: Maple	***	***	***	***	***	***	***	36,701
Face veneer: Oak	***	***	***	***	***	***	***	31,019
Face veneer: Walnut	***	***	***	***	***	***	***	1,418
Face veneer: Tropical	***	***	***	***	***	***	***	1,479,557
Face veneer: Other	***	***	***	***	***	***	***	95,076
Face veneer: Any Species	7,082	53,888	619,506	505,362	430,562	296,856	1,100,332	3,013,588
	Share of quantity across (percent)							
U.S. importers: All sources.-- Face veneer: Birch	***	***	***	***	***	***	***	100.0
Face veneer: Maple	***	***	***	***	***	***	***	100.0
Face veneer: Oak	***	***	***	***	***	***	***	100.0
Face veneer: Walnut	***	***	***	***	***	***	***	100.0
Face veneer: Tropical	***	***	***	***	***	***	***	100.0
Face veneer: Other	***	***	***	***	***	***	***	100.0
Face veneer: Any Species	0.2	1.8	20.6	16.8	14.3	9.9	36.5	100.0
	Share of quantity down (percent)							
U.S. importers: All sources.-- Face veneer: Birch	***	***	***	***	***	***	***	45.5
Face veneer: Maple	***	***	***	***	***	***	***	1.2
Face veneer: Oak	***	***	***	***	***	***	***	1.0
Face veneer: Walnut	***	***	***	***	***	***	***	([1])
Face veneer: Tropical	***	***	***	***	***	***	***	49.1
Face veneer: Other	***	***	***	***	***	***	***	3.2
Face veneer: Any Species	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Less than 0.05 percent.

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

U.S. PRODUCERS – INTENDED END USE

Table III-12
Hardwood plywood: U.S. producers' commercial U.S. shipments by intended end use, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 square feet)				
U.S. producers' commercial U.S. shipments.-- End use: Cabinets	336,877	327,205	316,220	162,641	163,133
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	28,108	27,128	25,944	13,050	14,095
End use: RV/mobile home	17,936	17,567	18,098	9,384	6,682
End use: Architectural work	42,963	41,928	41,333	20,902	20,826
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	176,744	167,266	149,708	78,932	73,236
Total commercial U.S. shipments	673,894	653,256	622,410	321,658	315,228
	Share of quantity (percent)				
U.S. producers' commercial U.S. shipments.-- End use: Cabinets	50.0	50.1	50.8	50.6	51.8
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	4.2	4.2	4.2	4.1	4.5
End use: RV/mobile home	2.7	2.7	2.9	2.9	2.1
End use: Architectural work	6.4	6.4	6.6	6.5	6.6
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	26.2	25.6	24.1	24.5	23.2
Total commercial U.S. shipments	100.0	100.0	100.0	100.0	100.0

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

IMPORTERS – INTENDED END USE

Table IV-12
Hardwood plywood: U.S. importers' commercial U.S. shipments by intended end use, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	China quantity (1,000 square feet)				
U.S. importers' commercial shipments by end use.--					
End use: Cabinets	244,126	287,550	301,027	151,032	152,080
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	23,987	28,288	28,941	14,613	14,557
End use: RV/mobile home	79,405	80,013	89,270	44,960	45,517
End use: Architectural work	10,774	16,965	15,931	7,795	7,935
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	491,723	525,358	582,752	302,160	270,139
China commercial shipments by end use	1,180,955	1,302,948	1,420,206	703,603	681,042
	Nonsubject sources quantity (1,000 square feet)				
U.S. importers' commercial shipments by end use.--					
End use: Cabinets	76,147	75,563	67,112	34,034	42,166
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	17,410	19,294	18,838	8,700	11,980
End use: RV/mobile home	862,561	937,276	996,715	578,011	596,384
End use: Architectural work	20,232	17,369	20,939	9,633	13,107
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	284,857	265,825	338,778	182,088	194,180
Nonsubject sources commercial shipments by end use	1,365,931	1,457,574	1,592,937	890,086	944,641
	All sources quantity (1,000 square feet)				
U.S. importers' commercial shipments by end use.--					
End use: Cabinets	320,273	363,113	368,139	185,066	194,246
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	41,397	47,582	47,779	23,313	26,537
End use: RV/mobile home	941,966	1,017,289	1,085,985	622,971	641,901
End use: Architectural work	31,006	34,334	36,870	17,428	21,042
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown end use	776,580	791,183	921,530	484,248	464,319
All sources commercial shipments by end use	2,546,886	2,760,522	3,013,143	1,593,689	1,625,683

Table continued on next page.

