

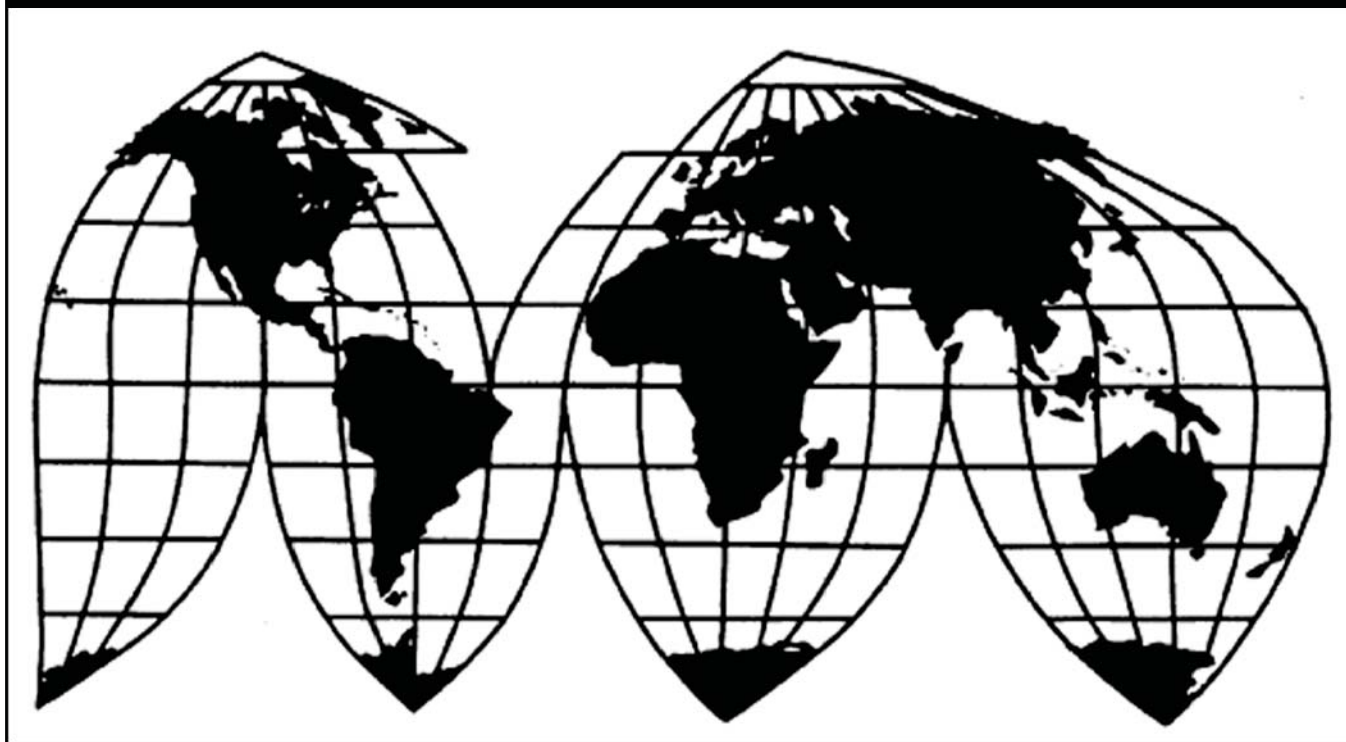
Large Residential Washers from China

Investigation No. 731-TA-1306 (Final)

Publication 4666

January 2017

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted.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 No. 731-TA-1306 (Final)

Large Residential Washers from China

DETERMINATION

On the basis of the record¹ developed in the subject investigation, the United States International Trade Commission (“Commission”) determines, pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. 1673d(b)) (“the Act”), that an industry in the United States is materially injured by reason of imports of large residential washers from China, provided for in subheading 8450.20.00 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”).

BACKGROUND

The Commission instituted this investigation effective December 16, 2015, following receipt of a petition filed with the Commission and Commerce by Whirlpool Corporation, Benton Harbor, Michigan. The Commission scheduled the final phase of the investigation following notification of a preliminary determination by Commerce that imports of large residential washers from China were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. 1673b(b)). Notice of the scheduling of the final phase of the Commission’s investigation 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* of August 18, 2016 (81 FR 55231). The hearing was held in Washington, DC, on December 7, 2016, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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

Views of the Commission

Based on the record in the final phase of this investigation, we determine that an industry in the United States is materially injured by reason of imports of large residential washers (“LRWs”) from China found by the U.S. Department of Commerce (“Commerce”) to be sold in the United States at less than fair value.

I. Background

Whirlpool Corporation (“Whirlpool”), a domestic producer of LRWs, filed the petition in this investigation on December 16, 2015. Whirlpool and General Electric Appliances (“GEA”), another domestic producer of LRWs that supports the petition, appeared at the hearing and filed prehearing and posthearing briefs. Whirlpool filed final comments.

Also participating in this investigation were LG Electronics USA, Inc. and Nanjing LG-Panda Appliances Co., Ltd. (collectively “LG”) and Samsung Electronics America, Inc. and Suzhou Samsung Electronics Co., Ltd. (collectively “Samsung”), which are importers and producers of subject merchandise. LG and Samsung (collectively “respondents”) participated in the hearing and jointly filed a prehearing brief, a posthearing brief, and final comments.

U.S. Industry data are based on the questionnaire responses from three domestic producers that accounted for virtually all domestic production of LRWs during the January 1, 2013-June 30, 2016 period of investigation.¹ U.S. import data are based on the questionnaire responses of three U.S. importers of LRWs from China, which accounted for virtually all U.S. imports of LRWs from China over the period of investigation.² Information on the LRW industry in China is based on the questionnaire responses of three producers of LRWs in China, which are believed to account for the vast majority of production of LRWs in China and virtually all exports of LRWs from China to the United States during the period of investigation.³

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.”⁴ 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

¹ Confidential Report (“CR”) at I-5; Public Report (“PR”) at 1-4.

² CR at IV-1 – 2; PR at IV-1.

³ CR at VII-3; PR at VII-2 - 3.

⁴ 19 U.S.C. § 1677(4)(A).

the product.”⁵ 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.”⁶

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.⁷ No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.⁸ The Commission looks for clear dividing lines among possible like products and disregards minor variations.⁹ Although the Commission must accept Commerce’s determination as to the scope of the imported merchandise that is subsidized or sold at less than fair value,¹⁰ the Commission determines what domestic product is like the imported articles Commerce has identified.¹¹

⁵ 19 U.S.C. § 1677(4)(A).

⁶ 19 U.S.C. § 1677(10).

⁷ 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).

⁸ See, e.g., S. Rep. No. 96-249 at 90-91 (1979).

⁹ *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49; see also S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in “such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not ‘like’ each other, nor should the definition of ‘like product’ be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.”).

¹⁰ 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).

¹¹ *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).

B. Product Description

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

For purposes of this investigation, the term “large residential washers” denotes all automatic clothes washing machines, regardless of the orientation of the rotational axis, with a cabinet width (measured from its widest point) of at least 24.5 inches (62.23 cm) and no more than 32.0 inches (81.28 cm), except as noted below.

Also covered are certain parts used in large residential washers, namely: (1) All cabinets, or portions thereof, designed for use in large residential washers; (2) all assembled tubs designed for use in large residential washers which incorporate, at a minimum: (a) A tub; and (b) a seal; (3) all assembled baskets designed for use in large residential washers which incorporate, at a minimum: (a) A side wrapper; (b) a base; and (c) a drive hub; and (4) any combination of the foregoing parts or subassemblies.

Excluded from the scope are stacked washer-dryers and commercial washers. The term “stacked washer-dryers” denotes distinct washing and drying machines that are built on a unitary frame and share a common console that controls both the washer and the dryer. The term “commercial washer” denotes an automatic clothes washing machine designed for the “pay per use” segment meeting either of the following two definitions:

(1) (a) It contains payment system electronics; (b) it is configured with an externally mounted steel frame at least six inches high that is designed to house a coin/token operated payment system (whether or not the actual coin/token operated payment system is installed at the time of importation); (c) it contains a push button user interface with a maximum of six manually selectable wash cycle settings, with no ability of the end user to otherwise modify water temperature, water level, or spin speed for a selected wash cycle setting; and (d) the console containing the user interface is made of steel and is assembled with security fasteners; or

(2) (a) it contains payment system electronics; (b) the payment system electronics are enabled (whether or not the payment acceptance device has been installed at the time of importation) such that, in normal operation, the unit cannot begin a wash cycle without first receiving a signal from a bona fide payment acceptance device such as an electronic credit card reader; (c) it contains a push button user interface with a maximum of six manually selectable wash cycle settings, with no ability of the end user to otherwise modify water temperature, water level, or spin speed for a selected wash cycle setting; and (d) the console containing the user interface is made of steel and is assembled with security fasteners.

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) Have a vertical rotational axis; (2) are top loading; (3) have

a drive train consisting, *inter alia*, of (a) a permanent split capacitor (PSC) motor, (b) a belt drive, and (c) a flat wrap spring clutch.

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) Have a horizontal rotational axis; (2) are front loading; and (3) have a drive train consisting, *inter alia*, of (a) a controlled induction motor (CIM), and (b) a belt drive.

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) Have a horizontal rotational axis; (2) are front loading; and (3) have cabinet width (measured from its widest point) of more than 28.5 inches (72.39 cm).

The products subject to this investigation are currently classifiable under subheadings 8450.20.0040 and 8450.20.0080 of the Harmonized Tariff Schedule of the United States (HTSUS). Products subject to this investigation may also enter under HTSUS subheadings 8450.11.0040, 8450.11.0080, 8450.90.2000, and 8450.90.6000. Although the HTSUS subheadings are provided for convenience and customs purposes, the written description of the merchandise subject to this investigation is dispositive.¹²

LRWs are automatic clothes washing appliances capable of cleaning fabrics using water and detergent in conjunction with wash, rinse, and spin cycles typically programmed into the unit.¹³ They are produced in either top load or front load configurations.¹⁴ Top load LRWs possess drums that spin on a vertical axis and are loaded with soiled clothing through a door on the top of the unit.¹⁵ Front load LRWs possess drums that spin on a horizontal or tilted axis and are loaded with soiled clothing through a door in the front of the unit.¹⁶ All LRWs are typically purchased by households for use in single-family dwellings.¹⁷

Top load LRWs can wash clothes using either an agitator or an impeller. Agitator-based top load LRWs, sometimes known as conventional top load (“CTL”) LRWs, are characterized by their use of a pole-shaped agitator inside the drum, which cleans clothes by swirling them through detergent and water.¹⁸ Due to the interior volume occupied by the agitator, agitator-based LRWs generally offer less capacity than other types of LRWs.¹⁹ Impeller-based top load

¹² Large Residential Washers from the People’s Republic of China: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances, 81 Fed. Reg. 90776, 90778-79 (Dec. 15, 2016). Footnotes in the scope definition further describing the various terms used within the definition have been deleted.

¹³ CR at I-13; PR at I-11.

¹⁴ CR at I-13; PR at I-11.

¹⁵ CR at I-14; PR at I-11.

¹⁶ CR at I-18; PR at I-14.

¹⁷ CR at I-13; PR at I-11.

¹⁸ CR at I-17; PR at I-12 - 13.

¹⁹ CR at I-23; PR at I-17 - 18.

LRWs are characterized by their use of a fan-shaped impeller at the base of the drum, which cleans clothes by lifting and dropping them into a small quantity of water and HE detergent.²⁰ They reduce energy consumption by spinning clothes at high speed, thereby extracting more water and leaving clothes in need of less time in a dryer.²¹

Front load LRWs typically clean clothes better and more efficiently than top load LRWs. They conserve water by lifting clothes with a baffle as the drum spins on a horizontal or tilted axis and dropping them into a small quantity of water and high efficiency (“HE”) detergent.²² Like impeller-based top load LRWs, front load LRWs reduce energy consumption by spinning clothes at high speeds that extract more water and reduce drying time.²³

C. Arguments of the Parties

Whirlpool argues that there is nothing on the record of the final phase of this investigation that would warrant the Commission modifying its definition of the domestic like product from the preliminary determination, which included all LRWs within the scope of the investigation as well as front load residential washers with CIM/Belt.²⁴

Respondents agree with the Commission’s definition of the domestic like product from the preliminary determination, which encompasses all LRWs within the scope and front load residential washers with CIM/Belt.²⁵ They claim that the Commission should define a separate like product encompassing the LRW parts within the scope of the investigation, however. They argue that there is a clear dividing line between LRW parts within the scope and LRWs under the Commission’s traditional six like product factors²⁶ and that the Commission’s semi-finished product analysis also supports the definition of a separate like product for parts.²⁷

²⁰ CR at I-17; PR at I-13 - 14.

²¹ CR at I-17; PR at I-13 - 14.

²² CR at I-18; PR at I-13 - I-14.

²³ CR at I-18; PR at I-13 - I-14.

²⁴ Petitioner’s Prehearing Brief at 11-15. “CIM/Belt” refers to front load washing machines encompassed by the second of the three exclusions in the scope definition referencing “automatic clothes washing machines.” Among other components, these washers have a controlled induction motor and a belt. CR at I-9, PR at I-7. In the preliminary determination, the Commission included these washers in the domestic like product because they were produced domestically and the parties did not dispute that there is no clear dividing line between these washers and LRWs within the scope. *See Large Residential Washers from China*, Inv. No. 731-TA-1306 (Preliminary), USITC Pub. 4591 (Feb. 2016) at 10 (“Preliminary Determination”).

²⁵ Respondents’ Prehearing Brief at 9.

²⁶ Respondents’ Prehearing Brief at 11-13.

²⁷ *See* Respondents’ Prehearing Brief at 13-14. If the Commission were to define parts within the scope as a separate like product, respondents argue, then the Commission should make a negative determination with respect to parts because subject imported parts can only be used to repair subject imported LRWs and therefore do not compete with domestically produced parts. *Id.* at 15-16.

D. Domestic Like Product Analysis

Because respondents' argument that LRW parts within the scope should be a separate like product involves products at different stages of processing, we analyze it using the Commission's semi-finished products analysis.²⁸

Dedication for Use. The vast majority of LRW parts within the scope that are produced domestically are consumed in the domestic production of finished LRWs, as respondents concede.²⁹ The only parts falling within the scope are ones used in finished LRWs that are within the scope. Although subject imported LRW parts within the scope may be dedicated to the repair market, as respondents claim, the focus of the Commission's like product analysis is on domestically produced merchandise.³⁰

Separate Markets. Because the vast majority of domestically produced LRW parts within the scope are dedicated to the domestic production of LRWs, there is not a significant separate market for such parts.³¹ To the extent that some LRW parts are inventoried for use in repairing LRWs, an appreciable proportion of these parts do not appear to be sold into a separate market distinct from LRWs. Instead, when such repairs are conducted at the producer's expense under the warranty included with domestically produced LRWs, they may be considered part of the LRW market. Indeed, respondents have argued that the prices of domestically produced LRWs sold to non-original equipment manufacturers ("OEM") customers include warranty costs.³² To the extent that warranty costs are included in the sales prices of domestically produced LRWs, the LRW parts used to repair LRWs under warranty are effectively sold into the LRW market.

Differences in Physical Characteristics and Functions of the Upstream and Downstream Articles. There are similarities and differences in the physical characteristics and functions of LRW parts as compared to LRWs. On the one hand, LRW parts within the scope are physically similar to LRWs in the sense that all such parts can be found in every LRW. LRW parts within the scope are similar to LRWs in terms of their functionality insofar as such parts are essential to the proper functioning of LRWs. On the other hand, the individual LRW parts within the

²⁸ In a semi-finished product analysis, the Commission examines: 1) whether the upstream article is dedicated to the production of the downstream article or has independent uses; 2) whether there are perceived to be separate markets for the upstream and downstream articles; 3) differences in the physical characteristics and functions of the upstream and downstream articles; 4) differences in the costs or value of the vertically differentiated articles; and 5) significance and extent of the processes used to transform the upstream into the downstream articles. *See, e.g., Glycine from India, Japan, and Korea*, Inv. Nos. 731-TA-1111-1113 (Preliminary), USITC Pub. 3921 (May 2007) at 7; *Artists' Canvas from China*, Inv. No. 731-TA-1091 (Final), USITC Pub. 3853 (May 2006) at 6; *Live Swine from Canada*, Inv. No. 731-TA-1076 (Final), USITC Pub. 3766 (Apr. 2005) at 8 n.40; *Certain Frozen Fish Fillets from Vietnam*, Inv. No. 731-TA-1012 (Preliminary), USITC Pub. 3533 (Aug. 2002) at 7.

²⁹ *See* Respondents' Prehearing Brief at 12.

³⁰ *See* Preliminary Determination, USITC Pub. 4591 at 10.

³¹ *See* Petitioners' Posthearing Brief at II-4 - 5.

³² *See* Respondents' Prehearing Brief at 70.

scope bear little physical resemblance to fully assembled LRWs and cannot be used to wash clothes.

Differences in Value. Respondents estimate that the LRW parts within the scope represent around one-quarter of the value of a finished LRW.³³

Extent of Processes Used to Transform Downstream Product into Upstream Product. Once the LRW parts within the scope have been produced, transforming them into a finished LRW entails assembling them with out-of-scope parts into LRWs on an assembly line.³⁴ Petitioner characterizes the process as one of simple assembly.³⁵

Conclusion. The record evidence pertaining to the Commission's semi-finished product factors supports the inclusion of LRW parts and finished washers within the same domestic like product definition. We acknowledge that LRW parts do not resemble LRWs, cannot wash clothes, and represent a relatively small portion of the total value of a finished LRW. Nevertheless, the vast majority of LRW parts are dedicated to the production of LRW with no significant separate market for LRW parts. LRW parts within the scope are similar to LRWs in terms of their physical characteristics and function in that all such parts can be found in every LRW and are essential to the proper functioning of LRWs. Transforming LRW parts into finished LRWs is a matter of simple assembly. Consequently, we define the domestic like product to include LRW parts within the scope, in-scope finished LRWs, and front load residential washers with CIM/Belt.

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."³⁶ 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 define the domestic industry as all domestic producers of the like product, including Alliance Laundry Systems, LLC ("Alliance"), GEA, Staber Industries, Inc. ("Staber"), and Whirlpool.³⁷

³³ Respondents' Prehearing Brief at 14.

³⁴ See CR at I-32; PR at I-22.

³⁵ Petitioner's Posthearing Brief at II-5.

³⁶ 19 U.S.C. § 1677(4)(A).

³⁷ CR/PR at Table III-1; CR at III-6-7; PR at III-1, III-4 - 5. No domestic producer is related to an exporter or importer of the subject merchandise, see CR/PR at Table III-1, III-6, and ***. CR at III-26; PR at I-13. Although GEA was sold to Qingdao Haier Co., Ltd. ("Haier"), a Chinese company, on June 6, 2016, CR at III-5, PR at I-3, ***. CR at IV-1 n.1; PR at IV-1 n.1. Accordingly, there are no related party issues in this investigation.

IV. Material Injury by Reason of Subject Imports³⁸

Based on the record in the final phase of this investigation, we find that an industry in the United States is materially injured by reason of imports of LRWs from China that Commerce has found to be sold in the United States at less than fair value.

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.³⁹ In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.⁴⁰ The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”⁴¹ 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.⁴² 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.”⁴³

³⁸ Section 771(24) of the Tariff Act, which defines “negligibility,” provides that imports from a subject country that are 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 self-initiation, as the case may be, shall be deemed negligible. 19 U.S.C. § 1677(24)(A)(i).

Based on importer questionnaire responses, subject imports from China accounted for *** percent of all imports of LRWs in 2015, which is the 12-month period ending nearest to the petition filing date for which such data are available. CR at IV-18; PR at IV-7. Importer questionnaire data are used for this analysis because official import statistics include a substantial quantity of out-of-scope merchandise. See CR at I-12-13, IV-2 n.4; PR at I-10, IV-1 n.4. Because subject imports were well above the statutory negligibility threshold, we find that subject imports are not negligible.

³⁹ 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.

⁴⁰ 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).

⁴¹ 19 U.S.C. § 1677(7)(A).

⁴² 19 U.S.C. § 1677(7)(C)(iii).

⁴³ 19 U.S.C. § 1677(7)(C)(iii).

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,⁴⁴ 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.⁴⁵ 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.⁴⁶

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.⁴⁷ In performing its examination, however, the Commission need not isolate

⁴⁴ 19 U.S.C. §§ 1671d(a), 1673d(a).

⁴⁵ *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).

⁴⁶ 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).

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

the injury caused by other factors from injury caused by unfairly traded imports.⁴⁸ 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.⁴⁹ It is clear that the existence of injury caused by other factors does not compel a negative determination.⁵⁰

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 the subject imports.”^{51 52} Indeed, the Federal Circuit has examined and affirmed various Commission methodologies and has disavowed “rigid adherence to a specific formula.”⁵³

⁴⁸ 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.”).

⁴⁹ S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

⁵⁰ 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.”).

⁵¹ *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*, 792 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission’s causation analysis as comporting with the Court’s guidance in *Mittal*.

⁵² Commissioners Pinkert and Kieff do not join this paragraph or the following three paragraphs. They point out that the Federal Circuit, in *Bratsk*, 444 F.3d 1369, and *Mittal Steel*, held that the Commission is *required*, in certain circumstances when analyzing present material injury, to consider a particular issue with respect to the role of nonsubject imports, without reliance upon presumptions or rigid formulas. The Court has not prescribed a specific method of exposition for this consideration. *Mittal Steel* explains as follows:

Mittal Steel explains as follows:

(Continued...)

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.⁵⁴ 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.⁵⁵ 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.⁵⁶

(...Continued)

What *Bratsk* held is that "where commodity products are at issue and fairly traded, price competitive, non-subject imports are in the market," the Commission would not fulfill its obligation to consider an important aspect of the problem if it failed to consider whether non-subject or non-LTFV imports would have replaced LTFV subject imports during the period of investigation without a continuing benefit to the domestic industry. 444 F.3d at 1369. Under those circumstances, *Bratsk* requires the Commission to consider whether replacement of the LTFV subject imports might have occurred during the period of investigation, and it requires the Commission to provide an explanation of its conclusion with respect to that factor.

542 F.3d at 878.

⁵³ *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.").

⁵⁴ *Mittal Steel*, 542 F.3d at 875-79.

⁵⁵ *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).

⁵⁶ 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 (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.⁵⁷ Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.⁵⁸

B. Conditions of Competition and the Business Cycle

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

1. Demand Considerations

About two-thirds of demand for LRWs is driven by consumers needing to replace existing washers at the end of those products' functional lives, otherwise known as "replacement demand," with the balance driven by home sales, renovations, and new construction.⁵⁹ Most responding domestic producers and importers reported that U.S. demand for LRWs increased during the period of investigation, due to increased activity in the housing market and, to a lesser extent, the satisfaction of pent-up replacement demand from the last recession.⁶⁰ Apparent U.S. consumption of LRWs increased by *** percent between 2013 and 2015, from *** units in 2013 to *** units in 2014 and *** units in 2015.⁶¹ Apparent U.S. consumption in January-June ("interim") 2016, at *** units, was *** percent higher than in interim 2015, at *** units.⁶²

The apparent consumption data reflect demand for the different types of LRWs described in our discussion of the domestic like product, including agitator- and impeller-based top load LRWs and front load LRWs.⁶³ Regulatory changes implemented since the Commission's 2012-2013 investigation have blurred the distinction between conventional top load ("CTL") and HE top load ("HETL").⁶⁴ Specifically, on March 7, 2015, the DOE implemented

(...Continued)

that export to the United States. The Commission plans to continue utilizing published or requested information in the final phase of investigations in which there are substantial levels of nonsubject imports.

⁵⁷ 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.

⁵⁸ *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.").

⁵⁹ CR at II-14; PR at II-8.

⁶⁰ CR at II-16; PR at II-9; CR/PR at Table II-3.

⁶¹ CR/PR at Tables IV-7, C-1.

⁶² CR/PR at Tables IV-7, C-1.

⁶³ See CR at I-13-19.; PR at I-11 - 14.

⁶⁴ See Conference Tr. at 81-83 (Tubman), 223 (Brindle). In the 2012-13 investigations, the Commission found that certain CTL washer models qualified for Energy Star certification, but that none qualified as Tier 3 HE machines under Consortium for Energy Efficiency ("CEE") guidelines. USITC Pub. (Continued...)

regulations that dramatically increased both the minimum efficiency standards for all LRWs and the efficiency standards required for Energy Star certification, substantially decreasing the volume of water that can be used in the LRW wash and rinse cycles and the total energy consumption of the entire laundry cycle.⁶⁵ In response, Whirlpool re-engineered its CTL LRWs to utilize “HE-agitators” and more efficient “shallow fill” technology, which requires the use of specially formulated HE detergent.⁶⁶ Consequently, many HE-agitator-based top load LRWs qualify for Energy Star under the new standards, unlike most of the CTL washers in the 2012-13 investigations, as do certain agitator-based top load LRWs produced by GEA.⁶⁷ Conversely, many impeller-based top load LRWs, which would have been categorized as HETL LRWs in the 2012-13 investigations, no longer qualify for Energy Star certification under the new standards.⁶⁸ Front load LRWs are more likely to qualify for Energy Star under the new standards.⁶⁹

Competition in the U.S. market occurs at two levels of trade: sales by domestic producers and importers to retailer/distributors and sales by retailers to consumers. Domestic producers and importers made most of their sales to retailers, distributors, and buying groups.⁷⁰ Five large appliance retailers -- Best Buy, hhgregg, Home Depot, Lowe’s, and Sears -- together account for more than two-thirds of LRW sales in the U.S. market, with buyers’ groups accounting for most of the balance.⁷¹ More than 10 percent of U.S. LRW sales are OEM sales to

(...Continued)

4378 at 6, I-13 & n.61. By contrast, the Commission found that all impeller-based top load washers and front load washers qualified as Tier 3 HE machines, and thus defined them as HETL and HEFL washers. USITC Pub. 4378 at 6-7. These distinctions generally remained valid until March 7, 2015, when new energy efficiency standards became effective. CR at IV-10 n.7; PR at IV-4 n.7. Under the new standards, LG and Whirlpool define HE LRWs as those ***. *Id.* Samsung defines HE LRWs as those ***. *Id.*

⁶⁵ CR at I-20-22; PR at I-15 - 17; CR/PR at Table I-2.

⁶⁶ Petition at 14.

⁶⁷ CR at I-22 n.60, IV-10 n.7; PR at I-17 n.60, IV-4 n.7; *see also* Petition at 14; Petitioner’s Responses to Staff Questions at 14.

⁶⁸ CR at I-22 n.60; PR at I-17 n.60; CR/PR at Table III-8 (***) ; *see also* Petition at 13-14; Petitioner’s Responses to Staff Questions at 11.

⁶⁹ CR at I-18; PR at I-14.

⁷⁰ CR at II-1, 5-6; PR at II-3; CR/PR at Table II-1. Buying groups negotiate prices on behalf of multiple retailers.

⁷¹ CR at II-1; PR at II-1. Respondents argue that because the top six purchasers accounted for nearly *** percent of total reported purchase volume during the period of investigation, the Commission should assign weight to each purchaser’s questionnaire response according to that purchaser’s volume of LRW purchases in 2015. Respondents’ Prehearing brief at 5-6, 27-28, Exhibit 4; Respondents’ Posthearing brief at 1-2. We do not adopt respondents’ proposed methodology for weighing purchaser questionnaire responses. It is not our practice to weight systematically purchaser questionnaire responses according to purchase volume. Nor do we agree that purchasers necessarily possess knowledge of the U.S. LRW market in direct proportion to their purchase volumes. The record in this investigation does not indicate that all smaller purchasers are less knowledgeable about the U.S. LRW market than larger ones. Indeed, some large purchasers indicated that their knowledge of some aspects of the market was limited. Specifically, *** and in response to Commission questions ***. *See* (Continued...)

Sears for resale under the Kenmore brand.⁷² Consistent with our practice of examining prices for the first arm's-length transactions in the U.S. market, we have focused our analysis of competition and pricing in the U.S. washer market on sales by domestic producers and importers to retailer/distributors.⁷³ Nevertheless, we also recognize that consumer preferences influence retailers' purchasing decisions.⁷⁴

2. Supply Conditions

The U.S. market is currently served by four domestic producers, which accounted for *** percent of apparent U.S. consumption in 2015; subject imports, which accounted for *** percent of apparent U.S. consumption in 2015; and nonsubject imports, which accounted for *** percent of apparent U.S. consumption in 2015.⁷⁵

The domestic industry, the largest supplier to the market, consists of Alliance, GEA, Staber, and Whirlpool, with Whirlpool alone accounting for *** percent of domestic LRW production in 2015.⁷⁶ By the end of the period of investigation, both GEA and Whirlpool completed their repatriation of LRW production, which began during the 2012-13 investigations, and invested in domestic production capacity that replaced their imports.⁷⁷ GEA replaced LRWs imported from *** with domestically produced top load LRWs in 2012 and domestically produced front load LRWs in 2013.⁷⁸ After commencing domestic front load LRW production in 2010, Whirlpool ***.⁷⁹ On June 6, 2016, General Electric announced that it had completed the sale of its appliance division to a Chinese company, Haier, for \$5.6 billion.⁸⁰

Whirlpool has operated its LRW production facility in Clyde, Ohio from inside a foreign trade subzone ("FTZ") since 2013 in order to minimize its tariff liability.⁸¹ Whirlpool enters out-of-scope components imported from China and elsewhere into the FTZ duty free and combines

(...Continued)

Purchasers' Questionnaire Response of ***, Cover Letter; November 10, 2016 revisions to Purchasers' Questionnaire Response of ***.

⁷² CR at II-1-2; PR at II-1.

⁷³ See *Large Residential Washers from Korea and Mexico*, USITC Pub. 4378 at 18-19; *Bottom Mount Combination Refrigerator-Freezers from Korea and Mexico*, Inv. Nos. 701-TA-477 and 731-TA-1180-1181 (Final), USITC Pub. 4318 (May 2012) at 16; *Sodium Hexametaphosphate from China*, Inv. No. 731-TA-1110 (Final), USITC Pub. 3984 (March 2008) at 13 n.91; *Kosher Chicken from Canada*, Inv. No. 731-TA-1062 (Preliminary), USITC Pub. 1062 (January 2004) at 15 n.120.

⁷⁴ See CR at II-15-17; PR at II-8-10; Conference Tr. at 151 (Brindle); Petitioner's Postconference Brief at 9; Respondents' Postconference Brief at 26.

⁷⁵ CR/PR at Table IV-8.

⁷⁶ CR/PR at Tables III-1, IV-8.

⁷⁷ CR at III-3-4; PR at III-2 - III-3.

⁷⁸ CR at III-4; PR at III-3.

⁷⁹ CR at III-3; PR at III-2; Petitioner's Responses to Staff Questions at 17; Conference Tr. at 37 (Tubman).

⁸⁰ CR at III-5; PR at III-3.

⁸¹ CR at III-10-12; PR at III-6 - III-7.

them with domestically produced components to produce LRWs.⁸² When LRWs are withdrawn from the FTZ for consumption in the United States, Whirlpool pays tariffs on the imported components at the rate applicable to LRWs, rather than at the generally higher rate applicable to the components.⁸³ Pursuant to FTZ regulations, the country of origin of the LRWs for customs purposes is the country of origin of the highest-value foreign component, regardless of the domestic content of the LRWs.⁸⁴ We treat the LRWs withdrawn by Whirlpool from its FTZ, which accounted for *** percent of Whirlpool's U.S. shipments in 2015, as domestically produced LRWs.⁸⁵

LG and Samsung accounted for virtually all subject imports during the period of investigation.⁸⁶ They formerly imported LRWs from Korea and, in Samsung's case, Mexico.⁸⁷ In February 2013, the Commission determined that a domestic industry was materially injured by reason of LRWs from Korea and Mexico that Commerce determined were dumped and, in the case of LRWs from Korea, subsidized.⁸⁸ Consequently, on February 15, 2013, Commerce issued antidumping and countervailing duty orders on LRWs from Korea and Mexico.⁸⁹ LG commenced production of LRWs in China in ***, while Samsung's two Chinese production facilities commenced production of LRWs in *** and ***, respectively.⁹⁰ During the period of investigation, LG and Samsung gradually replaced their imports of nonsubject LRWs from Korea and Mexico with imports of subject LRWs from China.⁹¹ By the end of the period, nonsubject imports supplied a *** small portion of the market and consisted largely of LRWs imported from Mexico by *** and LRWs imported from Korea by ***.⁹² Since the institution of this investigation, both LG and Samsung have shifted production of LRWs for export to the United States from China to Vietnam and Thailand.⁹³

3. Market Dynamics

As already discussed, most washers are sold by domestic producers and importers to the five largest retailers – Best Buy, hhgregg, Home Depot, Lowe's, and Sears – or to buyer's groups that purchase LRWs on behalf of smaller retailers.⁹⁴ With the exception of Sears's OEM

⁸² CR at III-10-11 & n.26; PR at III-6 & n.26.

⁸³ CR at III-11 & n.25; PR at III-6 & n.25.

⁸⁴ CR at III-11; PR at III-6 - I-7.

⁸⁵ CR at III-12; PR at III-7. The U.S. content of LRWs withdrawn by Whirlpool from its FTZ was *** percent, by value, in 2015. CR/PR at Table III-4.

⁸⁶ CR/PR at IV-1.

⁸⁷ *Large Residential Washers from Korea and Mexico*, USITC Pub. 4378 at 19-20; CR at VII-4 n.7, VII-6 n.13; PR at VII-4 n.7, VII-5 n.13.

⁸⁸ *Large Residential Washers from Korea and Mexico*, USITC Pub. 4378 at 1.

⁸⁹ CR at I-6; PR at I-5.

⁹⁰ CR at VII-4, VII-6-7; PR at VII-3 - 5.

⁹¹ See CR/PR at Table IV-2. Samsung USA reported that ***. CR at VII-7 n.16; PR at VII-4 n.16.

⁹² CR at IV-4, VII-6 n.10; PR at VII-4 n.10; CR/PR at Table IV-8.

⁹³ Hearing Tr. at 228-229 (Thompson and Mittrucker)

⁹⁴ CR/PR at II-1.

business, most retailers purchase washers through direct negotiations with suppliers.⁹⁵ Typical negotiations between LRW suppliers and retailers revolve around prices and margins.⁹⁶ Suppliers offer a minimum advertised price (“MAP”) for each LRW model, above which they will support retailers with advertising funds.⁹⁷ Suppliers and retailers then negotiate a margin for each model, which is the difference between the MAP and the retailer’s acquisition cost net of all discounts and rebates.⁹⁸ During special promotional periods such as Black Friday (the day after Thanksgiving), suppliers reduce the MAPs of certain models to promotional prices and generally provide the retailer with lower wholesale prices and additional discounts and rebates so as to preserve the retailer’s margins on the models.⁹⁹ A retailer’s profit on a particular LRW model is a function of the model’s margin and sales volume (also known as “turns”).¹⁰⁰

Discounting is prevalent in the LRW market, particularly during promotional events coinciding with holidays such as Presidents’ Day, Memorial Day, Independence Day, Labor Day, Columbus Day, and Thanksgiving (Black Friday).¹⁰¹ Whirlpool estimates that such events account for at least half of its sales, and *** reports that *** percent of its LRW sales occur during the Black Friday and Independence Day promotional periods alone.¹⁰²

Discounts on washers offered by suppliers to retailers can be characterized as direct or indirect. Direct discounts are tied to sales of specific LRWs, whether given on the sales price to a retailer (a “sell-out” discount) or in the form of a post-sale discount to the end use customer when a retail sale is made (a “sell-through” discount).¹⁰³ Specific types of direct discounts offered by responding domestic producers and importers include quantity discounts, annual total volume discounts, sales incentives, and promotional discounts, among others.¹⁰⁴

Indirect discounts are not tied to specific LRW products but are allocated to sales of LRWs, as based in part on such sales.¹⁰⁵ *** reported offering a variety of indirect discounts, including volume rebates, special price allowances, and backside adjustments.¹⁰⁶ *** reported that it does not distinguish between direct and indirect discounts.¹⁰⁷

⁹⁵ CR at V-3-4; PR at V-3. According to petitioner, Sears invites competing suppliers to offer prices for the same LRW models described in request for proposal documents. Petitioner’s Postconference Brief at 18; Petitioner’s Prehearing brief at 22-23.

⁹⁶ Petition at 41; Respondents’ Postconference Brief at 36-37; Respondents’ Prehearing Brief at 30-31; Petitioner’s Prehearing brief at 20-21.

⁹⁷ CR at V-3; PR at V-3; Respondents’ Postconference Brief at 36; Respondents’ Prehearing Brief at 30.

⁹⁸ CR at V-3; PR at 3; Petition at 40-41; Respondents’ Postconference Brief at 36-37.

⁹⁹ Petition at 41; Respondents’ Postconference Brief at 37; Respondents’ Prehearing Brief at 30.

¹⁰⁰ Petition at 40; Conference Tr. at 228 (Shor); Hearing Tr. at 43 (Abdelnour).

¹⁰¹ CR at II-17; PR at II-10; Conference Tr. at 41 (Liotine).

¹⁰² CR at II-17; PR at II-10.

¹⁰³ CR at V-9-10; PR at V-6.

¹⁰⁴ CR at V-10; PR at V-6; CR/PR at Table V-3.

¹⁰⁵ CR at V-9, 11-12; PR at V-6-8.

¹⁰⁶ CR at V-11; PR at V-7; CR/PR at Table V-3. ***. Domestic Producers’ Questionnaire of *** at question IV-4(d).

¹⁰⁷ CR at V-12; PR at V-7.

Retailer flooring decisions are another factor driving sales of LRWs.¹⁰⁸ Retailers seek to display an assortment of models and brands at a range of price points to serve a wide variety of customers.¹⁰⁹ During annual product line reviews with each supplier, all large retailers, and many smaller retailers, decide which LRW models to display on the floor of their retail establishment, and how the models are arranged.¹¹⁰ Placement at the end of an aisle (“end cap”) is considered a favorable location.¹¹¹ Most responding purchasers that allocated floor space to a range of LRW models reported doing so on the basis of the need to showcase a variety of price points and the profitability of individual units.¹¹² According to petitioner, retailer flooring decisions are critical to LRW sales because only LRW models floored by retailers can sell in significant quantities and shape consumer preferences.¹¹³ *** reported offering direct and/or indirect discounts to retailers in exchange for floor space.¹¹⁴

4. Substitutability and Other Conditions

We find that there is a moderate to high degree of substitutability between subject imports and domestically produced LRWs.¹¹⁵ We further find that price is an important factor in purchasing decisions for LRWs, although non-price factors are also important.¹¹⁶

All responding domestic producers and most responding purchasers reported that domestically produced LRWs, subject imports, and nonsubject imports are always interchangeable, but responding importers reported that LWRs from the three sources are sometimes interchangeable. Specifically, all three responding domestic producers reported that subject imports are always interchangeable with domestically produced LRWs, and the vast majority of responding purchasers reported that subject imports are always (17 of 27 purchasers) or frequently (eight of 27 purchasers) interchangeable with domestically produced LRWs.¹¹⁷ Both responding importers reported that subject imports are sometimes interchangeable with domestically produced LRWs, however.¹¹⁸

Responding purchasers reported that price, profit margin, features, availability, reliability of supply, direct discounts offered, promotional support, indirect discounts offered, and quality meets industry standards were among the factors influencing their LRW purchasing

¹⁰⁸ CR at II-26-28; PR at II-16-17; Petition at 42.

¹⁰⁹ CR at II-26; PR at II-16.

¹¹⁰ CR at II-26; PR at II-16; Conference Tr. at 41-42 (Liotine).

¹¹¹ CR at II-26; PR at II-16; Conference Tr. at 41-42 (Liotine).

¹¹² CR at II-26-27; PR at II-16-17.

¹¹³ Petitioner’s Prehearing Brief at 16; Hearing Tr. at 43 (Abdelnour); Petitioner’s Postconference Brief at 9-10; Petition at 42-43.

¹¹⁴ CR at V-12; PR at V-7-8.

¹¹⁵ CR at II-18; PR at II-11.

¹¹⁶ See CR at II-20-22; PR at II-12-14.

¹¹⁷ CR/PR at Table II-9. Two responding purchasers reported that subject imports are sometimes interchangeable with domestically produced LRWs. *Id.*

¹¹⁸ CR/PR at Table II-9.

decisions.¹¹⁹ When asked to rank factors used in purchasing decisions, more responding purchasers (26) ranked price among their top three factors than any other factor, followed by profit margin (11) and features (11).¹²⁰ Similarly, more responding purchasers (17) ranked price as the number one factor in their purchasing decisions than any other factor, followed by features (4) and profit margin (3).¹²¹ When asked to rate the importance of 29 factors in their purchasing decisions, the factors rated “very important” by the most responding purchasers were availability (29), price (27), margin opportunity (24), reliability of supply (24), direct discounts offered (23), promotional support (22), indirect discounts offered (20), and quality meets industry standards (20).¹²² Half of responding purchasers reported that they usually (10) or always (5) purchase LRWs offered at the lowest price, while most other responding purchasers (14) reported that they sometimes do so.¹²³ When asked whether differences other than price are ever significant to purchasers in choosing between LRWs produced in the United States, China, and nonsubject countries, all responding domestic producers and most responding purchasers reported “sometimes” but responding importers reported “always.”¹²⁴

Domestic producer and importer pricing practices and the prevalence of discounting constitute further evidence that price is an important factor in the LRW market. As discussed above, negotiations between domestic producers and importers, on the one hand, and retailers, on the other, for the supply of LRWs focus on MAPs and profit margins, expressed as the difference between MAPs and acquisition costs.¹²⁵ Moreover, retailers consider relative profit margins when allocating limited retail floor space to LRW models from different suppliers.¹²⁶ Most responding purchasers (21 of 30) reported factoring expected profits into their decisions about which models and suppliers would be allocated floor space, and most

¹¹⁹ See CR at II-20-21; PR at II-12; CR/PR at Tables II-5-6.

¹²⁰ CR/PR at Table II-5.

¹²¹ CR/PR at Table II-5.

¹²² CR at II-21; PR at II-13; CR/PR at Table II-6. Other factors rated as “very important” by more than half of responding purchasers were model-specific margin (17), product consistency (16), delivery time (16), and technical service (15). *Id.*

¹²³ CR at II-21; PR at II-13. One responding purchaser reported that it never purchases LRWs at the lowest price. *Id.*

¹²⁴ CR/PR at Table II-11. When asked whether differences other than price are ever significant to purchasers in choosing between LRWs produced in the United States and China, four responding purchasers reported “always,” four reported “frequently,” 17 reported “sometimes,” and two reported “never.” *Id.*

¹²⁵ CR at V-3; PR at V-3; Petition at 40-41; Respondents’ Prehearing Brief at 30.

¹²⁶ CR at II-26; PR at II-16; Hearing Tr. at 42-44 (Abdelnour) (“A retailer will floor models that provide the best margin opportunity. For each floor spot, they want to get the highest return possible.”). Most responding purchasers (19 of 30) also reported that they allocate floor spots to different types of LRWs to showcase various price points from entry-level, mid-range, and high-end products, as well as a range of brands. CR at II-26; PR at II-16.

reported that they usually (17) or always (2) floor LRW models offered at the lowest price for a given set of features.¹²⁷

All responding domestic producers and importers engaged in discounting, and a substantial proportion of LRW sales were made at promotional prices during the period of investigation.¹²⁸ Responding purchasers reported that an average of 66 percent of their LRW sales were made at promotional prices in 2015, and most, 19 of 30, reported that the volume of LRWs sold at promotional prices has increased since January 1, 2013.¹²⁹ Although responding purchasers reported that domestic producers and importers engage in the same forms of promotional activity to a similar degree, ***.¹³⁰ Half of responding purchasers reported that they disclose to their LRW suppliers the relative levels of promotional support offered by competing LRW suppliers.¹³¹

Based on the record of the final phase of the investigation, we find that subject imports and the domestic like product are comparable in terms of non-price factors. We have found a moderate to high degree of substitutability between subject imports and the domestic like product, and the vast majority of responding purchasers reported that subject imports are always (17 of 27) or frequently (eight of 27) interchangeable with domestically produced LRWs.¹³² When asked to compare domestically produced LRWs to subject imports according to 29 factors, most responding purchasers reported that domestically produced LRWs are comparable to subject imports in terms of most non-price factors, including availability, brand, color, energy star rated, design/style, ease of use, “fit, feel, and finish,” innovative features, large capacity, LED or LCD display for front load LRWs, product consistency, product range, quality, reliability of supply, technical support, steam cycle, and water heater.¹³³

¹²⁷ CR at II-27; PR at II-17. Seven responding purchasers reported that they sometimes floor LRWs offered at the lowest price for a given set of features, and three reported that they never” did so. *Id.* Relative pricing appears to have less of an influence on which suppliers retailers choose to floor. A majority of responding purchasers, 17 of 30, reported that relative LRW pricing from alternative suppliers does not affect their floor space allocation decisions, while 13 reported that it does. CR at II-28; PR at II-17.

¹²⁸ See CR at V-12-14; PR at V-8-9; CR/PR at Tables V-4-5.

¹²⁹ CR at V-13; PR at V-8.

¹³⁰ CR/PR at Tables V-4-5.

¹³¹ CR at V-13-14; PR at V-8-9.

¹³² CR/PR at Table II-9. Two responding purchasers reported that subject imports are sometimes interchangeable with domestically produced LRWs. *Id.*

¹³³ CR/PR at Table II-8. A majority of responding purchasers reported that domestically produced LRWs are superior to subject imports in terms of delivery time. *Id.* A sizable minority of responding purchasers reported that domestically produced LRWs were superior to subject imports in terms of availability (11), reliability of supply (11), minimum quantity requirements (8), technical support/service (8), brand (7), delivery terms (7), and product consistency (6). *Id.* A sizable minority of responding purchasers reported that domestically produced LRWs were inferior to subject imports in terms of innovative features (8), design/style (7), “fit, feel, and finish” (5), and large capacity (4). *Id.*

LG, Samsung, and Whirlpool each claim to be innovation leaders in the LRW market, and each company introduced numerous innovations during the period of investigation.¹³⁴ At the hearing, a Whirlpool official touted various innovative features of Whirlpool LRWs, including intuitive touch controls with Quick Wash (an accelerated wash cycle), the Maytag Advantage Washer with industry leading capacity (6.2 cubic feet), the Power Wash cycle (“the best cleaning in the industry”), “black diamond” styling on front load LRWs, Load-and-Go bulk dispensing (automatic detergent dispensing from a reservoir), Fresh Hold dynamic venting technology (a washer that also dries clothes overnight), and Wi-Fi Nest connectivity (for the remote operation and monitoring of LRWs).¹³⁵ Similarly, an LG official touted LG’s front-control top load LRWs and Twin-Wash pedestal washers for use with front load LRWs, and a Samsung official highlighted Samsung’s Super Speed technology (reduced wash time), Active Wash built-in sinks, black stainless steel styling, and Add Wash (allowing consumers to add items during a front load LRW wash cycle) as Samsung innovations.¹³⁶ Although more responding purchasers identified Samsung (17) and LG (16) as “innovation leaders” than Whirlpool (13) or GEA (6), Whirlpool and GEA offered *** “market exclusive” or “market first” features on their LRWs, compared to only *** offered by Samsung and LG.¹³⁷

Both domestically produced LRWs and subject imports have been highly rated in publications and surveys.¹³⁸ Respondents highlight that J.D. Power has rated Samsung number one in customer satisfaction in the front load LRW segment for that last eight years; that millennials surveyed by Moosylvania ranked Samsung as their third most preferred brand and LG as their 48th most preferred brand, without naming Whirlpool or GEA; and that subject imports accounted for five of the top six front load LRWs and all of the top five top load LRWs in Consumer Reports’ 2017 Buying Guide.¹³⁹ Whirlpool highlights that Consumer Reports, in October 2016, ranked domestically produced LRWs among three of the top five and four of the top ten recommended front load LRW models and six of the top ten recommended impeller-based top load LRW models, and that Reviewed.com ranked domestically produced LRWs among six of the top ten top load LRW models and among four of the top ten front load LRW

¹³⁴ CR at I-24; PR at I-18; CR/PR at Table I-3; Hearing Tr. at 49-56 (Tubman), 154-55 (Toohey), 176-78 (Thompson).

¹³⁵ Hearing Tr. at 49-56 (Tubman).

¹³⁶ Hearing Tr. at 154-55 (Toohey), 176-78 (Thompson), Hearing Exhibit (“Samsung History of Innovation”).

¹³⁷ CR at II-3-4; PR at II-2; CR/PR at Tables I-3-4.

¹³⁸ CR at II-24-25; PR at II-16.

¹³⁹ See Respondents’ Prehearing Brief at 52-56; see also Hearing Tr. at 153-54 (Toohey), 178 (Thompson). Respondents also cite J.D. Power surveys of “customer satisfaction in the laundry segment” from 2015 and 2016 indicating that LG and Samsung were rated higher than domestic brands; TraQline data indicating that consumer “brand consideration” has increased for LG and Samsung, but not for Whirlpool; and an internal Samsung survey indicating that dealers recommend Samsung more often than Whirlpool or Maytag. *Id.* We note that J.D. Power’s consumer survey results are influenced by retail price, unlike Consumer Reports rankings, which are based solely on lab testing. CR at II-25; PR at II-16; Conference Tr. at 103-4 (Tubman).

models.¹⁴⁰ The record of the final phase of the investigations indicates that the U.S. LRW market encompasses a broad range of brands and LRW models offering diverse features and innovations, with no LRW supplier possessing a clear edge over other LRW suppliers in terms of LRW design, performance, features, innovations, and other non-price factors.