Table IV-12--Continued
Hardwood plywood: U.S. importers' commercial U.S. shipments by intended end use, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Share of quantity (percent)				
U.S. importers: China.-- End use: Cabinets	20.7	22.1	21.2	21.5	22.3
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	2.0	2.2	2.0	2.1	2.1
End use: RV/mobile home	6.7	6.1	6.3	6.4	6.7
End use: Architectural work	0.9	1.3	1.1	1.1	1.2
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown	41.6	40.3	41.0	42.9	39.7
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0
	Share of quantity (percent)				
U.S. importers: Nonsubject sources.-- End use: Cabinets	5.6	5.2	4.2	3.8	4.5
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	1.3	1.3	1.2	1.0	1.3
End use: RV/mobile home	63.1	64.3	62.6	64.9	63.1
End use: Architectural work	1.5	1.2	1.3	1.1	1.4
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown	20.9	18.2	21.3	20.5	20.6
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0
	Share of quantity (percent)				
U.S. importers: All import sources.-- End use: Cabinets	12.6	13.2	12.2	11.6	11.9
End use: Furniture	***	***	***	***	***
End use: Store/retail fixtures	1.6	1.7	1.6	1.5	1.6
End use: RV/mobile home	37.0	36.9	36.0	39.1	39.5
End use: Architectural work	1.2	1.2	1.2	1.1	1.3
End use: Underlayment	***	***	***	***	***
End use: Miscellaneous and unknown	30.5	28.7	30.6	30.4	28.6
Total commercial US shipments	100.0	100.0	100.0	100.0	100.0

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

U.S. PRODUCERS – LAMINATED PRODUCT BY INTENDED END USE

Table III-13
Hardwood plywood: U.S. producers' commercial U.S. shipments of laminated product, by intended end use, 2016

Item	Calendar year 2016	
	Quantity (1,000 square feet)	Share of overall end use (percent)
U.S. producers' commercial U.S. shipments.-- End use: Cabinets	***	***
End use: Furniture	***	***
End use: Store/retail fixtures	***	***
End use: RV/mobile home	***	***
End use: Architectural work	***	***
End use: Underlayment	---	---
End use: Miscellaneous and unknown end use	***	***
Total commercial U.S. shipments	***	***

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

IMPORTERS – LAMINATED PRODUCT BY INTENDED END USE

Table IV-13
Hardwood plywood: U.S. importers' commercial U.S. shipments of laminated product, by intended end use, 2016

Item	Calendar year 2016	
	Quantity (1,000 square feet)	Share of overall end use (percent)
U.S. importers: China.--		
End use: Cabinets	87,058	28.9
End use: Furniture	***	***
End use: Store/retail fixtures	7,963	27.5
End use: RV/mobile home	42,314	47.4
End use: Architectural work	3,843	24.1
End use: Underlayment	***	***
End use: Miscellaneous and unknown end use	91,182	15.6
Total commercial U.S. shipments	242,890	17.1
U.S. importers: Nonsubject sources.--		
End use: Cabinets	18,171	27.1
End use: Furniture	***	***
End use: Store/retail fixtures	2,310	12.3
End use: RV/mobile home	884,106	88.7
End use: Architectural work	7,198	34.4
End use: Underlayment	***	***
End use: Miscellaneous and unknown end use	27,237	8.0
Total commercial U.S. shipments	967,515	60.7
U.S. importers: All import sources.--		
End use: Cabinets	105,229	28.6
End use: Furniture	20,509	17.5
End use: Store/retail fixtures	10,272	21.5
End use: RV/mobile home	926,420	85.3
End use: Architectural work	11,041	29.9
End use: Underlayment	18,515	4.2
End use: Miscellaneous and unknown end use	118,419	12.9
Total commercial U.S. shipments	1,210,406	40.2

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