We also find that the record of the final phase of the investigation indicates that subject imports competed with the domestic like product in all segments of the U.S. market. In making this finding, we recognize that subject imports consisted of a different mix of LRW types than the domestic industry's U.S. shipments. Specifically, a greater proportion of U.S. imports consisted of front load LRWs (**% percent in 2015) than did the domestic industry's U.S. shipments (**% percent in 2015).¹⁴¹ Furthermore, there were no subject imports of agitator-based top load LRWs, although such LRWs accounted for **% percent of the domestic industry's U.S. commercial shipments during the period of investigation.¹⁴²

For a number of reasons, we find that these differences in product mix did not attenuate subject import competition to a significant degree.¹⁴³ Subject imports of front load LRWs competed directly with domestically produced front load LRWs throughout the period of investigation, as Whirlpool completed its transfer of all front load LRW production for the U.S. market from Germany and Mexico to the United States in 2012 and GEA commenced domestic production of front load LRWs in 2013.¹⁴⁴ Subject imports of front load LRWs also competed with domestically produced top load LRWs to the extent that consumers cross-shopped front load and top load LRW models, and most responding purchasers reported that consumers are sometimes, frequently, or always willing to switch between top load and front load LRWs based on relative pricing.¹⁴⁵ In turn, consumer cross-shopping of front load and top load LRWs at the

¹⁴⁰ Petitioner's Prehearing Brief at 61; Domestic Producers Questionnaire Response of Whirlpool, Attachments 5-6. Petitioner also notes that Consumer Reports did not recommend any top load LRWs from Samsung because the Consumer Product Safety Commission ("CPSC") was investigating safety issues for all Samsung top load LRWs. Domestic Producers Questionnaire Response of Whirlpool, Attachments 5. On November 4, 2016, Samsung USA, in cooperation with the CPSC, announced a voluntary recall of certain top-load washers manufactured between March 2011 and the present, covering approximately 34 models and 3 million LRW units. CR at IV-1 n.2. The recall was prompted by reports of instances where the washer drums lost balance, triggering excessive vibrations, resulting in the top separating from the washer. *Id.*

¹⁴¹ CR/PR at Tables Iii-7, IV-9.

¹⁴² CR/PR at Tables III-9, IV-6.

¹⁴³ We are also unpersuaded by respondents' argument that differences in channels of distribution attenuated subject import competition. *See* Respondents' Prehearing Brief at 56. The vast majority of U.S. shipments of both subject imports and domestically produced LRWs were made to retailers, distributors, and buying groups. CR/PR at Table II-1.

¹⁴⁴ CR at III-3-4; PR at III-2 - III-3; CR/PR at Tables V-6, 8-9, 11, 13.

¹⁴⁵ CR at II-24; PR at II-15 (when asked how frequently consumers are willing to switch between a top load and front load LRW based on relative pricing, 18 responding purchasers reported "sometimes," seven reported "frequently," two reported "never," and one reported "always"); Hearing Tr. at 131-32 (Tubman) ("But because they {domestic producers and respondents} now offer--they both offer large capacities, they both offer ways to see in, they all offer--not they all, but they both would offer, top-load and front-load, similar capabilities in terms of wash and cleaning and energy use and so (Continued...)

retail level would have influenced retailer purchasing and flooring decisions, impacting the sales and prices of domestically produced top load LRWs.

The record also indicates that subject imports competed directly with domestically produced agitator-based top load LRWs during the period of investigation. Pricing product data show that subject imported top load and front load LRWs competed at nearly all price points in the market, ranging from \$250-299 through \$700-799.¹⁴⁶ Whirlpool's reported net sales prices for agitator-based LRWs ranged from \$*** to \$*** per unit.¹⁴⁷ When asked at the preliminary phase staff conference whether LG and Samsung offer LRWs that compete in the same price range as domestically produced agitator-based top load LRWs, an LG official stated that 26 percent of LG's business "does dip below \$600" and a Samsung official stated that "Samsung would have a product or two in that price band."¹⁴⁸

Moreover, as discussed in section IV.B.1 above, the more stringent efficiency standards promulgated in March 2015 blurred the distinctions between agitator- and impeller-based top load LRWs by mandating that all top load LRWs utilize shallow fill technology and HE detergent.¹⁴⁹ Indeed, ***, Samsung introduced an impeller-based top load LRW with a capacity of 4.0 cubic feet, the Samsung 3000, that was priced to compete directly with domestically produced agitator-based top load LRWs.¹⁵⁰ Subject imports of this model, which accounted for *** subject imports of pricing product 9, undersold domestically produced agitator-based top load LRWs with a capacity of 3.6 cubic feet in *** of *** quarterly comparisons at margins ranging from *** to *** percent.¹⁵¹ That Samsung sold significant volumes of a more fully featured top load LRW with an impeller and 4.0 cubic feet of capacity at a lower price that

(...Continued)

on and so forth. And some of that was driven by the energy change as the top-load becomes more and more energy efficient. And so I would say from a cross-shopping standpoint, they're all on the table when the consumer comes in to look at them.").

¹⁴⁶ Petitioner's Prehearing Brief at 63-64; CR/PR at Table V-16.

¹⁴⁷ Petitioner's Posthearing Brief at Attachments 4 and 5. The average unit value of the domestic industry's U.S. shipments of agitator-based top load LRWs ranged from \$*** to \$*** during the period of investigation. CR/PR at Table III-9.

¹⁴⁸ Conference Tr. at 226 (Herring), 226-27 (Brindle); *see also* Respondents' Posthearing Brief, Attachment A at 57-59 (indicating that 28 percent of LG's retail sales prices are below \$600).

¹⁴⁹ CR at I-17, I-22 n.60; PR at I-13 - 14, I-17 N.60.

¹⁵⁰ Hearing Tr. at 59-60, Exhibit 14; Petitioner's Posthearing Brief at I-13.

¹⁵¹ CR/PR at Table V-14; Petitioner's Posthearing Brief at I-13, Attachment 4; Hearing Tr. at 59 (Tubman). Subject imports of product 9 also undersold domestically produced agitator-based top load LRWs with a capacity of 3.5 cubic feet in *** of *** quarterly comparisons. Petitioner's Posthearing Brief at Attachment 5. Although the agitator-based top load LRW model that Whirlpool reported for product 9 did not meet the definition of product 9, the questionnaire instructions directed domestic producers to report pricing product data for the ten pricing products "or any products that were competitive with these products." Domestic Producers' Questionnaire at Question IV-2a. The pricing data and an e-mail from Home Depot to Whirlpool dated January 20, 2016 indicate that the Samsung 3000 competed directly with Whirlpool's agitator-based top load LRWs. CR/PR at Table V-14; Petitioner's Hearing Exhibit 14.

Whirlpool's smaller capacity, agitator-based top load LRWs, provides further evidence that agitator- and impeller-based top load LRW models compete with each other.¹⁵²

The record also indicates that lower prices on more fully featured subject imports adversely affected the sales volumes and prices of less fully featured domestically produced LRWs.¹⁵³ Specifically, 24 of 30 responding purchasers reported that the availability and price of a highly featured LRW affects the sales of a less featured LRW, with *** explaining that the availability of a highly featured washer at a price equal to or lower than a less featured washer negatively impacts demand for the less featured washer.¹⁵⁴ Similarly, 17 of 30 responding purchasers reported that price reductions on highly featured top load LRWs from China always or usually put downward pressure on the prices of less featured top load washers with agitators produced in the United States.¹⁵⁵ Consistent with these purchaser responses, Whirlpool officials stated at the hearing that “[d]iscount prices at the high end of the washer line are compressing prices in the mid-range and low end of the product line” and that “discounting highly featured washers forces prices to be compressed down throughout the entire product line up.”¹⁵⁶

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.”¹⁵⁷

We find that the volume and increase in volume of subject imports from China is significant, both absolutely and relative to apparent U.S. consumption, over the period of

¹⁵² CR/PR at Table V-14.

¹⁵³ Most responding purchasers reported that price reductions on less featured top load washers with agitators from the United States never put downward pressure on subject imported top load or front load LRWs. CR at V-7; PR at V-4-5. We are unpersuaded by respondents' argument that, if price compression took place, the domestic industry should have lost an equal amount of market share in each of three segments of the U.S. market (agitator-based top load LRWs, impeller-based top load LRWs, and front load LRWs) during the period of investigation. Respondents' Prehearing Brief at 42, 45. The record indicates that the sales volume, market share, and prices of domestically produced agitator-based top load LRWs declined during the period of investigation, which is consistent with lower prices on more fully featured subject imports adversely affecting the sales and prices of less fully featured domestically produced LRWs. See CR/PR at Tables III-9, IV-8, V-14; see also Petitioner's Posthearing Brief, Attachments 4 and 5; see also *LRWs from Korea and Mexico*, USITC Pub. 4378 at 26.

¹⁵⁴ CR at V-6; PR at V-4.

¹⁵⁵ CR at V-6; PR at V-4. Six responding purchasers reported “sometimes” and seven “never.” *Id.* With respect to front load LRWs, 13 of 30 responding purchasers reported that price reductions on highly featured front load LRWs from China always or usually put downward pressure on the prices of less featured top load washers with agitators produced in the United States. *Id.* Nine responding purchasers reported “sometimes” and eight reported “never.” *Id.*

¹⁵⁶ Hearing Tr. at 38 (Fettig), 59 (Tubman).

¹⁵⁷ 19 U.S.C. § 1677(7)(C)(i).

investigation.¹⁵⁸ Subject import volume increased from *** units in 2013 to *** units in 2014 and *** units in 2015, a level *** percent higher than in 2013.¹⁵⁹ Subject imports were *** units in interim 2016, *** percent higher than the *** units in interim 2015.¹⁶⁰ As a share of apparent U.S. consumption, importers' U.S. shipments of subject imports increased from *** percent in 2013 to *** percent in 2014 and *** percent in 2015, a level *** percentage points higher than in 2013.¹⁶¹ Subject import market share was *** percent in interim 2016, down *** from *** percent in interim 2015.¹⁶²

LG and Samsung's increased imports of LRWs from China not only replaced nonsubject imports from Korea and Mexico, but also captured market share from the domestic industry, particularly in 2015.¹⁶³ As subject import market share increased *** percentage points between 2013 and 2015, domestic industry market share declined from *** percent in 2013 to *** percent in 2014 and *** percent in 2015, a level *** percentage points lower than in 2013.¹⁶⁴ It was *** percent in interim 2016, down from *** percent in interim 2015.¹⁶⁵ Thus, the domestic industry lost *** percentage points of market share during the 2013-15 period, as the industry's U.S. shipments grew at a lower rate than apparent U.S. consumption and subject imports grew at a greater rate.¹⁶⁶

¹⁵⁸ As explained in section IV.B.2 above, we do not include LRWs withdrawn by Whirlpool from its FTZ in subject import data, even though they are classified as Chinese origin LRWs for Customs purposes.

¹⁵⁹ CR/PR at Tables IV-2, C-1.

¹⁶⁰ CR/PR at Tables IV-2, C-1.

¹⁶¹ CR/PR at Table IV-7.

¹⁶² CR/PR at Table IV-7.

¹⁶³ CR/PR at Table IV-7.

¹⁶⁴ CR/PR at Table IV-7.

¹⁶⁵ CR/PR at Table IV-7.

¹⁶⁶ CR/PR at Table IV-7. We are unpersuaded by respondents' argument that the domestic industry's loss of market share was not significant because the loss was allegedly limited to the agitator-based top load LRW segment, and there were no subject imports of such washers. Respondents' Prehearing Brief at 40-41; Respondents' Posthearing Brief at 5; Respondents' Final Comments at 3-4. As discussed in section IV.B.4. above, subject imports competed directly with domestically produced agitator-based LRWs during the period of investigation and also affected the sales and prices of agitator-based top load LRWs through cross-shopping and price compression. Accordingly, the *** percentage point shift in market share from the domestic industry to subject imports in the top load LRW segment between 2013 and 2015 was significant notwithstanding that it came entirely at the expense of domestically produced agitator-based top load LRWs. CR/PR at Tables III-9, IV-8 (domestically produced agitator-based top load LRWs as a share of the top load LRW market segment declined from *** percent in 2013 to *** percent in 2015).

We recognize that the more stringent efficiency standards that took effect in March 2015 contributed to the declining market share of domestically produced agitator-based top load LRWs. See Hearing Tr. at 94-95 (Levy). Nevertheless, the record indicates that most of the market share lost by domestically produced agitator-based top load LRWs was gained by subject imports and not domestically produced non-agitator top load LRWs. CR/PR at Table IV-8. Indeed, the domestic industry's share of the market for non-agitator top load LRWs declined from *** percent in 2013 to *** (Continued...)

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

D. Price Effects of the Subject Imports

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

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

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.¹⁶⁷

As addressed in section IV.B.4 above, the record indicates that there is a moderate to high degree of substitutability between subject imports and the domestic like product and that price is an important consideration in purchasing decisions.

Three domestic producers and two importers of subject merchandise from China provided usable quarterly net U.S. f.o.b. selling price data for ten LRW products, although not all firms reported pricing for all products for all quarters.¹⁶⁸ The Commission collected pricing data net of both direct and indirect discounts.¹⁶⁹ Reported pricing data accounted for approximately 15.3 percent of U.S. producers' U.S. shipments of LRWs and 69.6 percent of U.S. shipments of subject imports from China.¹⁷⁰

(...Continued)

percent in 2015, as the subject import share of this market increased from *** percent in 2013 to *** percent in 2015. See CR/PR at Tables III-9, IV-6. Non-price factors cannot explain this market share shift, as respondents claim, see Respondents' Prehearing Brief at 45, because subject imports and the domestic like product were comparable in terms of such factors. See section IV.B.4, above.

We also recognize that the domestic industry gained *** percentage points of market share in the front load LRW segment between 2013 and 2015. CR/PR at Table IV-9. Notwithstanding this market share gain, the domestic industry still lost *** percentage points of market share in the market for all LRWs, due to the industry's greater dependence on the top load LRW market. *Id.* at Table IV-7. Furthermore, market share gains by the domestic industry in the front load LRW segment were limited by the *** percentage point increase in subject import market share within the front load LRW segment between 2013 and 2015. *Id.* at Table IV-9.

¹⁶⁷ 19 U.S.C. § 1677(7)(C)(ii).

¹⁶⁸ CR at V-18; PR at V-11.

¹⁶⁹ See Domestic Producers' Questionnaire at Question IV-2; Importers' Questionnaire at Question III-2.

¹⁷⁰ CR at V-9; PR at V-6. We do not rely on average unit value ("AUV") data for purposes of our pricing analysis, as advocated by respondents, because these data are influenced significantly by changes in product mix, even within washer segments. See Respondents' Prehearing Brief at 73-74, 80- (Continued...)

Pricing data on the record of this investigation covered a range of typical LRW products sold in the U.S. market.¹⁷¹ These product definitions encompassed five front load LRWs and five top load LRWs, each possessing a different combination of features and capacities.¹⁷² To ensure that these pricing product definitions were representative, the Commission invited parties in their comments on the draft questionnaires to comment on the pricing product definitions used in the preliminary phase of the investigation.¹⁷³ Based on comments received from petitioner, respondents, and GEA, the Commission retained five pricing products from the preliminary phase investigation (products 1-4 and 6) but added four pricing products proposed by respondents (products 5, 7, 9, and 10) and one based on input from both petitioners and respondents (product 8).¹⁷⁴ That these product definitions yielded representative pricing data is confirmed by the appreciable percentage of domestic producer and importer U.S. shipments covered by the data, which was higher than coverage in the preliminary phase of the investigation and well within the range that the Commission has considered reliable in previous

(...Continued)

81, 87-90; CR/PR at Table V-16. By contrast, our pricing data cover an appreciable proportion of U.S. shipments of both subject imports and the domestic like product, CR at V-19, PR at V-11, and permit apples-to-apples price comparisons based on specifically defined LRW models, as further discussed below. CR at V-17-18; PR at V-10-11.

¹⁷¹ CR at V-17; PR at V-9-10.

¹⁷² CR at V-17; PR at V-10. We are unpersuaded by respondents' argument that the pricing product definitions were unreasonably narrow in including only LRWs possessing direct drive, excluding LRWs with LCD displays, and excluding LRWs possessing agi-pellers (HE agitators that combine aspects of agitators and impellers). See Respondents' Prehearing Brief at 66; Respondents' Final Comments at 4-5. In defining pricing products, the Commission must strike a balance between product definitions that are narrow enough to permit apples-to-apples comparisons of directly competitive products but broad enough to yield reasonable coverage of domestic producer and importer shipments. Even if the factors cited by respondents served to reduce pricing product coverage, they also increased the similarity of the domestically produced and subject imported LRWs on which pricing data were reported without reducing coverage to an unacceptable level. Indeed, the pricing product data on the record of this investigation cover an appreciable share of domestic producer and importer U.S. shipments. CR at V-19; PR at V-11.

Nor do we agree with respondents that the 0.5 cubic foot capacity ranges used in the pricing product definitions are overly broad. See Respondents' Prehearing Brief at 71-73. The Commission defined pricing products encompassing 0.5 cubic foot capacity ranges in the 2012-13 investigations, *LRWs from Korea and Mexico*, USITC Pub. 4378 at V-9-10, and respondents included 0.5 cubic foot capacity ranges in the pricing product definitions proposed in their comments on the draft questionnaires. Respondents' Comments on the Draft Questionnaires at 37-38. Furthermore, the actual capacity differences between the top selling SKUs (*i.e.*, models) reported by domestic producers and importers for each pricing product were minor and did not significantly influence the frequency or magnitude of subject import underselling. See Petitioner's Posthearing Brief at I-7-8; Petitioner's Responses to Commissioner Questions at II-21-23.

¹⁷³ See Petitioner's Comments on the Draft Questionnaires at 4-17; GE's Comments on the Draft Questionnaires at 3-5; Respondents' Comments on the Draft Questionnaires at 24-41.

¹⁷⁴ CR at V-18 & n. 19/PR at V-11 & n. 19.

investigations.¹⁷⁵ Consequently, we find that the pricing data on the record of the final phase of the investigation provide a reliable basis for apples-to-apples price comparisons based on specifically defined LRW models.¹⁷⁶

We also find, despite respondents' arguments to the contrary, that the pricing data reported by Whirlpool are reliable.¹⁷⁷ The Commission conducted a thorough verification of the domestic producers' questionnaire response submitted by Whirlpool and confirmed that all information reported by Whirlpool, including its pricing data, was reasonable and complied with applicable guidelines.¹⁷⁸ In verifying the accuracy of Whirlpool's pricing data, the Commission's auditor specifically examined "the freight adjustment {used} to arrive at an FOB

¹⁷⁵ CR at V-19; PR at V-11; Preliminary Confidential Staff Report at V-9; Preliminary Determination, USITC Pub. at 4591 at V-6 (reported pricing data accounted for approximately *** percent of U.S. producers' U.S. shipments of LRWs and *** percent of U.S. shipments of subject imports from China).

¹⁷⁶ We are unpersuaded by respondents' argument that the pricing data on products *** and *** are distorted by the inclusion of OEM sales *** because OEM sale prices exclude warranty and certain other expenses and are therefore lower than branded sales. Respondents' Prehearing Brief at 71-72; Respondents' Final Comments at 4-5; Hearing Tr. at 213-14 (Klett). In our prior investigations of bottom mount refrigerators and large residential washers, which also included significant OEM sales, the Commission did not discount or segregate pricing data on OEM sales. See *LRWs from Korea and Mexico*, USITC Pub. 4378 at 36 n.271; *Bottom Mount Refrigerators from Korea and Mexico*, USITC Pub. 4318 at 15, 33-35. In this investigation, OEM sales to Sears represented a substantial share of the U.S. market, approximately 15 percent of LRW purchases, so excluding such sales would significantly reduce the coverage of our pricing product data. CR at II-2; PR at II-1. Furthermore, the pattern of subject import underselling and the average underselling margins for products *** and *** were similar to those of other products that included no OEM sales (products ***). CR/PR at Table V-17. Similarly, subject imports undersold the domestic like product for product *** in *** of *** quarterly comparisons at an average margin of *** percent even though ***. *Id.*; Domestic Producers' Questionnaire of Whirlpool at Question IV-2c; Importers' Questionnaire of LG at Question III-2c. We also note that the net sales prices that ***. See Importers' Questionnaire Response of LG at Question III-2b. In any event, the pricing data for products 2 and 4-9 alone also support our findings that subject import underselling was significant and that subject imports depressed domestic like product prices to a significant degree. See CR/PR at Tables V-16-17.

We are also unpersuaded by respondents' argument that the Commission's collection of sales values on an f.o.b. plant and f.o.b. port basis somehow undermined the probative value of the pricing data because, in their view, only delivered prices would fully reflect the cost of Whirlpool's and GE's more extensive distribution and warehousing networks. See Respondents' Prehearing Brief at 67-71. We recognize that Whirlpool and GE utilize more extensive distribution networks than LG and Samsung, including local distribution centers. See *id.* at 32. But because domestic producers and importers reported sales price data at the same level of trade, f.o.b. plant and f.o.b. port, these data yielded accurate price comparisons.

¹⁷⁷ Respondents argued that Whirlpool's inclusion of stock transfer expenses in its pricing data, which included some freight costs not specifically tied to sales of LRWs, meant that Whirlpool had not deducted all U.S. inland transportation costs from its pricing data, in violation of the questionnaire instructions. See Respondents' Prehearing Brief at 60-62.

¹⁷⁸ Verification Report (EDIS Doc. No. 595581) at 2.

factory price” and confirmed that the methodology utilized was reasonable.¹⁷⁹ Although Whirlpool’s methodology for reporting its pricing data was verified as reasonable and accurate, the Commission requested that Whirlpool submit revised pricing data excluding all stock transfer expenses, and Whirlpool did so.¹⁸⁰ By excluding all stock transfer expenses, including those unrelated to sales of LRWs, Whirlpool’s revised data likely understate Whirlpool’s prices on sales of the pricing products. We rely on these data, which are conservative, in our price analysis.

Subject imports undersold the domestic like product in the vast majority of quarterly comparisons for each of the ten pricing products.¹⁸¹ Specifically, subject imports undersold the domestic like product in 100 of 110 quarterly comparisons, or 90.9 percent of the time, at margins averaging 14.3 percent.¹⁸² Subject imports oversold the domestic like product in 11 quarterly comparisons, at margins averaging 15.2 percent.¹⁸³ There were *** units of subject imports in underselling observations, a figure *** larger than the *** units of subject imports in overselling observations.¹⁸⁴ The prevalence and magnitude of subject import underselling belies respondents’ claim that subject imports possessed superior features and innovations, which would be expected to command a price premium.¹⁸⁵

We find subject import underselling to be significant. Given the moderate to high degree of substitutability between subject imports and the domestic like product, and the importance of price to purchasing decisions, we also find that significant subject import underselling contributed to the shift in market share from the domestic industry to subject imports during the period of investigation.¹⁸⁶

¹⁷⁹ Verification Report at 9. Specifically, Whirlpool deducted all freight expenses on sales to customers shipped from its factory, regional distribution centers, and local distribution centers, including upstream freight costs from the factory to the distribution centers. *Id.*; see also Hearing Tr. at 31 (Levy). Whirlpool did not deduct “stock transfer” expenses, including “freight between distribution centers” and “the freight cost from the factory to the distribution center,” because such expenses were associated with warehouse expenses and could not be tied to specific sales of LRWs within the scope of the investigation. Verification Report at 9; see also Respondents’ Responses to Written Questions at III-1. Petitioner claims that Whirlpool acted in accordance with the questionnaire instructions in not deducting “transfer expenses” from its pricing data because such expenses were a subcategory of warehouse expenses, which domestic producers were not instructed to deduct. Hearing Tr. at 31 (Levy); Petitioner’s Responses to Written Questions at III-1; see also Domestic Producers’ Questionnaire at Question IV-2.

¹⁸⁰ CR at V-18 n.23; PR at V-11 n.23.

¹⁸¹ CR/PR at Table V-17.

¹⁸² CR/PR at Table V-17.

¹⁸³ CR/PR at Table V-17.

¹⁸⁴ CR/PR at Table V-17.

¹⁸⁵ See Respondents’ Responses to Commissioner Questions at 33.

¹⁸⁶ CR/PR at Table IV-7; see also section IV.C, above. As further evidence of adverse price effects by subject imports, we note that 14 of 30 responding purchasers reported purchasing subject imports instead of the domestic like product, with eight citing price as the primary reason. CR/PR at Table V-20. Eight of 30 responding purchasers reported that domestic producers had reduced prices in order to compete with lower priced subject imports, while fifteen responding purchasers reported that they did (Continued...)

The record of the final phase of this investigation indicates that the significant and growing quantity of low-priced subject imports led to declining prices for the domestic like product.¹⁸⁷ Domestic producer sales prices for products *** declined between the first and last quarters for which data were collected by between *** percent and *** percent.¹⁸⁸ Domestic producer sales prices also declined for products *** and *** prior to the last quarters for which

(...Continued)

not know. *Id.* at Table V-21. We also observe that in the preliminary phase of the investigation, 15 of 19 responding purchasers reported that domestic producers had reduced prices in order to compete with lower priced subject imports. Preliminary Determination, USITC Pub. 4591 at 28. Moreover, 14 of 16 responding purchasers reported that domestic producers had reduced prices in order to maintain floor space from subject imports. *Id.*

We are unpersuaded by respondents' argument that *** increased purchases of subject imports during the period of investigation because of non-price factors, particularly ***, which allegedly motivated ***. See Respondents' Prehearing Brief at 49-52, Exhibit 19. Even if *** decided to expand their subject import offerings for purely non-price reasons, the expansion occurred in 2012 and 2013, respectively, and therefore cannot explain their significantly increased purchases of subject imports during the period of investigation. See Respondents' Prehearing Brief at Exhibit 6. Furthermore, the record indicates that price was a factor in both purchasers' increased purchases of subject imports during the period. Both *** reported that price and profit margins factored into their purchasing and flooring decisions, see Purchasers' Questionnaire Responses of *** at questions III-18, III-19, III-21, and III-24, and subject imports undersold the domestic like product in 90.9 percent of quarterly comparisons. CR/PR at Table V-17. Indeed, ***, which accounted for most of the increase in subject import purchases by the two purchasers, reported that price was the most important factor that it considered when deciding from whom to purchase LRWs and that domestically produced LRWs were inferior to subject imports in terms of price (*i.e.*, higher priced) and margin opportunity. Purchasers' Questionnaire Response of *** at Questions III-18, IV-7.

¹⁸⁷ We are unpersuaded by respondent's argument that the pricing data on products 1-3 are distorted by the inclusion of sales price data on domestic LRWs at the ends of their lifecycles. Respondents' Prehearing Brief at 71. *** reported that "except for small volumes of leftover inventory sold at closeout, *** has no business reason to reduce wholesale prices for any given model based on its so-called 'lifecycle.'" CR at V-7; PR at V-5. *** domestic producers and 22 of 29 responding purchasers reported that the different stages of an LRW model's lifecycle do not affect the model's price. *Id.* Even assuming *arguendo* that the reduced volumes and prices of domestic producer sales of products 1-3 toward the end of the period of investigation reflected the discounting of discontinued models, we find it noteworthy that subject imports continued to undersell even the domestic producers' closeout prices in *** of *** quarterly comparisons. CR/PR at Tables V-6-8. We also find it noteworthy that prices for other domestically produced pricing products, including prices for products 2 and 3 before sales volumes dropped off, exhibited a declining trend in the absence of any lifecycle allegation. CR/PR at Tables V-7-15.

¹⁸⁸ CR/PR at Table V-16 & n.2. Although domestic like product prices for product 9 declined *** percent, we recognize that the magnitude of this decline resulted from ***. CR/PR at Table V-16. Nevertheless, between the first quarter of 2015 and the second quarter of 2016, when domestic producer sales of product 9 consisted entirely of ***, the sales prices of domestically produced product 9 declined *** percent. CR/PR at Table V-14.

data were collected.¹⁸⁹ Demand trends cannot explain these price declines because apparent U.S. consumption of LRWs increased throughout the period of investigation, by *** percent between 2013 and 2015 and another *** percent between the interim periods.¹⁹⁰ Nor can trends in the domestic industry's production costs explain declining domestic like product prices, as both the industry's average unit cost of goods sold ("COGS") and its ratio of COGS to net sales generally increased during the period of investigation.¹⁹¹ Consequently, we find that subject imports depressed domestic like product prices to a significant degree. We therefore conclude that the subject imports had significant adverse price effects.

E. Impact of the Subject Imports¹⁹²

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."¹⁹³ 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

¹⁸⁹ CR/PR at Tables V-6-7.

¹⁹⁰ CR/PR at Tables IV-7, C-1.

¹⁹¹ CR/PR at Table VI-1. The domestic industry's average unit COGS increased from \$*** in 2013 to \$*** in 2014, before declining to \$*** in 2015, a level *** percent higher than in 2013. *Id.* Although the industry's average unit COGS was *** percent lower in interim 2016, at \$***, than in interim 2015, at \$***, the industry's unit net sales value declined to a similar degree. *See id.* The domestic industry's ratio of COGS to net sales increased from *** percent in 2013 to *** percent in 2014 and *** percent in 2015. *Id.* The industry's ratio of COGS to net sales was *** percent in interim 2016, down from *** percent in interim 2015 but still higher than in 2013. *Id.*

¹⁹² 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, Commerce found antidumping duty margins of 32.12 percent to 52.51 percent for imports from China. *Large Residential Washers from the People's Republic of China: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 81 Fed. Reg. 90776, 90777 (Dec. 15, 2016). We take into account in our analysis the fact that the Department of Commerce has found that all subject producers are selling subject imports in the United States at less than fair value. In addition to this consideration, our impact analysis has considered other factors affecting domestic prices. Our analysis of the significant underselling of the subject imports and the effects of that underselling, described in both the price effects discussion and below, is particularly probative to an assessment of the impact of the subject imports.

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

factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”¹⁹⁴

The domestic industry’s financial performance deteriorated *** during the period of investigation, while other measures of industry performance showed little or no improvement despite strong demand growth. Given the competitiveness of the domestic industry’s LRWs and its substantial investments during the period of investigation, the industry should have been well positioned to capitalize on the *** percent increase in apparent U.S. consumption between 2013 and 2015 and the *** percent growth in apparent U.S. consumption in interim 2016 relative to interim 2015.¹⁹⁵ Instead, the domestic industry’s U.S. shipments increased only *** percent between 2013 and 2015, from *** units in 2013 to *** units in 2014 and *** units in 2015, as it lost *** percentage points of market share to subject imports.¹⁹⁶ The industry’s U.S. shipments were *** units in interim 2016, up *** percent from *** units in interim 2015.¹⁹⁷

Weak growth in the domestic industry’s U.S. shipments during the period of investigation was reflected in the industry’s production and rate of capacity utilization. The

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

¹⁹⁵ See Section IV.B.4 above; CR/PR at Tables VI-4, IV-7, C-1. We are unpersuaded by respondents’ argument that subject imports were not the source of the domestic industry’s worsening financial performance because, in their view, the industry’s performance would have been little better had domestic like product prices remained at 2013 levels. Respondents’ Posthearing Brief at 15, Exhibit 10. Contrary to the premise of respondents’ argument, conditions of competition in the LRW market did not remain constant during the period of investigation. Both the substantial increase in apparent U.S. consumption and the domestic industry’s considerable investments in competitive new LRW products should have translated into improving production, revenues, and operating performance for the industry during the period. See *id.* Furthermore, we note that the domestic industry’s financial performance in 2013 was weaker than during the period examined in the 2012-13 investigations, when the Commission found the industry to be materially injured by imports from Korea and Mexico. Compare CR/PR at Table VI-I with *Certain LRWs from Korea and Mexico*, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final), Confidential Staff Report at Table C-7 (EDIS Doc. No. 571841); see also Hearing Tr. at 33 (Fettig); CR at VII-4 & n.7, VII-6 & n.13; PR at VII-4 n.7 and VII-5 n.13.

¹⁹⁶ CR/PR at Tables III-5, C-1. The domestic industry’s market share declined from *** percent in 2013 to *** percent in 2014 and *** percent in 2015. *Id.* at Table IV-7. The industry’s market share was *** percent in interim 2016, down from *** percent in interim 2015. *Id.*

¹⁹⁷ CR/PR at Tables III-5, C-1. The domestic industry’s inventories were essentially stable during 2013-15, at *** units in 2013, *** units in 2014 and *** units in 2015, but were *** higher in interim 2016, at *** units, than in interim 2015, at *** units. CR/PR at Table III-10. Inventories as a percentage of domestic production and U.S. shipments showed a similar trend, fluctuating within a narrow band during 2013-15 but significantly higher in interim 2016 than in interim 2015. *Id.* Inventories as a percentage of domestic production were *** percent in 2013, *** percent in 2014, and *** percent in 2015, but were *** percent in interim 2016, up from *** percent in interim 2015. *Id.* Similarly, inventories as a percentage of the domestic industry’s U.S. shipments were *** percent in 2013, *** percent in 2014, and *** percent in 2015, but were *** percent in interim 2016, up from *** percent in interim 2015. *Id.*

domestic industry's capacity fluctuated within a narrow range during the period, declining from *** units in 2013 to *** units in 2014 before increasing to *** units in 2015, a level *** percent higher than in 2013.¹⁹⁸ The industry's capacity was *** units in interim 2016, up from *** units in interim 2015.¹⁹⁹ The industry's production was essentially flat despite strong demand growth, increasing only from *** units in 2013 to *** units in 2014 and *** units in 2015, a level *** percent higher than in 2013.²⁰⁰ The industry's production was *** units in interim 2016, up from *** units in interim 2015.²⁰¹ Consequently, the domestic industry's rate of capacity utilization increased from *** percent in 2013 to *** percent in 2014 and declined to *** percent in 2015, a level *** percentage points lower than in 2013.²⁰² The industry's rate of capacity utilization was *** percent in interim 2016, up from *** percent in interim 2015.²⁰³

The domestic industry's employment and hours worked generally increased during the period of investigation, as Whirlpool and GEA invested in new LRW platforms and models, although the industry's productivity declined as production failed to keep pace.²⁰⁴ Whirlpool also reported that subject imports caused it to cancel a planned investment in extra-wide LRW production that would have created over 1,000 jobs.²⁰⁵

Due largely to declining average unit sales values, the domestic industry's net sales revenues experienced no growth at all during the period of investigation, remaining at \$*** in 2013, 2014, and 2015, and \$*** in interim 2015 and 2016.²⁰⁶ The domestic industry's stagnant net sales revenues, combined with increasing total COGS, worsened the industry's operating

¹⁹⁸ CR/PR at Table III-2.

¹⁹⁹ CR/PR at Table III-2.

²⁰⁰ CR/PR at Tables III-2, IV-7, C-1.

²⁰¹ CR/PR at Table III-2.

²⁰² CR/PR at Table III-2.

²⁰³ CR/PR at Table III-2. Consequently, we are unpersuaded by respondents' argument that the significant increase in subject import volume and market share had no significant effects on the domestic industry because the industry's U.S. shipments and production also increased. Respondents' Prehearing Brief at 39-40; Respondents' Posthearing Brief at 4; Respondents' Final Comments at 3. As discussed above, despite the increase in apparent U.S. consumption, U.S. shipments did not increase commensurately, production was flat, and capacity utilization declined ***. CR/PR at Tables III-2, III-5. These adverse trends resulted directly from the *** percent increase in importers' U.S. shipments of subject imports and the *** percentage point increase in subject import market share during the same period. *Id.* at Table IV-7.

²⁰⁴ CR/PR at Table III-11. The domestic industry's employment increased from *** production and related workers ("PRWs") in 2013 to *** PRWs in 2014 and *** PRWs in 2015, and was *** PRWs in interim 2016, up from *** PRWs in interim 2015. *Id.* The industry's total hours worked increased from *** hours in 2013 to *** hours in 2014 and *** hours in 2015, but was *** hours in interim 2016, down from *** hours in interim 2015. *Id.* The domestic industry's productivity, measured in units per 1,000 hours, declined from *** units in 2013 to *** units in 2014 and *** units in 2015. *Id.* Productivity in units per 1,000 hours was *** units in 2016, up from *** units in interim 2015. *Id.*

²⁰⁵ Petitioner's Prehearing Brief at 58; Petitioner's Responses to Commissioner Questions at II-30, Attachment 11; Hearing Tr. at 38-39 (Fettig), 61 (Tubman); CR/PR at Tables III-11, VI-7.

²⁰⁶ CR/PR at Table VI-1.

loss, which was \$*** in 2013, \$*** in 2014, and \$*** in 2015.²⁰⁷ The industry's operating loss was \$*** in interim 2016, up from \$*** in interim 2015.²⁰⁸ As a share of net sales, the domestic industry's operating loss worsened from *** percent in 2013 to *** percent in 2014 and was *** percent in 2015; it was *** percent in interim 2016 as compared to *** percent in interim 2015.²⁰⁹ Similarly, the domestic industry's net loss worsened from \$*** in 2013 to \$*** in 2014 and was \$*** in 2015; it was worse in interim 2016 (\$***) than in interim 2015 (\$***).²¹⁰

The domestic industry's relatively small increases in U.S. shipments and growing financial losses during the period of investigation were especially notable in light of the substantial investments that Whirlpool and GEA made in new LRW models and platforms during the period of investigation. The domestic industry's capital expenditures increased from \$*** in 2013 to \$*** in 2014 and \$*** in 2015; they were \$*** in interim 2016, down from \$*** in interim 2015.²¹¹ Similarly, the domestic industry's research and development expenditures increased from \$*** in 2013 to \$*** in 2014 and \$*** in 2015; they were \$*** in interim 2016, down from \$*** in interim 2015.²¹² During the period, GEA invested in ***.²¹³ Whirlpool invested ***.²¹⁴ Notwithstanding these investments and strong demand growth, the domestic industry's return on investment worsened from negative *** percent in 2013 to negative *** percent in 2014 and negative *** percent in 2015.²¹⁵

We find that subject imports had a significant impact on the domestic industry during the period of investigation. Subject import volume increased significantly in absolute terms and as a share of apparent U.S. consumption, driven by significant subject import underselling. The increasing volume of low-priced subject imports captured *** percentage points of market share from the domestic industry between 2013 and 2015.²¹⁶ As a consequence, the domestic industry suffered relatively weak U.S. shipment growth, flat production, and stagnant rates of capacity utilization during a time when strong demand growth should have significantly boosted these measures of industry performance.

Strong demand growth should have also improved the domestic industry's revenues and financial performance. Instead, significant volumes of low-priced subject imports depressed domestic like product prices to a significant degree during the period of investigation. The domestic industry's declining sales prices contributed significantly to the industry's stagnant net sales revenues and worsening operating losses, net losses, and return on investment.

²⁰⁷ CR/PR at Table VI-1. Gross profit declined from *** in 2013 to *** in 2014 and *** in 2015. It was *** in interim 2015 and *** in interim 2016. CR/PR at Table VI-1.

²⁰⁸ CR/PR at Table VI-1.

²⁰⁹ CR/PR at Table VI-1.

²¹⁰ CR/PR at Table VI-1.

²¹¹ CR/PR at Table VI-4.

²¹² CR/PR at Table VI-4.

²¹³ CR at VI-15-16; PR at VI-5 6; Petitioner's Prehearing Brief at 28.

²¹⁴ CR at VI-15; PR at VI-5 - 6; CR/PR at Table VI-7; Petitioner's Prehearing Brief at 28-29.

²¹⁵ CR/PR at Table VI-5.

²¹⁶ CR/PR at Tables IV-2, IV-4.

We are unpersuaded by respondents' argument that the domestic industry was not materially injured because the industry was "****" in the context of the *** made by Whirlpool on sales of matching dryers.²¹⁷ According to respondents, retailer demands that matching pairs of LRWs and dryers be priced the same, the lower cost of producing dryers, and the high attachment rate (ratio of dryer sales to matching LRW sales) in the U.S. market, mean that profits on dryer sales compensate for losses on LRW sales.²¹⁸ Under the statute, however, the focus of our injury analysis must be on "domestic producers as a {w}hole of {the} domestic like product," which is LRWs.²¹⁹ Accordingly, we do not compare the performance of the domestic industry producing LRWs with the performance of the industry producing dryers for purposes of assessing the "reasonableness" of the LRW industry's operating losses.²²⁰ Nor do we examine the effects of subject imports on the domestic producers' overall corporate operations or on consolidated product lines such as all home laundry equipment, but only on the operations producing LRWs.²²¹ The statute is clear that the Commission must base its injury analysis on domestic producers of the like product alone, even if domestic producers themselves define their own business units differently, as is sometimes the case in the Commission's investigations.²²² We therefore base our injury analysis on the performance of the domestic industry producing LRWs.

We are also unpersuaded by respondents' argument as a factual matter. There is no evidence on the record to support respondents' assertion that Whirlpool and GEA purposely priced their LRWs to sell at a loss on the expectation that profitable sales of matching dryers would compensate. On the contrary, at the hearing, Whirlpool's Chairman and CEO rejected respondents' position:

²¹⁷ Respondents' Final Comments at 12; *see also* Petitioner's Responses to Commissioner Questions at III-4; GE's Posthearing Submission at 1.

²¹⁸ *See* Respondents' Prehearing Brief at 33-38; Respondents' Posthearing Brief at 11-12, Exhibits 1-2; Respondents Final Comments at 9-12; CR at III-23-25; PR at III-11 - III-12.

²¹⁹ 19 U.S.C. § 1677(4)(A); *see also* 19 U.S.C. §§ 1673(2)(A)(i), 1673d(b)(1)(A)(i), 1677(7)(C). Respondents never argued that the Commission should define the domestic like product to include dryers.

²²⁰ *See Certain Colored Synthetic Organic Oleoresinous Pigment Dispersions from India*, Inv. Nos. 701-TA-436 and 731-TA-1042 (Preliminary), USITC Pub. 3615 (July 2003) at 16; *Persulfates from China*, Inv. No. 731-TA-749 (Final), USITC Pub. 3044 (June 1997) at 13 n.75; *Silicon Carbide from China*, Inv. No. 731-TA-651 (Final), USITC Pub. 2779 (June 1994) at I-13 n.72.

²²¹ *See, e.g., General Motors Corp. v. United States*, 827 F. Supp. 774, 780 (Ct. Int'l Trade 1993); *Outboard Engines from Japan*, Inv. No. 731-TA-1069 (Preliminary), USITC Pub. 3673 (March 2004) at 24 n.165; *see also, e.g., Ferrovandium from China and South Africa*, Inv. Nos. 731-TA-986-87 (Review), USITC Pub. 4046 (Nov. 2008) at 10; *Color Television Receivers from China*, Inv. No. 731-TA-1034 (Final), USITC Pub. 3695 (May 2004) at 18 n.105.

²²² *See, e.g., Bottom Mount Combination Refrigerator-Freezers from Korea and Mexico*, Inv. Nos. 701-TA-477 and 731-TA-1180-1181 (Final), USITC Pub. 4318 (May 2012) at 6-7 (defining the domestic like product to encompass all bottom mount refrigerators within the scope of the investigations, but not top mount and side-by-side refrigerators).

I have heard the arguments the other side is trying to make, that somehow it's normal to offset losses on the washers with profits on dryers. That's 100 percent completely wrong.

We don't make investments for Clyde based on our dryer business, nor our dishwasher business or our refrigerator business. The washer business alone is an investment center and must deliver returns on every investment we make at Clyde for washing machines.²²³

Even assuming *arguendo* that the profitability of dryer sales is a condition of competition relevant to our analysis of the domestic industry's performance, the profitability of Whirlpool's and GEA's dryer sales does not explain the domestic industry's loss of market share and declining prices in the U.S. market, despite strong demand growth and the industry's investments in competitive LRW products.²²⁴ Nor does the profitability of dryer sales explain

²²³ Hearing Tr. at 35-36 (Fettig). GE also rejected respondents' claim that profitable dryer operations cover losses on unprofitable washer operations as "a fiction." GE's Posthearing Submission at 1. Whirlpool reported that most retail purchases are "duress" purchases in which a consumer must replace either an LWR or a dryer and buys only the needed item, limiting retail sales of LRWs with matching dryers to less than *** percent of total sales. CR at III-24; PR at III-11 - III-12. Whirlpool also reported that LRWs and matching dryers are almost never sold at the same net price (net of all discounts and allowances) at the wholesale level, although LRWs and matching dryers have the same invoice price (before discounts and allowances) about *** percent of the time when shipped together to wholesale customers. CR at III-24-25; PR at III-11 - 12.

²²⁴ See CR/PR at Tables IV-7, V-16 & n.2, VI-4; CR at VI-15-16; Section IV.B.4, above. We are also unpersuaded by respondents' argument that the profitability of Whirlpool's overall laundry segment, including dryers and LRWs, explained its decision to invest \$500 million in LRWs during the period of investigation despite eight years of operating losses. Respondents' Posthearing Brief at 12-13; Respondents' Final Comments at 12. As Whirlpool's Chairman and CEO explained at the hearing, Whirlpool based its investments in LRWs on "high confidence . . . that demand would return in the United States," efficiency gains from "repatriating all front load washing machines to the United States," and "remedies due to the Mexico and Korea orders." Hearing Tr. at 34, 98-99 (Fettig). According to him, "the only change of material from a return standpoint on this was washer prices being dumped now from China rather than from Korea and Mexico." *Id.* at 99 (Fettig). Consistent with this testimony, petitioner submitted investment data sheets containing the net wholesale price assumptions used to justify Whirlpool's investments in new top load LRW platforms, VMAX and Advantage, and an updated front load LRW platform, Alpha 2016, and these net wholesale price assumptions were considerably higher than the actual average net wholesale prices of these models during the period of investigation in most cases. Petitioner's Responses to Commissioner Questions at II-30-31, Attachments 8-10. As a consequence of lower than anticipated net wholesale prices, these LRW models turned out to be less profitable than Whirlpool expected when it made the decision to invest in their production.

Whirlpool's Chairman and CEO also stressed that "Whirlpool's washer business was very profitable before Samsung and LG began dumping in the United States." *Id.* at 36, 40 (Fettig). Consistent with this testimony, the record indicates that the large and increasing operating losses suffered by the domestic industry during the period of investigation are not the historic norm. The domestic industry's operating loss was *** larger in 2015, at negative *** percent of net sales, than in (Continued...)

the domestic industry's relatively weak U.S. shipment growth, flat production and capacity utilization, stagnant net sales value, worsening operating and net losses, and worsening return on investment during the period of investigation.²²⁵ Irrespective of the profitability of dryers, we find that the domestic industry would have performed materially better in the absence of the significant increase in subject import volume and market share and significant subject import underselling.

We have considered whether there are other factors that may have adversely impacted the domestic industry during the period of investigation to ensure that we are not attributing injury from such other factors to the subject imports.²²⁶ Nonsubject imports had a declining presence in the U.S. market during the period of investigation and declined as a share of apparent U.S. consumption from *** percent in 2013 to *** percent in 2014 and *** percent in 2015; their share was *** percent in interim 2016 compared to *** percent in interim 2015.²²⁷ In light of their minor and declining presence in the market, nonsubject imports did not cause the adverse effects we have attributed to subject imports.

We are unpersuaded by respondents' argument that GEA's financial losses, which accounted for ***, resulted not from subject import competition but from GEA's own neglect of the LRWs business as it sought to sell its appliance business during the period of investigation.²²⁸ GEA's dependence on sales of agitator-based top load LRWs did not insulate GEA from subject import competition, as respondents claim, because subject imports competed in all market segments with the domestic industry, as discussed in section IV.B.4. above. There is also no evidence that GEA's losses stemmed from any neglect of its LRW operations during the period of investigation. On the contrary, GEA's capital expenditures and research and development expenses were *** during the period and *** Whirlpool's despite GEA's much smaller market share.²²⁹ Indeed, GEA's parent company had an economic incentive to improve

(...Continued)

2009, at *** percent of net sales, even though apparent U.S. consumption was *** percent greater in 2015 (** units) than in 2009 (** units). See CR/PR at Tables IV-7 and VI-1; *Certain LRWs from Korea and Mexico*, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final), Confidential Staff Report at Table C-7 (EDIS Doc. No. 571841). Moreover, the domestic industry earned an operating profit of \$***, equivalent to *** percent of net sales, in the January-June 2012 period, *id.*, when the Commission determined that the filing of the petition regarding imports from Korea and Mexico contributed significantly to the domestic industry's improved performance. *LRWs from Korea and Mexico*, USITC Pub. 4378 at 30 n.240.

²²⁵ See CR/PR at Tables III-2, VI-1, VI-5. Another inconsistency in respondents' argument is that GE's *** profits on dryers did not *** compensating for its *** operating losses on LRWs. Compare GE's Posthearing Submission at 1 (reporting that GE's dryer operations had ***) with CR/PR at Table VI-3 (showing that GE's operating losses on sales of LRWs ranged between \$*** and \$*** during 2013-15 and were around \$*** during both interim periods).

²²⁶ Commissioners Pinkert and Kieff find that LRWs are not commodity products and that the considerations set forth in *Bratsk/Mittal* therefore do not apply in this investigation.

²²⁷ CR/PR at Table IV-7.

²²⁸ Respondents' Posthearing Brief at 13-14; Respondents' Final Comments at 14-15; CR/PR at Table VI-3.

²²⁹ CR/PR at Table VI-4.

the performance of its LRW operations so as to maximize the selling price of its appliance business.

We are also unpersuaded by respondents' argument that Sears's declining fortunes explained Whirlpool's deteriorating financial performance during the period of investigation.²³⁰ Whirlpool's sales of *** LRWs to Sears increased *** during the period of investigation.²³¹

In sum, we find that during the period of investigation, the significant increase in subject import volume and market share and significant subject import underselling, which depressed domestic like product prices to a significant degree, adversely impacted the domestic industry. These adverse effects included market share declines, weak U.S. shipment growth relative to demand growth, flat production and capacity utilization, stagnant net sales revenues, worsening operating and net losses, and a declining return on investment.

V. Conclusion

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

²³⁰ Respondents' Prehearing Brief at 57.

²³¹ Petitioner's Responses to Commissioner Questions at II-20-21 (between 2013 and 2015, Whirlpool's branded sales to Sears increased *** percent and its OEM sales to Sears increased *** percent).

PART I: INTRODUCTION

BACKGROUND

This investigation results from a petition filed on December 16, 2015, by Whirlpool Corporation (“Whirlpool”), Benton Harbor, Michigan, alleging that an industry in the United States is materially injured and threatened with material injury by reason of imports from China of large residential washers (“LRWs”) ¹ that are allegedly sold in the United States at less-than-fair-value (“LTFV”). The following tabulation provides information relating to the background of this investigation.^{2 3}

Effective date	Action
December 16, 2015	Petition filed with Commerce and the Commission; institution of Commission investigation (80 FR 79611, December 22, 2015)
January 5, 2016	Commerce’s notice of initiation (81 FR 1398, January 12, 2016)
February 1, 2016	Commission’s preliminary determination (81 FR 6292 February 5, 2016)
July 26, 2016	Commerce’s preliminary determination (81 FR 48741)
August 15, 2016	Commission scheduling of its final phase investigation (81 FR 55231, August 18, 2016)
December 7, 2016	Commission’s hearing
December 15, 2016	Commerce’s final determination (81 FR 90776)
January 10, 2017	Commission’s vote
January 30, 2017	Commission’s views

¹ See the section entitled “The Subject Merchandise” in *Part I* of this report for a complete description of the merchandise subject to this investigation.

² Pertinent *Federal Register* notices are referenced in appendix A, and may be found at the Commission’s website (www.usitc.gov).

³ Appendix B contains a list of the witnesses that appeared at the Commission’s hearing.

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

Statutory criteria

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

shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that—⁴
In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant. . . In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . . (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree. . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales, market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative

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

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

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

(J) EFFECT OF PROFITABILITY.—The Commission may not determine that there is no material injury or threat of material injury to an industry in the United States merely because that industry is profitable or because the performance of that industry has recently improved.

Organization of report

Part I of this report presents information on the subject merchandise, 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

The U.S. market for LRWs totaled *** units and \$*** in 2015. Currently, four firms produce LRWs in the United States, (1) Whirlpool; (2) Haier U.S. Appliances Solutions d/b/a GE Appliances (“GE”); (3) Alliance Laundry Systems, LLC (“Alliance”), and (4) Staber Industries, Inc. (“Staber”). These firms account for all U.S. production of LRWs in the United States during the period of investigation (January 1, 2013 through June 30, 2016).⁶ Whirlpool, the largest U.S. producer of LRWs, and GE accounted for over *** percent of total U.S. production of LRWs during the period of investigation. Three firms reported importing LRWs

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

⁶ Three other firms, (1) BSH Home Appliances (“BSH”), (2) Electrolux Home Products, Inc. (“Electrolux”), and (3) Fisher & Paykel Appliances, Inc. (“Fisher & Paykel”), domestically produced and subsequently ceased domestic production of LRWs prior to the period of investigation. BSH, which produced front load LRWs, closed its production line in New Bern, North Carolina in late 2010. Electrolux closed its LRW production facility in Webster City, Iowa in early 2011 and transferred production to its facility in Juarez, Mexico. Fisher & Paykel, which produced top load LRWs, transferred production from Ohio to Thailand in October 2009. *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378 (February 2013), p. III-1 n. 1 & 2.

from China and nonsubject countries during the period of investigation. Of the three reporting U.S. importers, two firms, Samsung Electronics America, Inc. (“Samsung USA”) and LG Electronics USA, Inc. (“LG USA”), U.S. affiliates of foreign producers of LRWs in China, accounted for virtually all of U.S. imports from China.

U.S. producers’ U.S. shipments of LRWs totaled *** units valued at \$*** in 2015, and accounted for *** percent of apparent U.S. consumption based on quantity (*** percent based on value). U.S. imports from China totaled *** units valued at \$*** in 2015, and accounted for *** percent of apparent U.S. consumption based on quantity (*** percent based on value). U.S. imports from all other sources combined totaled *** units in 2015 valued at \$***, and accounted for *** percent of apparent consumption by quantity (*** percent by value).

SUMMARY DATA AND DATA SOURCES

Appendix C, table C-1, presents a summary of data collected in this investigation on LRWs of all configurations. Table C-2 presents summary data collected regarding top load LRWs. Table C-3 presents summary data collected regarding front load LRWs. U.S. industry data are based on questionnaire responses from three U.S. producers that accounted for virtually all of U.S. production of LRWs during the period of investigation.⁷ Data for U.S. imports from China and nonsubject countries are based on questionnaire responses from U.S. importers. Information on the industry that produces LRWs in China is based on questionnaire responses from three foreign producers and exporters from China and publicly available data.

PREVIOUS AND RELATED INVESTIGATIONS

LRWs have been the subject of prior antidumping and countervailing duty investigations in the United States.⁸ On December 30, 2011, Whirlpool filed antidumping and countervailing duty petitions alleging that an industry in the United States was materially injured by reason of U.S. imports of LRWs⁹ from Korea and Mexico that were being sold in the United States at LTFV and subsidized by the Government of Korea. LG and Samsung participated in these investigations as respondents. In December 2012, Commerce determined that the subject merchandise was sold at LTFV and subsidized by the Government of Korea.¹⁰ In February 2013,

⁷ Although Alliance did submit a U.S. producer questionnaire in the preliminary phase of this investigation, it failed to submit a response in the final phase. Alliance *** on the petition and accounted for *** percent of total U.S. production of LRWs during the preliminary phase period of investigation.

⁸ *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378 (February 2013).

⁹ The scope definition of LRWs in these prior investigations differs slightly from this current investigation. See, *Part I, Scope of this investigation vs. scope of the prior investigations on LRWs, infra*.

¹⁰ *Large Residential Washers From the Republic of Korea: Final Affirmative Countervailing Duty Determination*, 77 FR 75975, December 26, 2012; *Notice of Final Determination of Sales at Less Than Fair Value: Large Residential Washers From the Republic of Korea*, 77 FR 75988, December 26, 2012;

(continued...)

the Commission determined that the U.S. industry was materially injured by reason of U.S. imports of LRWs from Korea and Mexico.¹¹ Commerce issued antidumping and countervailing duty orders on LRWs from Korea and Mexico in February 2013.¹²

NATURE AND EXTENT OF SALES AT LTFV

On December 15, 2016, Commerce published a notice in the *Federal Register* of the final determination of its antidumping investigation on LRWs from China.¹³ The final weighted-average dumping margins (in percent *ad valorem*), as reported by Commerce are summarized in table I-1.

Table I-1

LRWs: Commerce’s final weighted-average LTFV margins with respect to imports from China

Country	Dumping margin (percent)
Nanjing LG-Panda Appliances Co., Ltd. LG Electronics, Inc.	32.12
Suzhou Samsung Electronics Co., Ltd. Suzhou Samsung Electronics Co. Ltd.—Export Samsung Electronics Co., Ltd.	52.51
China—All other	44.28

Source: *Large Residential Washers From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 81 FR 90776, December 15, 2016.

THE SUBJECT MERCHANDISE

Commerce’s scope

Commerce has defined the scope of this investigation as follows:

The products covered by this petition are all large residential washers and certain parts thereof from China.

(...continued)

Notice of Final Determination of Sales at Less Than Fair Value: Large Residential Washers from Mexico, 77 FR 76288, December 27, 2012.

¹¹ *Large Residential Washers From Korea and Mexico: Determinations*, 78 FR 10636, February 14, 2013.

¹² *Large Residential Washers From Mexico and the Republic of Korea: Antidumping Duty Orders*, 78 FR 11148, February 15, 2013; *Large Residential Washers From the Republic of Korea: Countervailing Duty Order*, 78 FR 11154, February 15, 2013.

¹³ *Large Residential Washers From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 81 FR 90776, December 15, 2016.

For purposes of this petition, the term “large residential washers” denotes all automatic clothes washing machines, regardless of the orientation of the rotational axis, with a cabinet width (measured from its widest point) of at least 24.5 inches (62.23 cm) and no more than 32.0 inches (81.28 cm), except as noted below.

Also covered are certain parts used in large residential washers, namely: (1) all cabinets, or portions thereof, designed for use in large residential washers; (2) all assembled tubs¹⁴ designed for use in large residential washers which incorporate, at a minimum: (a) a tub; and (b) a seal; (3) all assembled baskets¹⁵ designed for use in large residential washers which incorporate, at a minimum: (a) a side wrapper;¹⁶ (b) a base; and (c) a drive hub;¹⁷ and (4) any combination of the foregoing parts or subassemblies.

Excluded from the scope are stacked washer-dryers and commercial washers. The term “stacked washer-dryers” denotes distinct washing and drying machines that are built on a unitary frame and share a common console that controls both the washer and the dryer. The term “commercial washer” denotes an automatic clothes washing machine designed for the “pay per use” segment meeting either of the following two definitions:

(1) (a) it contains payment system electronics;¹⁸ (b) it is configured with an externally mounted steel frame at least six inches high that is designed to house a coin/token operated payment system (whether or not the actual coin/token operated payment system is installed at the time of importation); (c) it contains a push button user interface with a maximum of six manually selectable wash cycle settings, with no ability of the end user to otherwise modify water temperature, water level, or spin speed

¹⁴ A “tub” is the part of the washer designed to hold water.

¹⁵ A “basket” (sometimes referred to as a “drum”) is the part of the washer designed to hold clothing or other fabrics.

¹⁶ A “side wrapper” is the cylindrical part of the basket that actually holds the clothing or other fabrics.

¹⁷ A “drive hub” is the hub at the center of the base that bears the load from the motor.

¹⁸ “Payment system electronics” denotes a circuit board designed to receive signals from a payment acceptance device and to display payment amount, selected settings, and cycle status. Such electronics also capture cycles and payment history and provide for transmission to a reader.

for a selected wash cycle setting; and (d) the console containing the user interface is made of steel and is assembled with security fasteners;¹⁹ or

(2) (a) it contains payment system electronics; (b) the payment system electronics are enabled (whether or not the payment acceptance device has been installed at the time of importation) such that, in normal operation,²⁰ the unit cannot begin a wash cycle without first receiving a signal from a bona fide payment acceptance device such as an electronic credit card reader; (c) it contains a push button user interface with a maximum of six manually selectable wash cycle settings, with no ability of the end user to otherwise modify water temperature, water level, or spin speed for a selected wash cycle setting; and (d) the console containing the user interface is made of steel and is assembled with security fasteners.

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) have a vertical rotational axis; (2) are top loading;²¹ (3) have a drive train consisting, inter alia, of (a) a permanent split capacitor (PSC) motor,²² (b) a belt drive,²³ and (c) a flat wrap spring clutch.²⁴

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) have a horizontal rotational axis; (2) are front loading;²⁵ and (3) have a drive train consisting, inter alia, of (a) a controlled induction motor (CIM),²⁶ and (b) a belt drive.

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) have a horizontal rotational axis; (2) are front loading; and (3) have cabinet width (measured from its widest point) of more than 28.5 inches (72.39 cm).

¹⁹ A “security fastener” is a screw with a non-standard head that requires a non-standard driver. Examples include those with a pin in the center of the head as a “center pin reject” feature to prevent standard Allen wrenches or Torx drivers from working.

²⁰ “Normal operation” refers to the operating mode(s) available to end users (*i.e.*, not a mode designed for testing or repair by a technician).

²¹ “Top loading” means that access to the basket is from the top of the washer.

²² A “PSC motor” is an asynchronous, alternating current (AC), single phase induction motor that employs split phase capacitor technology.

²³ A “belt drive” refers to a drive system that includes a belt and pulleys.

²⁴ A “flat wrap spring clutch” is a flat metal spring that, when engaged, links abutted cylindrical pieces on the input shaft with the end of the concentric output shaft that connects to the drive hub.

²⁵ “Front loading” means that access to the basket is from the front of the washer.

²⁶ A “controlled induction motor” is an asynchronous, alternating current (AC), polyphase induction motor.

The products subject to this petition are currently classifiable under subheadings 8450.20.0040 and 8450.20.0080 of the Harmonized Tariff System of the United States (HTSUS). Products subject to this petition may also enter under HTSUS subheadings 8450.11.0040, 8450.11.0080, 8450.90.2000, and 8450.90.6000. Although the HTSUS subheadings are provided for convenience and customs purposes, the written description of the merchandise subject to this petition is dispositive.²⁷

Scope of this investigation vs. scope of the prior investigations on LRWs

In the Commission's prior investigations on LRWs, the definition of the scope was originally similar to the scope of the current investigation and included certain washers with a Department of Energy ("DOE") rated capacity less than 3.7 cubic feet. On May 17, 2012, before the commencement of the Commission's final phase investigations, petitioner requested that Commerce narrow the scope of the investigations to exclude these products.²⁸ The request sought to exclude most conventional top load washers, because of their smaller capacities, and high efficiency top load washers with capacities of less than 3.7 cubic feet. Petitioner contended that its request sought to focus the investigations on where competition with subject imports occurred, which in their view occurred in the following segments: (1) high efficiency front load LRWs and (2) high efficiency top load LRWs with capacities of 3.7 cubic feet or greater. On August 6, 2012, Commerce published a notice in the Federal Register amending the scope of the investigation by adding the following exclusion:

Also excluded from the scope are automatic clothes washing machines with a vertical rotational axis and a rated capacity of less than 3.7 cubic feet, as certified to the U.S. Department of Energy pursuant to 10 CFR § 429.12 and 10 CFR § 429.20, and in accordance with the test procedures established in 10 CFR Part 430.²⁹

The Commission ultimately included these products in its definition of the domestic like product finding no clear dividing lines between these products and other LRWs produced in the United States.³⁰

²⁷ *Large Residential Washers From the People's Republic of China: Preliminary Determination of Sales at Less Than Fair Value, Affirmative Preliminary Determination of Critical Circumstances, in Part, and Postponement of Final Determination*, 81 FR 48741, July 26, 2016.

²⁸ *Large Residential Washers From the Republic of Korea: Amendment to the Scope of the Countervailing Duty Investigation*, 77 FR 46715, August 6, 2012.

²⁹ *Ibid.*

³⁰ *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378 (February 2013), p. 11.

The scope definition of the current investigation does not exclude washing machines with a vertical rotational axis and a rated capacity of less than 3.7 cubic feet. The scope of the current investigation includes all LRWs within the domestic like product as defined by the Commission in the prior final phase investigations with the exception of three new exclusions.³¹ These exclusions, as defined by petitioner, are as follows:

(1) Top Load residential washers with PCS/Belt/Clutch³²

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) have a vertical rotational axis, (2) are top loading,³³ (3) have a drive train consisting, inter alia, of (a) a permanent split capacitor (PSC) motor,³⁴ (b) a belt drive,³⁵ and (c) a flat wrap spring clutch.³⁶

(2) Front Load residential washers with CIM/Belt³⁷

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) have a horizontal rotational axis, (2) are front loading,³⁸ and (3) have a drive train consisting, inter alia, of (a) a controlled induction motor (CIM),³⁹ and (b) a belt drive.

³¹ The scope definitions from both the prior LRWs investigations and the current investigation contained exclusions for stacked washer-dryers and commercial washers.

³² In the preliminary phase of this investigation, these products were termed “low-tech” top load residential washers. During the questionnaire comment phase, respondents argued that the “low-tech” terminology was misleading and suggested calling these products “top load residential washers with PCS/Belt/Clutch.” *LG/Samsung Comments on Draft Questionnaires*, August 23, 2016, p. 9. The Commission has adopted respondents’ terminology for these products in the final phase of this investigation.

³³ “Top loading” means that access to the basket is from the top of the washer.

³⁴ A “PSC motor” is an asynchronous, alternating current (AC), single phase induction motor that employs split phase capacitor technology.

³⁵ A “belt drive” refers to a drive system that includes a belt and pulleys.

³⁶ A “flat wrap spring clutch” is a flat metal spring that, when engaged, links abutted cylindrical pieces on the input shaft with the end of the concentric output shaft that connects to the drive hub.

³⁷ In the preliminary phase of this investigation, these products were termed “low-tech” front load residential washers. During the questionnaire comment phase, respondents argued that the “low-tech” terminology was misleading and suggested calling these products “front Load residential washers with CIM/Belt.” *LG/Samsung Comments on Draft Questionnaires*, August 23, 2016, p. 9. The Commission has adopted respondents’ terminology for these products in the final phase of this investigation.

³⁸ “Front loading” means that access to the basket is from the front of the washer.

³⁹ A “controlled induction motor” is an asynchronous, alternating current (AC), polyphase induction motor.

(3) “Extra-Wide” Residential Washers

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) have a horizontal rotational axis, (2) are front loading, and (3) have cabinet width (measured from its widest point) of more than 28.5 inches (72.39 cm).

Top load residential washers with PCS/Belt/Clutch are defined as those top load washers having a permanent split capacitor (“PSC”) motor, a belt drive, and a flat wrap spring clutch. Front Load residential washers with CIM/Belt are defined as those front load washers having a controlled induction motor (“CIM”), and a belt drive. “Extra wide” residential washers are defined as those washers with a cabinet width greater than 28.5 inches.⁴⁰

In the preliminary phase of this investigation, petitioner stated that it sought these exclusions because it believes that washer models fitting these definitions are not produced in the United States. Petitioner estimated that none of the exclusions accounted for more than 0.5 percent of apparent domestic consumption in any given year during the period of investigation.⁴¹

Tariff treatment

LRWs are classifiable in subheading 8450.20.00⁴² of the Harmonized Tariff Schedule of the United States (“HTS”), and imported under HTS statistical reporting numbers 8450.20.0040 and 8450.20.0080.⁴³ The general tariff duty rate for HTS subheading 8450.20.00 is 1 percent *ad valorem*.⁴⁴

⁴⁰ Top load washers with an ordinary belt drive system, i.e., without a flat wrap spring clutch, are included in the scope of this investigation. Petitioner’s postconference brief, Answers to Staff Questions, p. 8.

⁴¹ Petitioner’s postconference brief, Answers to Staff Questions, p. 8; Respondents argued that the definition of the domestic like product should be expanded to include the products included in these exclusions. Respondents’ postconference brief, pp. 4-18; *See, Part I, Domestic Like Product Issues, infra*.

⁴² HTS subheading 8450.20.00 describes the article as: “Household- or laundry-type washing machines, including machines which both wash and dry; parts thereof: Machines, each of a dry linen capacity exceeding 10 kg.” Harmonized Tariff Schedule of the United States (2016).

⁴³ In 2015, the statistical reporting numbers HTS 8450.20.0040 (top load) and 8450.20.0080 (other) were added to create a separate provision for large-capacity top load washers. Prior to 2015, HTS statistical reporting number HTS 8450.20.0090 included both top and front load non coin-operated large-capacity washers. Harmonized Tariff Schedule of the United States (2014).

⁴⁴ Harmonized Tariff Schedule of the United States (2016); Petitioner claims that products subject to this petition may also enter under HTSUS statistical reporting numbers 8450.11.0040 (top load fully automatic washers), 8450.11.0080 (other fully automatic washers), 8450.90.2000 (parts: tubs and tub assemblies), and 8450.90.6000 (parts: other). The general tariff duty rate for HTS subheading 8450.11 and HTS subheading 8450.90 is 1.4 percent *ad valorem* and 2.6 percent *ad valorem*, respectively.

Physical characteristics and uses

LRWs are home appliances that remove soil from fabric, using water and detergent as the principal cleaning agents. All units feature wash, rinse, and spin cycles; have a cabinet width of at least 24.5 inches (62.23 cm) and no more than 32.0 inches (81.28 cm);⁴⁵ and feature a rotational axis that is either vertical or horizontal. Further, all LRWs feature a metal drum or basket into which laundry is loaded, a plastic tub that holds water, a motor, a pump, and a user interface and control unit to set wash cycles. Single-family households are the principal consumers of LRWs.⁴⁶

Configurations of LRWs in the U.S. market

Currently in the U.S. market, LRWs are typically produced and sold in two configurations, either with a vertical axis, generally referred to as a “top load” LRWs or a horizontal axis, generally referred to as “front load” LRWs. Both configurations can be equipped with various features, for instance, water heaters, different washing cycles, steam cleaning capabilities, and cabinet finishing. The primary distinctions between these configurations of LRWs are based on the location of the loading door, the orientation of the axis, and the cleaning mechanics.⁴⁷ A general description of each of these LRW configurations follows.

Top load LRWs

A top load LRW features a top loading door for loading clothes and contains a basket that spins on a vertical axis (see Figure I-1). Top load LRWs come equipped with a broad array of product features and are sold at a wide range of price points. The cleaning mechanics of a top load LRW consist of laundry being loaded into a basket that spins on a vertical axis. In order to further facilitate a cleaning motion, an agitator or impeller is placed in the center of the basket. The difference between these two cleaning technologies is explained further below.

⁴⁵ Petition, p. 8. Washers with a width less than 24.5 inches are “compact” and “portable” units that are generally not used in single-family residences, while washers greater than 32.0 inches are too large to fit through a typical household door frame and are considered “commercial” washers.

⁴⁶ Petition, p. 11.

⁴⁷ Petition, p. 11.

Figure I-1
Top load washers



Source: Whirlpool. The washer on the left is more likely to contain an “agitator” as its means of moving clothes, water, and detergent around the basket whereas the washer on the right is more likely to contain an “impeller”.

Cleaning technology: agitator vs. impeller

A top load LRW contains either an agitator or an impeller, both of which facilitate the cleaning movement of clothes, water, and detergent inside the basket of the machine.⁴⁸ Figure I-2 presents an example of an agitator and an impeller.

⁴⁸ Petition, p. 12.

Figure I-2:
An example of an agitator and an impeller



Source: Whirlpool. An agitator (left). An impeller (right).

Agitator

An agitator is a center post that projects from the bottom of the wash basket and is equipped with fins or vanes that creates a washing action by rotating back and forth.

When a top load LRW with an agitator is set to clean a load of clothes, it first fills its tub with water and then creates the back and forth, washing motion through the use of its agitator. The force of the agitator and its motion tend to treat fabrics more harshly than LRWs with impellers, because the agitator often twists and tangles clothes. LRWs with agitators tend to use more water and more energy than LRWs with impellers because the agitator needs more water to operate effectively. They also generally spin clothes more slowly during the spin cycle, requiring longer use of a dryer and thus consuming more energy. Because of the higher water and electricity consumption used by LRWs with an agitator, they are less likely to meet energy standards for “high-efficiency” or meet the Energy Star standard, although some agitator-based LRWs have qualified for Energy Star certification. LRWs with an agitator generally occupy the “value” segment of the market at lower price points.⁴⁹ In anticipation of the more stringent energy standards, Whirlpool redesigned its agitator-based top load LRWs to utilize shallow fill technology and HE agitators (or “agi-pellers”), which combine aspects of agitators and impellers. Many of these LRWs, introduced in 2014, qualify for an Energy Star rating.⁵⁰

Impeller

An impeller is a somewhat flat, rotating hub which does not contain a center post. It creates washing motion by rotating and creating currents in the water. Due to the lack of a

⁴⁹ Petition, p. 12.

⁵⁰ Conference transcript, pp. 83, 100-102 (Tubman); Petitioner’s postconference brief, Answers to Staff Questions, p. 6.

center post, impellers occupy less space in the basket and consequently, top load LRWs with impellers generally have higher capacities than agitator-based LRWs.⁵¹

During the cleaning cycle of a top load LRW with an impeller, the tub fills only partly with water. Because so little water is used in the tub, a special detergent designated “HE” must be used. The HE detergent is formulated to create fewer suds thereby minimizing the water necessary to rinse. Top load LRWs with an impeller also spin at higher speeds than top load LRWs with an agitator, thereby extracting more water before clothes go into the dryer, and thus reducing energy consumption. Because of the lower water and electricity consumption, all LRWs with an impeller qualified as “high efficiency” and were Energy Star certified under the energy efficiency standards prior to March 7, 2015. Even after the more stringent energy efficiency standards became effective on March 7, 2015, these LRWs are more likely to meet high efficiency energy standards or meet the Energy Star standard, although all models currently do not.

Front load LRWs

Front load LRWs feature a front loading door for loading clothes and contains a drum that spins on a horizontal axis. (see Figure I-3). Front load LRWs are typically positioned at the premium end of the LRW market in terms of price and performance. They often come equipped with a broad variety of product features. The drums of front load LRWs fill only partly with water and clean clothes through a process of lifting them to the top of the tub and dropping them into the water by a “baffle” and using the centrifugal force of the spinning drum. Front load LRWs generally consume the least amount of water during the wash cycle and feature the fastest spinning speeds of all types of LRWs.⁵² Because of the lower water and electricity consumption, all front load LRWs qualified as “high efficiency” and were Energy Star certified under the energy efficiency standards prior to March 7, 2015. Even after the more stringent energy efficiency standards become effective on March 7, 2015, these LRWs are more likely to meet high efficiency energy standards or meet the Energy Star standard, although all models currently do not.

Generally, front load LRWs work most effectively with low-foaming, HE detergent. Most front load LRW load capacities are roughly equivalent to top load LRWs with an impeller but tend to have higher load capacities than top load LRWs with an agitator. Very fast spin cycles mean better moisture extraction compared even with top load LRWs with an impeller, thereby reducing drying time and energy consumption. However, front load LRWs have been reported to develop mold and odors because of moisture remaining in the drum. Although the industry appears to have addressed this issue with further product innovation, such as “dynamic venting technology,” this may cause some consumers to prefer top load LRWs to front load LRWs.⁵³

⁵¹ Petition, p. 12.

⁵² Petition, pp. 11-12.

⁵³ Mold accumulation can be mitigated in several ways including: (1) wiping the rubber seal dry with a towel and leaving the door ajar after a wash cycle; (2) using high-efficiency detergent, which leaves less soap residue in the tub; and (3) regularly running the cleaning cycle, per the instruction manual. Mifflin, “Caring For Your HE Washer and Preventing Mold Issues,” July 2012.

(continued...)

Figure I-3
Front load washer



Source: Whirlpool.

Product features

Product features have become increasingly prevalent in the LRW marketplace, and are seen by many manufacturers as a vehicle for maintaining competitiveness. These features can include energy efficiency, capacity, appearance (color, cabinet finishing, decorative elements, etc.), and new innovations such as noise reduction and steam cleaning. A number of the features of LRWs are explained below.

Energy efficiency

Consumers may prefer energy efficiency as a factor in buying LRWs not only because of the resulting lower utility bills, but also the availability of utility rebates, sales tax exemptions, and other state and federal tax credits that may exist with the purchase of certain energy-efficient certified home appliances.

(...continued)

Because of mold accumulation, class action litigation claiming design defects and breach of implied warranties has occurred involving many manufacturers of front load LRWs. See *In re Whirlpool Corp. Front-Loading Washer Prods. Liab. Litig.*; *In re LG Front Load Washing Machine Class Action Litigation*, No. 08-51(Dist. N.J.); *In re Samsung Front Load Washing Machine Class Action Litigation*, No. 12-cv-0541 (Dist. N.J.). In 2014, Whirlpool received a favorable jury verdict in one of these class action lawsuits, but settled the remaining litigation. <http://www.reuters.com/article/us-whirlpool-washers-verdict-idUSKBN0IJ25Y20141030> and <http://www.washersettlement.com/>, accessed December 14, 2016. LG also reached a settlement in its class action. <http://www.lgwashersettlement.com/>, accessed December 14, 2016.

Energy efficiency standards for LRWs are promulgated by three entities: (1) the Consortium for Energy Efficiency (“CEE”),⁵⁴ (2) the U.S. Environmental Protection Agency (“EPA”), and (3) the U.S. Department of Energy (“DOE”). All of these entities establish standards for identifying energy efficient LRWs based largely on two factors: (1) energy utilization and (2) water consumption of the washer. More specifically, energy utilization is calculated using the “integrated modified energy factor” (“IMEF”), which represents the number of cubic feet of laundry that can be washed with one kilowatt-hour of electricity taking into consideration the total energy consumption of the entire laundry cycle, which includes both washing and drying. The higher the IMEF number, the more laundry may be washed and dried with the same one kilowatt-hour of energy; and therefore, the higher the energy efficiency of the washer. Water consumption is calculated using the “integrated water factor” (“IWF”), which is defined as the gallons of water needed to wash each cubic foot of laundry.⁵⁵ The lower the IWF number the less water is used to clean each cubic foot of laundry; and therefore, the higher the water efficiency of the washer.

Based on the relative IMEF and IWF measures, the CEE categorizes LRWs into three tiers of energy efficiency, with the third tier reserved for the most energy efficient washers.

Also using IMEF and IWF measures, the EPA and the DOE assign the “Energy Star” classification to LRWs. In general, the EPA and DOE revise Energy Star standards periodically based on several factors, including changes to the Federal minimum efficiency standards,⁵⁶ technological advances which generate greater energy efficiencies, and product availability.⁵⁷ Additionally, the EPA may revise these standards when the market share for Energy Star rated LRWs reach or exceed 50 percent for a particular category of LRW.⁵⁸ The most recent change to the Energy Star energy efficiency standards occurred during the period of investigation and became effective March 7, 2015.⁵⁹

Table I-2 presents current and 2011 federal minimum, CEE and Energy Star energy efficiency standards. As shown in table I-2, the new efficiency standards that went into effect

⁵⁴ The CEE is a nonprofit agency that encourages greater adoption of energy-efficient products and services through the development of various initiatives. According to the CEE web site, members include utility companies, environmental groups, research organizations, and state energy offices in the United States and Canada. The agency also solicits input from manufacturers and both the U.S. Department of Energy and the Environmental Protection Agency. <https://www.cee1.org/content/about>, accessed January 19, 2016.

⁵⁵ Prior to March 2015, CEE and Energy Star standards were calculated using the “modified energy factor” (“MEF”), which represents the number of cubic feet of laundry that can be washed with one kilowatt-hour of electricity and the “water factor” (“WF”)—the gallons of water needed to wash each cubic foot of laundry. *Super Efficient Home Appliances Initiative*, CEE, 2014.

⁵⁶ Pursuant to the Energy Policy and Conservation Act of 1975, the U.S. Department of Energy (“DOE”) sets minimum energy efficiency standards for approximately 50 categories of appliances and equipment used in homes, businesses, and other applications, including LRWs. <http://energy.gov/eere/buildings/about-appliance-and-equipment-standards-program>, accessed January 19, 2016.

⁵⁷ <http://energy.gov/eere/buildings/energy-star>, accessed January 19, 2016.

⁵⁸ Ibid.

⁵⁹ Prior to March 7, 2015, Energy Star standards were revised effective January 1, 2011.

on March 7, 2015 required a dramatic increase in the efficiency of LRWs achieved in large part by a substantial decrease in the volume of water that can be used in the LRW wash and rinse cycles. These new efficiency standards have affected the way manufacturers produce top load washers⁶⁰ and have blurred the product categories that the Commission used in its prior LRWs investigations, which included conventional top load, high efficiency top load, and high efficiency front load.⁶¹

Table I-2
LRWs: Energy efficiency standards

Standard	Efficiency levels March 7, 2015 to present		Efficiency levels January 1, 2011 to March 6, 2015	
	IMEF	IWF	MEF	WF
Federal minimum—				
Top load	1.29	8.4	1.26	9.5
Front load	1.84	4.7	1.26	9.5
Energy Star—				
Top load	2.06	4.3	2.0	6.0
Front load	2.38	3.7	2.0	6.0
CEE Tier 1	2.38	3.7	2.0	6.0
CEE Tier 2	2.74	3.2	2.2	4.5
CEE Tier 3	2.92	3.2	2.4	4.0

Source: U.S. Department of Energy and *Super Efficient Home Initiative*, CEE.

Capacity

Capacity refers to the volume of clothes an LRW can wash per load. Capacity is among the most sought after features for consumers, especially for large households. Capacity ranges for different types of LRWs vary. For example, top load LRWs with an agitator feature the lowest capacity and range from 2.5-3.9 cubic feet (“cf.”), while the capacity of front load LRWs and top load LRWs with an impeller range from 3.3-4.3 cf. and 3.5-5.0 cf. of capacity,

⁶⁰ Petitioner stated that subsequent to the new efficiency standards, all of its top load washers must now use shallow fill technology for its standard wash cycle and be designed to use HE detergent. Because of these changes, Whirlpool currently uses either an “agipeller” (“HE agitator”) or an impeller in its top load washers. Whirlpool stated that under the new standards, many impeller-based top load LRWs, which would have qualified as Energy Star under the prior standards, do not currently qualify as Energy Star. Also, under the new standards, there are HE agitator-based units that currently qualify as Energy Star. Petitioner’s postconference brief, Answers to Staff Questions, p. 11.

Whirlpool reported that in anticipation of the more stringent standards, it invested \$*** in a new top load platform, which was introduced to the market in 2014. Petitioner’s postconference brief, Answers to Staff Questions, p. 6.

⁶¹ Petitioner’s postconference brief, p. 10. Petitioner argued that with the new energy efficiency standards blurring product lines, there is even more “cross-shopping” among the product categories than there was in the prior LRW investigations. *Ibid.*, p. 11.

respectively. The DOE requires manufacturers to certify and declare the capacity of their LRWs at the time of sale. Producers of LRWs are constantly attempting to increase the capacity of their LRWs. In 2014, Samsung began producing a 5.6 cf. LRW. Whirlpool stated that it currently has the largest capacity LRW on the market at 6.2 cf.

Appearance

The appearance of LRWs can vary greatly depending on what appeals to the market. Color, cabinet finish, and decorative elements are examples of LRW features that can differ. Respondents emphasized the innovations that they have developed which improved the appearance of its LRWs, including the introduction of various colors into the marketplace. Respondents stated that approximately 35 percent of their total LRW sales are color models.⁶² Petitioner disputed that claim and argued that the vast majority of LRWs, approximately *** percent are bought in white. It stated that color is not usually a significant factor for consumers given that washers are mostly placed in laundry rooms, basements, or utility closets.⁶³

Feature innovation and market exclusivity

All parties agreed that creating new features and improving on existing ones is an important component of maintaining competitiveness in the LRW market. All parties also observed that many product features and new technologies are quickly replicated by other producers. During the period of investigation, Whirlpool, LG, and Samsung all reported that they brought new innovative features to the LRW market. Table I-3 highlights some of the features claimed to be introduced first into the marketplace or offered exclusively by U.S. producers. Table I-4 presents features offered by LG and Samsung.

**Table I-3
LRWs: Feature innovation and market exclusive features reported by U.S. producers**

* * * * *

**Table I-4
LRWs: Feature innovation and market exclusive features reported by LG and Samsung**

* * * * *

⁶² Conference transcript, pp. 201-202 (Kim).
⁶³ Petitioner’s postconference brief, Answers to Staff Questions, p. 8 (citing white and color market segment data from the Commission’s prior LRW investigations).

Manufacturing Processes

Development of product platforms

Generally, the manufacture of LRWs begins with the design and production of a LRW “platform.” A platform is the basic frame from which multiple models are built with a variety of features.⁶⁴ All producers of LRWs, Whirlpool, GE, LG, and Samsung, reported using “platforms” to develop product models. Samsung and LG view platforms as encompassing a broad engineering design that may be developed around a research and design project.⁶⁵ A platform would have certain parameters for items such as drive systems, size, and design structure. Thus, models produced within a platform may have a particular width, such as 28 inches, but different features.⁶⁶

Whirlpool and GE stated that a platform is expected to last for an extended period of time, such as 10 to 20 years, or longer.⁶⁷ A platform may be upgraded during its lifecycle, once every 2 to 3 years, and even 5 years.⁶⁸ Samsung stated, and LG agreed, that a platform likely will have a lifecycle of 5 to 30 years, but may be upgraded every 2 to 5 years.⁶⁹

LRW manufacturers may have several platforms in operation at a given time. For example, Whirlpool has two to four platforms for its top load LRWs and one to two platforms for its front load LRWs.⁷⁰ New platforms will overlap the life of older platforms.⁷¹

Development of product models and “stock keeping units” (“SKUs”)

A “model” is an LRW defined by various features or functionality. Whirlpool, GE, LG, and Samsung agreed that a particular LRW model will typically have a lifecycle of 1-3 years.⁷²

Whirlpool, GE, LG, and Samsung noted that terms “model” and “SKU” are generally synonymous. Whirlpool noted, however, that a model might have more than one SKU because that model is produced in more than one location or in different colors.⁷³

⁶⁴ Petitioner’s postconference brief, Answers to Staff Questions, p. 17, GE’s postconference brief, pp. 5-6.

⁶⁵ Conference transcript, pp. 242–244 (Brindle and Herring).

⁶⁶ GE’s postconference brief, pp. 5-6.

⁶⁷ Petitioner’s postconference brief, p. 17, GE’s postconference brief, p. 6, conference transcript, p. 131 (Tubman).

⁶⁸ GE’s postconference brief, p. 6.

⁶⁹ Conference transcript, pp. 243–244 (Brindle and Herring).

⁷⁰ Conference transcript, p. 59 (Tubman).

⁷¹ Conference transcript, p. 61 (Tubman).

⁷² Petitioner’s postconference brief, p. 17, GE’s postconference brief, p. 6, conference transcript, pp. 241–242 (Brindle and Herring).

⁷³ Petitioner’s postconference brief, p. 17, GE’s postconference brief, pp. 5-6, conference transcript, pp. 242–244 (Brindle and Herring).

Production process

LRWs are typically mass produced in a production plant. Whirlpool produces all the LRWs that it sells in the United States in its Clyde, Ohio, manufacturing plant. Whirlpool stated that this plant is the largest in the world and covers 2.4 million square feet.⁷⁴

Whirlpool stated that all LRW producers use the same manufacturing technology and processes.⁷⁵ LRWs are produced through several distinct manufacturing processes that involve a wide variety of materials, which may be purchased in large quantities as cut, shaped, or painted pieces, or as component systems. Whirlpool listed nine separate modules or sub-assemblies in a LRW.⁷⁶ The components for each module originate within five areas in the petitioner's production plant, including materials receiving, cabinet assembly, fabrication support, plastics forming, and machining.⁷⁷

⁷⁴ Conference transcript, pp. 23–24 (Liotine).

⁷⁵ Petition, p. 18.

⁷⁶ The petitioner lists nine of these modules: the cabinet assembly; the drive system, which includes motors, gears, and shafts, and is commonly purchased from specialty manufacturers; the wash system, which joins the fabricated steel basket (drum) and the plastic tub together; the control system; the exterior features; the interior features; literature; labels; and packaging. Petition, pp. 18-20.

⁷⁷ Petition, p. 18.

Figure I-4

Production processes for LRWs

Operations in the plant

- Materials receiving
- Cabinet forming
- Fabrication support: blanking, stamping, and forging of metal; and machining of metal bar stock
- Plastics forming



LRW modules

- Cabinetry
- Drive system
- Wash system
- Control system
- Exterior features
- Interior features
- Literature
- Labels
- Packaging



Assembly line



Finished LRW ready for shipping

Source: Compiled by USITC staff from Petition, pp. 18–20.

First, the materials department receives all purchased materials, including raw materials and purchased components, including pre-stamped metal blanks, injection molded parts, electrical subassemblies, printed literature and labels, and packaging materials. Then, the materials department will maintain inventories and deliver material to the appropriate fabrication department or directly to the assembly line.⁷⁸

During the cabinet assembly stage, the exterior metal shell of the washer is created, including the top, lid, and door. Raw metal blanks, which are formed from steel coils, are then stamped and assembled. Some components are often pre-fabricated in the fabrication support department before being delivered to the cabinet assemblers. Cabinets and lids are then fabricated and processed through the paint department. Completed, painted cabinets and lids

⁷⁸ Petition, p. 18.

are then delivered to the final assembly lines. Washer doors are typically purchased as an assembly and delivered to the assembly line to be attached to the cabinet.⁷⁹

Next, the fabrication support department processes raw materials such as steel bar stock and coil sheet steel. Purchased steel bar stock is formed and machined into components of the wash systems and drive. Cold-rolled sheet steel is cut to the appropriate size, stamped, and formed using custom dies designed by the petitioner. The formed parts are cleaned and painted as necessary. Such fabricated steel components are used in the cabinet, drive and the wash unit assembly.⁸⁰

The plastics forming department processes raw plastic pellets or granules primarily into the plastic tubs used for the wash unit modules. The granules are melted and then injected into plastic molding equipment. The equipment uses molds to obtain the required geometry. Once the tubs are created through this process, they are delivered to the final assembly departments.⁸¹

The wash system module consists of a basket (drum) and plastic tube joined together. This combines products from the fabrication and the plastics forming operations. The shell of the basket is made of steel that is stamped to shape and welded together. The fabrication of the basket is automated. The metal shell of the basket is fastened to the tube and shell to form the wash module.⁸²

LRW modules are designed in-house in Whirlpool and then produced by specialty producers. These include the drive system, LRW controls, literature, and labels. The drive system components, which includes the motor, transmission, seals, metal, and plastic housings, are designed and sized by Whirlpool engineers. These components are purchased from specialized producers and then fabricated in other departments.⁸³

The controls, as well as interior and exterior feature components are designed by Whirlpool engineers and then supplied by specialty manufacturers. The company owns the dies for all feature components. Whirlpool also designs its own electronics hardware and software and then contracts with global suppliers for the production of electronic devices and assemblies.⁸⁴

The final assembly consists of integrating the purchased parts and the self-produced subassemblies on an assembly line. All components are presented to the assembly line, which include the cabinet, wash unit, drive, control systems, interior and exterior features, literature, labels, and packaging. All these components are assembled in a defined order to construct the finished washer. The final product undergoes testing and inspection and is visually inspected for fit and finish.⁸⁵

The finished and inspected product is then transferred to the packaging area where labels are applied, literature is included, and the washer is packaged. Before the unit is

⁷⁹ Petition, p. 19.

⁸⁰ Petition, p. 19.

⁸¹ Petition, p. 19.

⁸² Petition, p. 20.

⁸³ Petition, p. 19.

⁸⁴ Petition, p. 20.

⁸⁵ Petition, p. 20.

automatically shrink-wrapped or packaged in a corrugated box, an external protective packaging is applied manually to the unit. The packaged unit is then shipped to a distribution center.⁸⁶

DOMESTIC LIKE PRODUCT ISSUES

Domestic like product issues in the Commission's prior LRWs investigations

In the prior LRWs investigations, the Commission addressed two issues with regard to the definition of the domestic like product.⁸⁷ The first issue, raised by respondents in the preliminary phase, was whether conventional top load LRWs, high efficiency front load LRWs, and high efficiency top load LRWs should be considered three separate domestic like products. The second issue, raised in the final phase investigations as a result of petitioner's amendment of the scope definition, was whether to include top load washers with a capacity of less than 3.7 cubic feet in the definition of the domestic like product after those products had been excluded from the scope. Each issue is discussed below.

Whether CTL, HEFL, and HETL LRWs are separate domestic like products

During the preliminary phase of the prior investigations, respondent Samsung argued that the Commission should find three separate domestic like products: (1) conventional top load LRWs with agitators ("CTL"); (2) high-efficiency front load LRWs ("HEFL"), which do not have agitators; and (3) high efficiency top load LRWs ("HETL"), which also do not have agitators. The Commission defined a single domestic like product encompassing all LRWs within the scope of the investigations and stated:

{W}e find that, on balance, the preponderance of similarities over differences among CTL, HETL, and HEFL LRWs supports the definition of a single domestic like product that is coextensive with the scope of the investigations. All three types of LRWs overlap significantly in terms of their physical characteristics and uses; manufacturing facilities, processes, and employees; and channels of distribution. HETL and HEFL LRWs also overlap significantly in terms of interchangeability and customer and producer perceptions. Price is the factor that might suggest three domestic like products, but even with respect to price there is some overlap. For these reasons, we define a single domestic like product

⁸⁶ Petition, pp. 20–21.

⁸⁷ In the preliminary phase of this investigation, the Commission did not revisit the domestic like product issues presented in the prior LRW investigations. *Large Residential Washers from China*, Inv. No. 731-TA-1306 (Preliminary), USITC Pub. 4591 (February 2016), pp. 4-10.

*encompassing all LRWs within the scope of the investigations for purposes of the preliminary phase of the investigations.*⁸⁸

In the final phase of the prior investigations, the Commission again found a single domestic like product and stated that there was “no new information on the record of the final phase of the investigations that would warrant reconsideration of our previous finding that there is no clear dividing line separating CTL, HETL, and HEFL washers within the amended scope.”⁸⁹

Whether top-load washers with a capacity of less than 3.7 cubic feet should be included in the definition of the domestic like product

Before the commencement of the Commission’s prior final phase investigations, the petitioner amended the scope to exclude top-load washers with a capacity of less than 3.7 cubic feet. During the final phase of its investigations, the Commission considered the relevance of the amended scope to its definition of the domestic like product.⁹⁰ The Commission again defined the domestic like product as all LRWs and included top-load washers with a capacity of less than 3.7 cubic feet. The Commission stated:

The record indicates a preponderance of similarities between top-load washers with a capacity of less than 3.7 cubic feet and LRWs described by the amended scope. Top-load washers with a capacity of less than 3.7 cubic feet and LRWs are generally interchangeable and similar in terms of their physical characteristics and uses; manufacturing facilities, processes, and employees; channels of distribution; and customer and producer perceptions. They generally differ from LRWs in terms of price, and even with respect to this factor there is overlap. Given the absence of any clear dividing line separating domestically produced top-load washers with a capacity less than 3.7 cubic feet from those with larger capacity, we define the domestic like product to include both LRWs as described by the

⁸⁸ *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Preliminary)*, Publication No. 4306 (February 2012), p. 9.

⁸⁹ *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378 (February 2013), p. 8.

⁹⁰ *See, Part I, Scope of this investigation vs. scope of the prior investigation on LRWs, supra.*

During the final phase of the prior investigations, respondents Electrolux, Home Depot, LG, and Samsung argued that the Commission should find a single like product comprising LRWs as originally defined in the petition (including top load washers under 3.7 cubic feet in capacity. *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*—Staff Report, INV-LL-005, January 10, 2013), p. I-22; *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378 (February 2013), p. 7.

*scope definition, and top-load washers with a capacity of less than 3.7 cubic feet.*⁹¹

Domestic Like Product Issues in the Current LRWs Investigation

LRWs vs. top load residential washers with PCS/Belt/Clutch

Petitioner argued that the Commission should find one domestic like product that is co-extensive with the scope of the investigation as defined by Commerce.⁹² Respondents Samsung and LG argued that the Commission should define the domestic like product as the Commission did in its prior investigations and thereby expand the definition of the domestic like product to include the three exclusions that petitioner listed in the scope definition, namely (1) top load residential washers with PCS/Belt/Clutch (known in the preliminary phase as “top load ‘low tech’ residential washers”), (2) front load residential washers with CIM/Belt (known in the preliminary phase as “front load ‘low tech’ residential washers”), and (3) “extra wide” residential washers.⁹³ In their view, the excluded washers exist within the continuum of LRWs and that there is substantial overlap in physical characteristics and uses, interchangeability, channels of distribution, customer and producer perceptions of the products, common manufacturing facilities, production processes, and production employees, and price.⁹⁴ Petitioner stated that it sought these exclusions because they believed that washer models fitting these definitions are not produced in the United States, while conceding that if there is indeed U.S. production of the excluded products then they are properly included in the definition of the domestic like product because there is no clear dividing line between such products and LRWs as currently defined in the scope of this investigation.⁹⁵ Petitioner estimated that none of the exclusions accounted for more than 0.5 percent of apparent domestic consumption in any given year during the period of investigation.⁹⁶ Respondents contested this assertion and stated that even the limited data on the record show that these excluded washers are a material and significant factor in the market.⁹⁷

In the preliminary phase of this investigation, the Commission inquired whether U.S. producers manufactured top load residential washers with PCS/Belt/Clutch or front load

⁹¹ *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378 (February 2013), p. 11.

⁹² Petition, p. 36; Petitioner’s postconference brief, p. 21; Petitioner’s prehearing brief, pp. 11-15.

⁹³ Respondents’ postconference brief, pp. 4-17; Respondents’ prehearing brief, p. 9.

⁹⁴ *Ibid.*

⁹⁵ Petitioner’s postconference brief, p. 21; Petitioner’s prehearing brief, pp. 14-15. Petitioner stated that its pre-petition market research showed that the largest U.S. producers of LRWs during the period of investigation, Whirlpool and GE, did not produce these excluded products. Petitioner did not concede, however, that the issue of whether the domestic industry produces the excluded products is immaterial to the Commission’s domestic like product analysis. *Ibid.*

⁹⁶ Petitioner’s postconference brief, “Answers to Staff Questions,” p. 8; Petitioner’s prehearing brief, pp. 14-15.

⁹⁷ Respondents’ postconference brief, p. 6; Respondents’ prehearing brief, p. 9.

residential washers with CIM/Belt in the United States during the period of investigation.⁹⁸ ***.
⁹⁹ Although ***, its reported production, share of U.S. production, and share of U.S. apparent consumption of front load residential washers with CIM/Belt, which it reported in the preliminary phase, are presented in table I-5. As shown, from 2012 to January-September 2015, U.S. production of front load residential washers with CIM/Belt never exceeded *** percent of total U.S production or *** percent of total apparent U.S. consumption of LRWs.¹⁰⁰

Table I-5

LRWs: * production of *** and ratios to U.S. production of LRWs and U.S. apparent consumption of LRWs, 2012-14, January-September 2014, and January-September 2015**

* * * * *

In its preliminary views, the Commission did include front load residential washers with CIM/Belt in the definition of the domestic like product, but did not include top load residential washers with PCS/Belt/Clutch. As the Commission explained:

On balance, the record of the preliminary phase of this investigation indicates that there is no clear dividing line between out-of-scope low tech front load washers and in-scope LRWs. We therefore define the domestic like product to include out-of-scope low tech front load washers.

We do not include out-of-scope low tech top load washers and front load extra-wide washers in the domestic like product, however. The record indicates that such washers are not produced domestically . . . Absent evidence of domestic production of such washers, we have no basis for determining whether a clear dividing line separates domestically produced out-of-scope low tech and front load extra-wide washers from in-scope LRWs in terms of our like product factors, and, in any event, under these circumstances, inclusion or exclusion can have no impact on the Commission’s determination in this investigation. Consequently, we define a single domestic like product consisting of all LRWs within the scope of the investigation and low tech front load washers excluded from

⁹⁸ In the preliminary phase, the Commission did not request any data regarding “extra wide” residential washers.

⁹⁹ U.S. producer questionnaire of ***, questions II-3a and II-5 (Preliminary).

¹⁰⁰ Because of the ***, U.S. industry data throughout the report, other than table I-4, will not include data pertaining to front load residential washers with CIM/Belt.

*the scope definition, but not low tech top load washers and front load extra-wide washers excluded from the scope definition.*¹⁰¹

In the final phase of this investigation, respondents LG and Samsung requested that the Commission collect data regarding out-of-scope U.S. imports of LRWs and stated that these U.S. imports compete directly with in-scope LRWs, and are thus an important condition of competition in the U.S. market.¹⁰² The Commission collected data on the quantity and value of U.S. imports of out-of-scope LRWs, including (1) top load residential washers with PCS/Belt/Clutch, (2) front load residential washers with CIM/Belt, and (3) “extra wide” residential washers. These data are presented in table I-6. The majority of U.S. imports of out-of-scope LRWs from both China and all other sources consisted of front load residential washers with CIM/Belt. In 2015, U.S. imports of these products accounted for *** percent of total U.S. imports from China and *** percent¹⁰³ of U.S. imports from all other sources. ***.

Table I-6

LRWs: U.S. imports of LRWs excluded from Commerce’s scope of this investigation, 2013-15, January-June 2015, and January-June 2016

* * * * *

Finished LRWs vs. “certain parts thereof”

As defined by Commerce, the scope of the investigation includes finished LRWs and certain parts designed for use in the production of large residential washers, including: (1) cabinets, (2) assembled tubs, (3) assembled baskets, and (4) any combination of the foregoing parts or subassemblies.¹⁰⁴ In the final phase of this investigation, respondents LG and Samsung argued that these “certain parts thereof” (hereinafter “parts”) are distinct from finished LRWs and therefore, the Commission should find that parts and finished LRWs constitute separate domestic like products.¹⁰⁵

Using the Commission’s traditional six-factor like product analysis,¹⁰⁶ respondents argued that the physical characteristics and uses of parts and finished LRWs are undeniably

¹⁰¹ *Large Residential Washers from China*, Inv. No. 731-TA-1306 (Preliminary), USITC Pub. 4591 (February 2016), p. 10.

¹⁰² *LG and Samsung Comments on Draft Questionnaires*, August 23, 2016, p. 9.

¹⁰³ ***.

¹⁰⁴ *Large Residential Washers From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 81 FR 90776, December 15, 2016.

¹⁰⁵ Respondents’ prehearing brief, pp. 9-16; Respondents’ posthearing brief, attachment A, pp. 33-35.

¹⁰⁶ In its traditional six factor like product analysis, the Commission generally considers the following factors: (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.

different as parts may not be used to wash clothes, which is the ultimate use of a finished LRW. They also maintained that finished LRWs and parts are not interchangeable as purchasers do not buy parts for the same reasons that they purchase finished LRWs. Moreover, they claimed that the channels of distribution differ in that parts may be distributed into a “repair” market and that customers perceive the products differently and not as competing products. Respondents argued that the production processes differ because finished LRWs go through an assembly process whereas parts are more likely to use an injection molding or metal stamping production process. Finally, respondents observed that the prices of parts were much less than the price of finished LRWs.¹⁰⁷

Using the Commission’s semi-finished product analysis,¹⁰⁸ respondents stated that parts are not wholly dedicated to the production of LRWs as evidenced by the existence of an independent “repair” market for LRWs. Further, they argued that parts do not embody the essence of a finished LRW and that the parts do not account for a substantial portion of the cost to produce a finished LRW.¹⁰⁹

Petitioner argued that using what it deems to be the proper legal test, the Commission’s semi-finished product analysis,¹¹⁰ the Commission should find one domestic like product corresponding with Commerce’s scope definition, which includes both parts and finished LRWs.¹¹¹ Petitioner argued that the most significant factor in the analysis should be whether parts are predominately used in the production of finished LRWs. It maintained that there is no significant, independent domestic market for parts as virtually all parts are dedicated to the production of LRWs. It cited that even respondents conceded that any separate “repair” market would be very limited due to the lack of interchangeability and competition between manufacturers’ parts. Further, petitioner argued that parts and finished LRWs share many physical characteristics and that parts account for a large share of the cost to produce a finished LRW.¹¹²

¹⁰⁷ Respondents’ prehearing brief, pp. 9-13.

¹⁰⁸ In a semi-finished product analysis, the Commission examines: (1) whether the upstream article is dedicated to the production of the downstream article or has independent uses; (2) whether there are perceived to be separate markets for the upstream and downstream articles; (3) differences in the physical characteristics and functions of the upstream and downstream articles; (4) differences in the costs or value of the vertically differentiated articles; and (5) significance and extent of the processes used to transform the upstream into the downstream articles.

¹⁰⁹ Respondents’ prehearing brief, pp. 9-16; Respondents’ posthearing brief, attachment A, pp. 33-35. Respondents stated that a tub may account for *** percent of the cost of a finished LRW whereas a basket may account for *** percent of the total cost. Respondents’ prehearing brief, pp. 14-15.

¹¹⁰ Respondents stated that they do not believe that the Commission’s semi-finished products analysis applies in this instance because “parts, individually or collectively, are not made into washers in a continuous line of production, do not comprise most of the washer, do not account for most of the cost of a washer, and do not provide the essence of a washer.” Respondents’ posthearing brief, attachment A, p. 33.

¹¹¹ Petitioner’s posthearing brief, pp. II-1-II-5.

¹¹² *Ibid.*

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

U.S. MARKET CHARACTERISTICS

Most sales of LRWs are directly to retailers.¹ Five large national appliance retailers (Best Buy, Home Depot, HH Gregg, Lowe's, and Sears) account for more than two-thirds of sales of LRWs in the United States.^{2 3} Sears' share of the LRW market reportedly has declined but it remains as one of largest retailers.⁴ There are also a large number of smaller retailers of LRWs, many of which belong to one of the four or five major buyer groups that negotiate prices for groups of these smaller retailers.^{5 6} Retailers tend to market and display a variety of LRWs, from more basic models to higher end models, and both front load and top load models, as well as a variety of brands. Retailers' sales of LRWs are concentrated around promotional holiday periods.

Most sales in the U.S. market are of manufacturers' own brands. However, original equipment manufacturer (OEM) sales, ***, account for approximately 15 percent of LRW purchases.⁷ In-store sales continue to dominate online purchases, although many consumers research prices, quality, and features online before going to the store.⁸

Apparent U.S. consumption of LRWs increased during 2013-15, and showed continued growth during the 2016 interim period. Overall, apparent U.S. consumption of LRWs in 2015 was *** percent higher than in 2013, on a unit basis, and *** percent higher on a value basis.

¹ Competition in the U.S. market occurs at two levels of trade: sales by domestic producers and importers to retailer/distributors and sales by retailers to consumers.

² Petition, p. 40. These five retailers accounted for approximately 86 percent of reported total U.S. purchases in 2015. ***. ***. Home Depot added Samsung in December 2012, and LG started selling to Lowe's in 2013. Conference transcript, p. 152 (Brindle) and pp. 172-173 (Toohey).

³ Total purchases of LRWs in 2015 reported by the top retailers were as follows: ***.

⁴ LG reported that Sears' share of the total appliance market (including washers) declined from 31.1 percent to 24.8 percent between September 2012 and 2015, according to Stevenson Company data. Conference transcript, p. 45 (Liotine). However, ***.

⁵ Conference transcript, p. 39 (Liotine).

⁶ One buyer group, ***, reported total purchases of LRWs for all of its members in its questionnaire response, which accounted for *** percent of reported total purchases in 2015. Based on the ***.

⁷ Petition p. 46. Petitioner reported that Whirlpool is the principal supplier of Kenmore top-loads; LG is the principal, but not exclusive, supplier of Kenmore front-loads; and Electrolux may supply lower-end Kenmore models. Conference transcript, p. 129 (Levy). Samsung reported that it hasn't participated in bids to Sears Kenmore since early 2012. Conference transcript, p. 240 (Brindle). GE reported that ***. GE's postconference brief, p. 5.

⁸ Online sales are less than 10 percent of total sales. This percentage includes "brick and click" in which the customer shopped at the store, but then purchased online. Whirlpool estimated that online sales from retailers that don't have a physical brick and mortar location account for less than three percent of total sales. Hearing transcript, pp. 69-70 (Fettig and Liotine).

Innovation leaders

Many market participants alleged that innovation plays a major role in the LRW market with purchasers citing features as one of the top factors in purchasing decisions. Both Whirlpool and respondents LG and Samsung claim to have led innovation in LRWs. Whirlpool claims to have first brought to the market a number of innovations in design, advanced technology, convenience, and performance.⁹ Respondents assert that LG and Samsung have led in LRW innovation, and that Whirlpool has been a follower.¹⁰

U.S. producers and importers were asked to identify product features that their firms had added since January 1, 2013. All U.S. producers and importers described an extensive list of innovations to their products during this period.¹¹ *** cited its smart detergent dispenser, steam clean in top load washers, stain removal settings, and the ability for the washer to preset dryer controls. *** cited its ***. *** provided a long list of its own recent innovations, including a bulk detergent dispenser, dynamic venting technology, NEST connected technology, largest capacity at 6.2 cu ft., and adaptive wash. *** cited its larger capacity, built-in sink for pre-treating clothes (***), ability to add wash after cycle has started (***), and super speed wash cycle. *** cited its twin wash system, extra wide size washer, and front control on a top load washer. *** cited its concentrated multiple water pump recirculation.

Purchasers were asked to identify suppliers that they considered innovation leaders in the LRW market since January 1, 2013. An innovation leader was defined as a firm that initiated technological or quality improvements that mattered to the purchaser and/or its customers. Most purchasers named at least two innovation leaders. Samsung was named by 17 purchasers, LG by 16, Whirlpool by 13, and GE by 6. Purchasers described Samsung as leading in both style and features, including color, size, smart diagnosis, and vibration control.¹² LG was described as leading in both design and features including large capacity, pedestal design, and twin wash. Whirlpool was described as leading in top load platform, largest capacity, top consumer rating, and also for features including Load and Go and fan fresh. GE was described as leading in capacity size and connected appliances.

*** were among purchasers describing only LG and/or Samsung as innovation leaders, while *** were among those describing only Whirlpool and/or GE as innovation leaders. *** were among the purchasers describing Whirlpool, LG and Samsung as innovation leaders.

⁹ Petitioners list these innovations in their postconference brief at exhibit 8. Hearing transcript, pp. 50-56 (Tubman).

¹⁰ Respondents' postconference brief, pp. 27-32. Hearing transcript, pp. 154-155 (Toohey) and pp. 175-178 (Thompson).

¹¹ See Tables I-3 and I-4 in *Part I* of this report for an extensive list reported by U.S. producers and importers.

¹² Five purchasers cited Samsung's AddWash and Activewash features.

U.S. PURCHASERS

The Commission received 30 usable questionnaire responses from firms that purchased LRWs since January 1, 2013, including *** as well as ***.^{13 14} Twenty-one responding purchasers are retailers, seven are distributors, two are contractors/builders, two are buying cooperatives, and one is a rental-to-own firm. Distributors sell to retailers, but one distributor reported sales to multi-residence facilities (including hotels and institutions).

Seventeen of 26 responding purchasers reported that their firm sells to contractors/housing developers. Purchasers reported that they sold 200,035 units of domestically produced LRWs and 45,479 units of Chinese produced LRWs to contractors/housing developers in 2015. These reported sales of LRWs to contractors/housing developers accounted for a small share of reported total purchases in 2015.¹⁵

Fifteen of 26 responding purchasers reported that they did not compete for sales with their suppliers, but eleven did, citing manufacturers' direct sales to consumers. Five purchasers reported that they compete directly with either GE or Whirlpool and one purchaser reported that it competes with Samsung employees ***. *** reported purchasing LRWs for resale under *** own brand, ***. *** reported that it has a commercial sales team and a builder/distributor company that competes with manufacturers for sales to builders/contractors.

CHANNELS OF DISTRIBUTION

U.S. producers and importers generally sell LRWs to distributors, retailers, buying groups, home builders/contractors, and to end users or final consumers.¹⁶ However, sales to retailers are the dominant channel of distribution (table II-1). U.S. producers sold to all five channels of distribution, but sold primarily to retailers during the period of investigation. U.S. importers of LRWs from China sold to retailers, distributors, and buying groups during 2013-15, with approximately *** percent of their commercial shipments sold to retailers. U.S. importers of LRWs from all other sources sold to four channels of distribution, but sold primarily to retailers during the period of investigation.

Table II-1

LRW: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, 2013-2015, January-June 2015, and January-June 2016

* * * * *

¹³ ***.

¹⁴ Of the 30 responding purchasers, 30 purchased domestic LRWs, 24 purchased imports of the subject merchandise from China, and 21 purchased imports of LRWs from other sources.

¹⁵ Purchasers' sales of LRWs to contractors/housing developers represented 5.0 percent of total reported domestic purchases and 1.9 percent of total reported Chinese purchases in 2015.

¹⁶ Buying groups do not directly purchase LRWs; rather, the individual members (i.e., retailers or distributors) purchase LRWs. Whirlpool's prehearing brief, p. 16, fn. 56.

GEOGRAPHIC DISTRIBUTION

U.S. producers and importers sell LRWs to all regions in the United States using a tiered distribution network (table II-2).¹⁷ For U.S. producers, *** percent of sales were within 100 miles of their factory or storage facility, *** percent were between 101 and 500 miles, *** percent were between 501 to 999 miles, and *** percent were over 1,000 miles. Importers sold *** percent within 100 miles of their U.S. point of importation or storage facility, *** percent between 101 and 500, *** percent were between 501 to 999 miles, and *** percent over 1,000 miles.

Table II-2

LRWs: Geographic market areas in the United States served by U.S. producers and importers

Region	U.S. producers	Importers
Northeast	3	2
Midwest	3	2
Southeast	3	2
Central Southwest	3	2
Mountain	3	2
Pacific Coast	3	2
Other ¹	3	2
All regions (except Other)	3	2
Reporting firms	3	2

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

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

SUPPLY AND DEMAND CONSIDERATIONS

U.S. supply

Based on available information, U.S. producers of LRWs¹⁸ have the ability to respond to changes in demand with moderately-large to large changes in the quantity of shipments of U.S.-produced LRWs to the U.S. market. The main contributing factor to this degree of

¹⁷ Whirlpool and GE’s distribution network consists of shipments from their factory, regional distribution centers, and local distribution centers. LG and Samsung ship LRWs from China to their port of entry (or directly to a customer) and regional distribution centers. According to respondents, Whirlpool has ***; and GE has *** in the United States. Respondents reported that Samsung has ***. LG has ***. Respondents alleged that because of their different distribution networks, imports have difficulty serving the contractor/home builder segment which requires shorter delivery times. Respondents’ prehearing brief, pp. 32-33 and exhibit 9.

¹⁸ There are three U.S. producers of LRWs: Whirlpool, GE, and Staber.

responsiveness of supply is the availability of unused capacity combined with some export shipments and inventories.

Industry capacity

Domestic capacity utilization increased from *** percent in 2013 to *** percent in 2014 before declining to *** percent in 2015, as a result of fluctuating industry capacity. This moderately low level of capacity utilization suggests that U.S. producers may have a substantial ability to increase production of LRWs in response to an increase in prices.

Alternative markets

U.S. producers' exports, as a percentage of total shipments, decreased from *** percent in 2013 to *** percent in 2015, reflecting increased U.S. shipments. This level of exports indicates that U.S. producers may have some ability to shift shipments between the U.S. market and other markets in response to price changes. ***. ***.

Inventory levels

U.S. producers' inventories, as a ratio to U.S. shipments, declined from *** percent in 2013 to *** percent in 2015. These inventory levels suggest that U.S. producers may have limited ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

*** U.S. producers stated that they could switch production from LRWs to other products, although these products might have lower demand. ***. ***. ***.

Subject imports from China¹⁹

Based on available information, producers of LRWs from China have the ability to respond to changes in demand with small-to-moderate changes in the quantity of shipments of LRWs to the U.S. market. The main contributing factors to this degree of responsiveness are the ability to produce other products, constrained by limited available capacity, small inventories, and a relatively small percentage of shipments to non-U.S. markets.

¹⁹ The Commission received questionnaire responses from three Chinese producers, LG, Samsung Electronics, and Samsung –Export. The exports of these three firms accounted for *** of LRW imports from China.

Industry capacity

Chinese producers' capacity utilization increased from *** percent in 2013 to *** percent in 2015, with both industry capacity and production increasing over this period. This relatively high level of capacity utilization suggests that Chinese producers may have a limited ability to increase production of LRWs in response to an increase in prices.

Alternative markets

The U.S. market was the largest market for Chinese producers, with the share of total shipments to the U.S. market increasing from *** percent in 2013 to *** percent in 2015. Chinese producers' other shipments were predominantly to other export markets with less than *** percent sold to their home market. This level of exports indicates that Chinese producers may have some ability to shift shipments between the U.S. market and other markets in response to price changes. ***.

Inventory levels

Chinese producers' inventories, as a ratio to total shipments, decreased from *** percent in 2013 to *** percent in 2015. These inventory levels suggest that Chinese producers may have limited ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

*** Chinese producers stated that they could switch production from LRWs to other products. ***. ***.

Nonsubject imports

Nonsubject imports were *** percent of the U.S. market in 2015. The largest sources of nonsubject imports during January 2013-June 2016 were Korea and Mexico.

Supply constraints

Most firms reported no supply constraints since January 1, 2013. *** reported that a particular model may experience longer delivery times when sales of that model exceed retailers' forecasted demand provided by its retail customers. ***. *** reported allocations during April-June 2013 and March-August 2015 because demand for its new products exceeded forecasts. In particular, it reported extended delivery periods and back orders ***. ***.²⁰

²⁰ ***.

Most purchasers (24 of 30) reported no supply constraints for LRWs from any source. *** reported experiencing availability issues with all of their vendors as a result of exceeding their original forecasted demand. **. *** reported delays in order fulfillment but did not specify the vendor or source. *** noted that all suppliers have occasional availability issues. *** reported allocations from Korean companies.

The overwhelming majority of purchasers reported that the availability of LWRs from all sources has not changed since January 1, 2013. *** indicated that there's been an increase in supply of U.S.-produced and Chinese LRWs. *** stated that there have been fluctuations in supply and demand and occasional supply chain disruptions affecting the availability of both domestic and Chinese LRWs. Three purchasers (***) reported that there has been an increase in the supply of LRWs imported from China. *** also stated that LG and Samsung have increased their presence and sales to the home builder industry.

New suppliers

Five of 30 purchasers indicated that new suppliers entered the U.S. market since January 1, 2013. Purchasers cited Haier (through its acquisition of GE Appliances), Hisense, and Midea. Purchaser *** cited LG and Samsung and stated that Samsung has shown interest in working with the builder market.

Product changes

*** stated that there had been no significant changes in the product range, mix or marketing of LWRs since January 1, 2013; however, *** stated that there had been changes in the market including the introduction of larger capacity top load machines.²¹ *** reported that capacity is the most important feature for consumers. *** reported that larger capacity machines and top load models with impeller wash systems have become a larger percentage of the top load market. *** reported that the Department of Energy implemented new regulations March 2015 which increased both the minimum efficiency standards for all LRWs and the efficiency standards required for Energy Star certification, decreasing both the volume of water and the energy level that can be used. In response, *** reengineered its top load washers in order to meet the new standards. *** reported several changes including consumers shifting from front load to top load machines,²² feature innovations, reduced demand for conventional washers,²³ the decline in Sears' share of the appliance market, and continued product line expansion at Home Depot and Lowe's. New feature innovations cited by *** were higher-capacity extra-wide washers, front control top load, faster wash cycles, and high efficiency top load washers.

²¹ ***.

²² ***.

²³ ***.

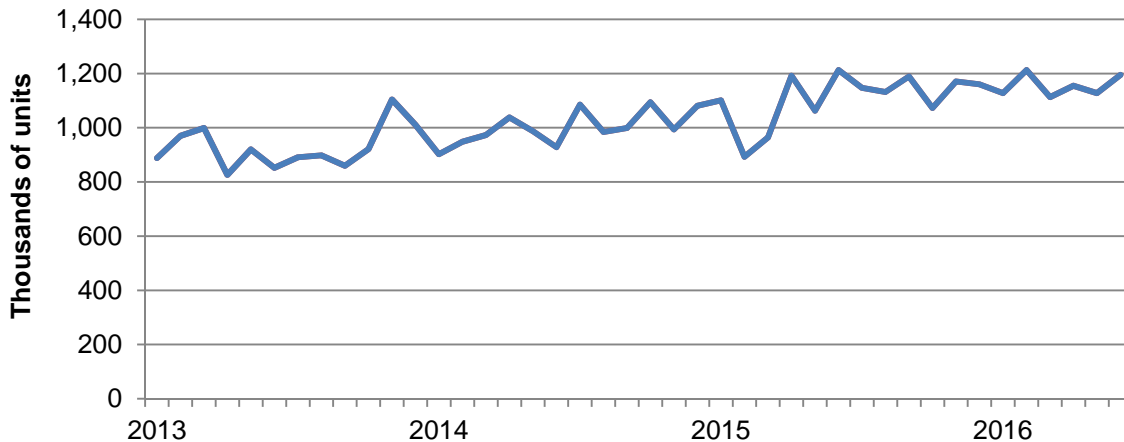
U.S. demand

Based on available information, demand for LRWs is likely to exhibit small-to-moderate changes in response to changes in price. While the majority of LRW purchases are to replace existing units that have reached the end of their product life, there is a smaller share that are initial purchases for a new home as well as some discretionary purchases.²⁴ About two-thirds of LRW purchases are to replace an existing washer, and the remainder is related to home sales, renovations, and new construction, although the percentage of new versus replacement purchases varies depending on the housing market.²⁵ LRWs reportedly have a 7 to 10 year lifespan.²⁶

The U.S. housing market improved during the period of investigation. U.S. housing starts increased by 34.6 percent from January 2013 to June 2016 (figure II-1). Existing home sales also trended upwards, increasing by 13.2 percent from January 2013 to June 2016 (figure II-2). Similarly, home remodeling also increased, with the remodeling market index increasing by 11 percent between first quarter 2013 and third quarter 2016.²⁷

Figure II-1

U.S. housing starts: New privately owned housing units started, monthly, seasonally adjusted annual rate, January 2013-June 2016



Source: U.S. Census Bureau, http://www.census.gov/construction/nrc/historical_data/index.html, retrieved October 27, 2016.

²⁴ ***. Respondents' postconference brief, p. 32 In Samsung shopper research ("Path to Purchase" study) from the third quarter of 2015, *** percent of all laundry appliance purchases were discretionary. Reasons cited by consumers for discretionary purchases were that ***. Respondents' posthearing brief, .p7 and exhibit 11.

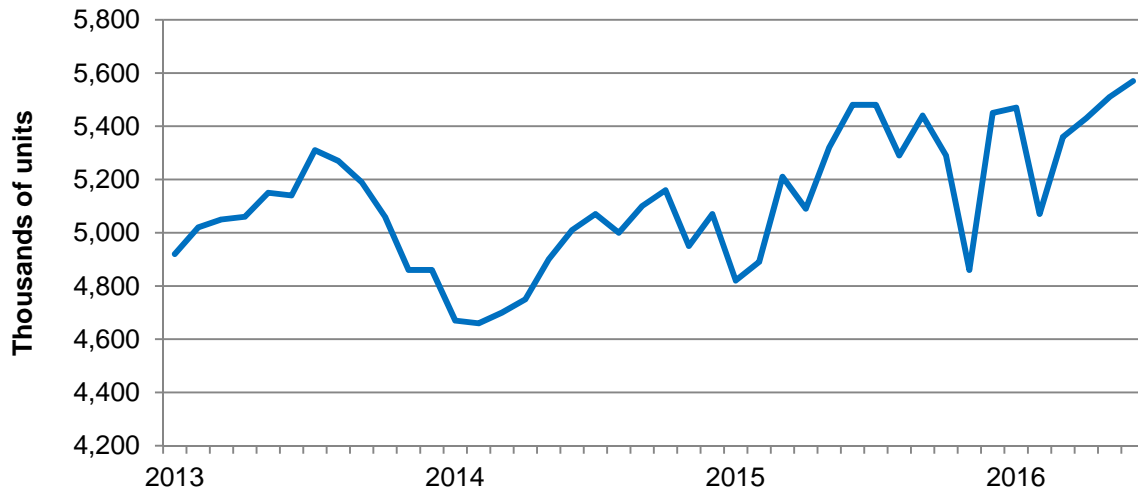
²⁵ Petition, p. 50. During periods of low housing growth, replacement demand may account for up to 70 percent of demand while in periods of high housing growth, the percentage may be as low as 55 percent. Conference transcript, p. 122 (Liotine).

²⁶ Conference transcript, p. 183 (Klett).

²⁷ National Association of Home Builders, Remodeling Market Index, <http://www.nahb.org/en/research/housing-economics/housing-indexes/remodeling-market-index.aspx>, retrieved October 27, 2016.

Figure II-2

U.S. home sales: Existing home sales, seasonally adjusted annual rate, January 2013-June 2016



Source: National Association of Realtors, <http://www.realtor.org/topics/existing-home-sales>, retrieved October 27, 2016.

Demand trends

Most responding U.S. producers, importers, and purchasers reported an increase in U.S. demand for LRWs since January 1, 2013 (table II-3). Most firms attributed the increased demand to improved general economic conditions and growth in the housing market. *** reported that it expected robust growth in the U.S. market over the next two years due to improving consumer confidence and economic conditions. Respondents stated that consumers deferred purchases during 2006-12, creating pent-up demand for LRWs.²⁸ Several purchasers also described that demand is influenced by replacement cycles. Purchaser *** stated that increased demand was due to the need to replace units purchased during 2005-06 when new home starts were at an all-time high. Purchaser *** also described the appliance life cycle and new technologies as driving replacement demand. Purchaser *** reported that it projects demand will grow annually by two to four percent.

²⁸ Conference transcript, p. 183 (Klett).

Table II-3

LRWs: Firms' responses regarding U.S. demand and demand outside the United States

Item	Increase	No change	Decrease	Fluctuate
Demand in the United States				
U.S. producers	2	0	0	1
Importers	3	0	0	0
Purchasers	21	1	2	6
Demand outside the United States				
U.S. producers	0	0	0	2
Importers	0	0	2	1
Purchasers	2	1	0	0

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

Firms' responses regarding demand for LRWs outside the United States were varied. Two responding U.S. producers and one importer reported that demand outside the United States had fluctuated, with *** reporting that demand varied amongst international markets. Importer *** reported that demand for LRWs in Canada has decreased.

Business cycles

***, ***, and nine of 30 purchasers indicated that market for LRWs was subject to a seasonal cycle that centered around major promotional holidays in which large volumes of sales occur.²⁹ Whirlpool estimated that sales during holiday promotional events (i.e., Presidents Day, Memorial Day, Labor Day, Columbus Day, and Black Friday) comprise of at least half of its sales.³⁰ Retailer *** reported that *** percent of its sales were on Black Friday and July 4.³¹ *** reported that promotions also highlight new product introductions. It reported increasingly frequent and aggressive promotions and pricing, particularly during holidays and the introduction of new products.

Additionally, ***, ***, and five of 30 purchasers indicated that the LRW market was subject to distinctive conditions of competition. U.S. producer *** reported that the ability to compete for sales is strongly related to the flooring positions on retailers' floors and promotional support offered at line reviews. *** noted that brand strength, washer ratings from Consumer Reports, and cross-shopping behavior of the final consumer were distinct factors that effected competition. U.S. importer *** reported that consumer purchasing decisions are based on brand preference, product design, perceived quality, and features. U.S.

²⁹ *** stated that Black Friday was the biggest promotion holiday, followed by Memorial Day, Labor Day, July 4th, Presidents Day and Earth Day. *** noted that the promotional period during these particular holidays span from several weeks to an entire month.

³⁰ Petition, p. 43.

³¹ Email from ***.

importer *** described longer-term demand cycles based on the need to replace existing units and sales of new units tied to new construction, as well as a smaller portion of discretionary purchases. It stated that sales of new units and discretionary purchases tend to be tied more to the housing market and the general economy. *** also stated that the average lifespan for a LRW is approximately ten years. It added that since sales volumes were high in 2004-2007, replacement market sales are expected to be strong for the next several years. One purchaser (***) stated that price pressure from LG and Samsung has decreased the average sales price.

Substitute products

The majority of U.S. purchasers reported no substitutes for LRWs. However, two of 30 purchasers reported substitutes, citing compact washers and stacked washers. Both purchasers stated that changes in the prices of substitutes had not affected the prices of LRWs. These other washers represent a small part of the U.S. market for residential washers, and demand for these products likely has a small effect on demand for LRWs.

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported LRWs depends upon such factors as relative prices, features offered, 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 moderately high degree of substitutability between domestically produced LRWs and LRWs imported from China.

Lead times

LRWs are primarily sold from inventory. U.S. producers Whirlpool and GE reported that *** percent of their commercial shipments were sold from inventory, with lead times averaging about *** days. Importers LG and Samsung reported that *** percent of sales were from U.S. inventories with lead times averaging *** days, and *** percent were from foreign inventories with lead times averaging *** days. Importers reported that *** percent of subject import shipments were produced-to-order, with lead times averaging *** days.

Knowledge of country sources

Twenty-nine purchasers indicated they had marketing/pricing knowledge of domestic product, 25 of Chinese LRWs, and 13 of LRWs from nonsubject countries.

As shown in table II-4, many purchasers and their customers sometimes make purchasing decisions based on the producer. However, the majority of purchasers and their customers never make purchasing decisions based on country of origin of the LRWs they purchase. Purchasers cited quality, product mix, brand reputation, and price as reasons that they purchase based on the manufacturer and brand name/brand loyalty as reasons that their customers make decisions based on the manufacturer.

Table II-4**LRWs: Purchasing decisions based on producer and country of origin**

Purchaser/Customer Decision	Always	Usually	Sometimes	Never
Purchases based on producer:				
Purchaser's decision	3	2	14	11
Purchaser's customer's decision	0	4	19	5
Purchases based on country of origin:				
Purchaser's decision	0	1	3	26
Purchaser's customer's decision	0	2	10	16

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

Factors affecting purchasing decisions

The most often cited top three factors firms consider in their purchasing decisions for LRWs were price (26 firms), profit margin (11 firms), and features (11 firms) as shown in table II-5. Price was the most frequently cited first-most important factor (cited by 17 firms), followed by features (4 firms); quality was the most frequently reported second-most important factor (7 firms); price and features were the most frequently reported third-most important factor (5 firms each).

Table II-5**LRWs: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor**

Factor	First	Second	Third	Total
Price / Cost	17	4	5	26
Profit margin	3	6	2	11
Features	4	2	5	11
Quality	1	7	1	9
Promotions	0	3	3	6
Availability	1	1	3	5
All other factors [†]	3	6	10	NA

[†] Other factors include brand awareness, customer demand/demand for product, discounts, size, product design, supply chain, warranty support, business relationship, container/trailer loading requirements, and innovation.

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

In additional comments, *** stated that the main factor in its purchasing decision was the “value equation”, which considers a product’s ability to sell based on brand, quality, innovation and feature set, price compared to similar products, and how the product fits in the overall assortment strategy. *** also emphasized the manufacturer’s ability to offer training, as well as merchandising, marketing, advertising, and field support. *** also indicated that vendor support, which included return policies, purchase programs, and training of its sales force, was an additional important purchasing factor.

A plurality of purchasers (14 of 30) reported that they “sometimes” purchase LRWs offered at the lowest price, 10 reported “usually”, 5 reported “always”, and one purchaser reported “never”.

When asked if they purchased product from one source although a comparable product was available at a lower price from another source, 12 purchasers reported reasons including customer demand, promotional support, larger profit margins, and innovative features. Twelve of 30 purchasers reported that certain types of LRWs were only available from a single source. Some purchasers reported that certain features are only available from certain suppliers, but did not specify the manufacturer. One purchaser reported that only GE, Whirlpool, Samsung, LG, and Electrolux produced LRWs that are readily available in larger sizes (27" wide). One purchaser described GE and Whirlpool as offering top load agitator models. One purchaser noted Samsung's AddWash feature and LG's pedestal washers and "true steam technology."

Importance of specified purchase factors

Purchasers were asked to rate the importance of 29 factors in their purchasing decisions (table II-6). The factors rated as "very important" by more than half of responding purchasers were availability (29 purchasers), price (27), margin opportunity (24), reliability of supply (24), direct discounts offered (23), promotional support (22), indirect discounts offered (20), quality meets industry standards (20), model-specific margin (17), product consistency (16), delivery time (16), and technical service (15).

Table II-6**LRWs: Importance of purchase factors, as reported by U.S. purchasers, by factor**

Factor	Very important	Somewhat important	Not important
Availability	29	1	0
Brand	15	13	2
Color	1	18	11
Energy Star rated	3	20	7
Delivery terms	14	15	1
Delivery time	16	12	2
Design/style	10	17	3
Direct discounts ¹ offered	23	6	1
Ease of use	8	16	6
Fit, feel, and finish	12	16	2
Indirect discounts ² offered	20	6	4
Innovative features	14	15	1
Large capacity	10	18	2
LED or LCD display for front load LRW	0	18	12
Margin opportunity ³	24	5	1
Minimum quantity requirements	6	14	10
Model-specific margin (MAP minus cost)	17	9	4
Packaging	4	18	8
Price	27	3	0
Product consistency	16	12	2
Product range	5	18	7
Promotional support	22	7	1
Quality meets industry standards	20	8	2
Quality exceeds industry standards	11	16	3
Reliability of supply	24	5	1
Technical support/service	15	14	1
Steam cycle	2	14	14
U.S. transportation costs	7	14	9
Water heater	0	15	15

¹ Direct discounts are all discounts, incentives, allowances, rebates, promotional amount, cash incentives for retail sales personnel (SPIFFs) or other sales support, and/or any other form of payment or allowance to a retailer) that are tied to sales of the specific large residential washer(s) for which the discounts are provided, whether or not such discounts are given on the sales price to the customer or are in the form of a post-sale discount, rebate or other type of sales support after the customer resells the product to its customer.

² Indirect discounts are any discounts, incentives, allowances, rebates, promotional amount, cash incentives for retail sales personnel (SPIFFs) or other sales support, and/or any other form of payment or allowance to a retailer) that, while not specifically tied to the products in question, are properly allocable to sales of such products because sales of such products were part of the basis on which the discount, incentive, allowance, etc. was given.

³ "Margin opportunity" refers to the profit margins for retailers for the product in question.

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

Top load and front load platforms

U.S. commercial shipments of U.S.-produced and imported top load LRWs increased by *** units from 2013 to 2015 and accounted for *** percent of total U.S. shipments in

2015 (figure II-3). U.S. commercial shipments of domestically produced and imported front load LRWs increased by *** units from 2013 to 2015 and accounted for *** percent of total U.S. shipments in 2015. Consumers reportedly cross shop between top load and front load platforms.³² Petitioner contends that cross shopping has increased because of the changes in top load designs resulting from the federal energy standard changes in March 2015.^{33 34}

Figure II-3

LRWs: Total U.S. commercial shipments of top load and front load LRWs, 2013-15

* * * * *

Purchasers were asked what factors influence a consumer’s decision to buy a conventional top load washer (i.e., a top load washer with agitator), a high-efficiency top load washer, or a high-efficiency front load washer. Most purchasers listed several factors that influenced purchasing decisions. Seventeen purchasers reported that price influences a consumer’s decision, fourteen purchasers noted features, ten purchasers noted desired capacity, and five reported that consumer preference and consumer’s past experiences influenced purchasing decisions between different platforms. *** added that recommendations from retail salespeople, brand reputation, Consumer Reports scores, perceived value, and innovation also factor into consumers’ purchasing decisions. *** stated that price is a factor in conventional washer purchases, but for high-efficiency top load washer and high-efficiency front load washer, capacity, price, and feature set are the main factors influencing a consumer’s decision.

Eighteen of 28 responding purchasers indicated that consumers were “sometimes” willing to switch between a top load and a front load LRW based on relative pricing between the two offerings, 7 purchasers indicated “frequently,” 2 indicated “never” and one indicated “always”.

Branding and market studies

As noted previously, several purchasers named brand loyalty as a factor in their purchase decisions. Whirlpool sells seven different LRW brands in the U.S. market, including

³² However, respondents noted that at the wholesale level, retailers carry a full product line “from expensive front load models to low-priced top load agitator model” and cross-shopping only occurs at the consumer level. Respondents’ posthearing brief, p. 6.

³³ According to ***, ***.

³⁴ Petitioner contends that the changes to federal energy/water efficiency standards have lessened the distinction between the different types of washers. Whirlpool’s prehearing brief, p. 18; hearing transcript, pp. 101-102 (Levy and Tubman). However, respondents argued that agitator-based and impeller-based top load washers remain distinct products commercially despite the same technical performances as a result of the recent change in efficiency standards. Respondents’ posthearing brief, attachment A, “Answers to Questions from Commissioners and Staff,” p. 3.

Whirlpool, Maytag, and Amana.³⁵ Whirlpool reported that Whirlpool and Maytag brand models are along the entire continuum of models, whereas the Amana brand is generally lower-end, (“basic” or “good”).^{36 37} According to respondents, LG and Samsung have a brand advantage over Whirlpool in LRWs, particularly among younger consumers.³⁸ Samsung stated that brand recognition and consumer preference for its brand has tripled since the previous LRW investigation.³⁹ LG stated that due to LG’s brand appeal and customers’ experiences with other LG products, LG entered three new retail accounts with Lowe’s, Costco, and J.C. Penny.⁴⁰

Both Whirlpool and respondents cited to publications and surveys showing that their brands and models are rated highly by consumers and independent testers. According to the Petitioner, Whirlpool and GE have consistently been ranked in the top 10 by Consumer Reports for LRWs.⁴¹ Samsung reportedly was ranked number one in customer satisfaction by JD Power in top load and front load washers.⁴² Whirlpool’s witness stated that Whirlpool may not do as well in JD Power rankings because JD Power surveys consumers and includes price, unlike Consumer Reports which uses independent lab testing.⁴³

Floor space

All of the large retailers, and many smaller retailers, allocate floor space for selected washer models. Retailers seek to display an assortment of models and brands at a range of price points to serve a wide variety of customers. In addition to deciding whether or not to floor a model, retailers also allocate where on the floor a model is placed, for example, end caps at the end of aisles. Floor spots are awarded based on negotiations for the margins retailers can receive based on the lowest wholesale price and promotional support. There are additional negotiations during the big promotional periods, such as Black Friday and Fourth of July, for the best floor space (including end caps placements) and flyer or advertising support. Retailers conduct a line review on an annual basis in which they review each product in a manufacturers’ product line.⁴⁴

Most purchasers (19 of 30) indicated that they allocate floor spots to different types of LRWs to showcase various price points from entry-level, mid-range, and high-end products as well as a range of brands. *** stated that flooring decisions “take into consideration price

³⁵ Petition, p. 4.

³⁶ See Petitioners’ postconference brief, Answers to Staff Questions, p. 15.

³⁷ ***. ***.

³⁸ Respondents’ postconference brief, pp. 19-22. Conference transcript, p. 151 (Brindle) and p. 168 (Herring).

³⁹ Conference transcript, p. 200 (Brindle).

⁴⁰ Hearing transcript, pp. 162-165 (Toohey).

⁴¹ Petition, p. 52. ***. ***.

⁴² Conference transcript, p. 157 (Brindle).

⁴³ Conference transcript, pp. 103-104 (Tubman).

⁴⁴ The line review involves discussions of each individual product, as well as margins, discounts, and promotions. Petition, p. 41. Conference transcript, pp. 116-118 (Tubman).

points, as well as a price and feature step structure to offer customers a trade-up option, brand representation to demonstrate market leadership in brand selection, and a product's relationship to other products that may be considered at the same time.”

Nineteen of 30 purchasers indicated that they had not denied, nor threatened to deny, a floor space to a particular LRW model because the supplier's proposed price was too high, while eleven purchasers (***) indicated that they had done so. Purchasers reported that profitability and negotiation strategy as reasons for denying, or threatening to deny, floor space. *** reported that price is an element in its flooring decisions and if the brand or features are not sufficient to overcome the price point, the product will not be floored. *** stated that “Given the large number of items available, as well as customer perception of comparable products, it is likely that in one or more instances price was a deciding factor.”

Twenty-one of 30 purchasers reported factoring expected profits into their decisions about which models and which suppliers would be allocated floor space. Several purchasers described profitability as a key factor in their flooring decisions.⁴⁵ Regarding specific brands, *** stated that its consumers are partial to LG and Samsung which offer a range of products across many different departments within its stores; and *** stated that it floors LG products due to higher profitability. *** noted that in addition to profitability, it also considers consumer needs, sizes, and features when considering floor space allocation. It stated that it tries to showcase innovation on its retail floor which elicits interactions between the consumers and its sales team. *** stated that expected profits are one of several factors in its flooring decisions including quality, features, and customer preferences.

Seventeen of 29 purchasers indicated that they “usually” make flooring decisions for LRWs which are offered at the lowest price for a given set of features, seven indicated “sometimes,” three indicated “never,” and two indicated “always.”

Seventeen of 30 purchasers reported that relative LRW pricing from alternative suppliers does not affect their floor space allocation decisions, while 13 purchasers reported that it does. *** stated that suppliers compete on price for floor space. *** stated that in addition to flooring products based on price-points, store size and sell-through rates are also key factors.

Dryers and pedestals

Twenty-one of 30 purchasers indicated that they consider the price, discounts, and other promotional support for dryers and pedestals offered by suppliers when making a purchase decision for LRWs; eleven reported that they did not. Three purchasers (***) reported that pricing for washers and dryers are often in parity. *** also stated that it considers whether the washer/dryer set must be sold as a pair for promotional pricing. *** stated that it often advertised its washers and dryers at the same price. Two purchasers reported that the price of

⁴⁵ According to petitioner, retailers steer consumers to LRW models that earn the retailers the highest profit margins and/or turns. Whirlpool's prehearing brief, p. 15.

the dryer can be a factor in determining profitability. *** reported that it typically floors both the washer and the matching dryer. *** reported that the sale of a washer can be easier if there are opportunities on the dryer and/or pedestal. *** stated that pedestals are considered an accessory and are not factored in when making a purchasing decision for LRWs.

Matching washers and dryers, when purchased together, are often priced the same.⁴⁶ Most purchasers indicated that the invoice price for both the washer and dryer was the same in at least 75 percent of their firms' purchases of matching washers and electric dryers since January 1, 2013 (table II-7).⁴⁷ The rate of same invoice price for matching washers and dryers was similar among the different suppliers.

Table II-7

LWRs: Percentage of purchases of matching washers and dryers with the same invoice price

Same invoice	Whirlpool	GE	LG	Samsung
<25%	4	4	1	1
25-49%	1	1	0	0
50-74%	6	7	3	2
75% and above	17	12	19	17
Did not purchase matching washers/dryers	2	2	5	7

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

Supplier certification

Eight of 30 purchasers (including ***) require their suppliers to become certified or qualified to sell LRWs to their firm. Purchasers reported that the time to qualify a new supplier ranged from 5 to 90 days. Purchasers described their process to certify new suppliers as based on availability, service, financial soundness, quality, and fill rates. *** stated that its new supplier process also includes factory audits and a completion of legal agreements. Two purchasers reported that a domestic or foreign supplier had failed in their attempts to qualify product, or had lost their approved status since year. Purchasers *** stated that both LG and Samsung had top load models which were recalled in 2013 and 2016, respectively.

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since January 1, 2013 (table II-7). Those describing decreased or fluctuated purchases from the United States cited higher prices and lower margins, diversification of suppliers, and increased competition with other brands. *** indicated that it had decreased domestic purchases because of higher prices and lower margins. *** indicated that it had decreased

⁴⁶ According to LG and Samsung, the LRW industry began to price washers and dryers at the same price starting in 2009. Hearing transcript, pp. 192-193 (Mittrucker and Thompson) and p. 195 (Porter).

⁴⁷ See *Part III* and *Part IV* for U.S. producers' and U.S. importers' reported sales attachment rate of LRWs with dryers in 2015.

domestic purchases because it diversified suppliers. *** stated that ***. *** indicated that their domestic purchases had fluctuated due to changes in consumer brand and feature preference and a product transition in 2015. Purchasers that increased their purchases from domestic sources (including ***) cited improvement of the overall market, increased sales, and expanded service capabilities.

A majority of responding purchasers reported increased purchases from China, citing lower prices, more features, higher margins, deeper discounts, and increased customer brand awareness. *** reported that it had increased purchases from China because of lower prices, higher margins, and deep discounts. *** indicated that it had increased purchases from China because it began sourcing from LG in 2014. *** indicated that it increased purchases from China because it added LG as a supplier in 2013 and Samsung introduced new, innovative, and differentiated products. *** reported that changes in consumer brand and feature preferences as well as a supplier’s decision to move its production location led to an increase in Chinese purchases. *** reported that the increase of Chinese purchases reflected increased demand and the overall market growth. Several purchasers described decreased purchases of Mexican product citing increased price, poor sales performance, and declining consumer demand for LRWs manufactured by Electrolux and Frigidaire. Purchasers describing decreased purchases from other sources cited suppliers moving production to other countries.

Table II-7

LRWs: Changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	0	13	8	4	6
China	5	1	19	3	1
Other	2	7	6	5	3

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

Thirteen of 30 purchasers reported that they had changed suppliers since January 1, 2013. One purchaser described shifting purchases from GE to Whirlpool due to price increases and declining product quality. Five purchasers reported adding LG, and 2 purchasers reported adding Samsung. One purchaser reported adding Speed Queen because it supplied a top load agitator model, and another purchaser reported adding Haier and Crosley.

Importance of purchasing domestic product

Twenty-four of 30 purchasers (accounting for 78.3 percent of total reported purchases) reported that purchasing domestically produced LRWs was not an important factor in their purchasing decisions. Four reported that a portion of their domestic purchases was required by law (for 1 to 100 percent of their purchases),⁴⁸ 9 reported it was required by their customers

⁴⁸ Purchases required by law to buy domestic accounted for 0.3 percent of total reported purchases. Only one of these purchasers (***) reported buying 100 percent of the domestic product.

(for 1 to 100 percent of their purchases),⁴⁹ and 1 purchaser (***) reported that it only purchased domestic product but did not specify the reason.

Comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing LRWs produced in the United States, China, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 29 factors (table II-8) for which they were asked to rate the importance.

More than half of purchasers reported that U.S. and Chinese LRWs were comparable on all factors except for delivery time (for which 18 purchasers rated the U.S. product as superior), direct discounts offered (for which 13 purchasers rated the U.S. product inferior and 13 purchasers rated the products comparable) and price (for which 13 purchasers rated the Chinese product as lower-priced and 13 purchasers rated them comparable).

In comparing U.S. product and LRWs from nonsubject sources, a majority or plurality of purchasers rated the products as comparable on most factors except for brand, delivery time and product range (for which the U.S. product was rated superior). In comparing Chinese product and LRWs from nonsubject sources, a majority or plurality of purchasers rated the products as comparable on most factors except for innovative features (for which the Chinese product was rated superior).

⁴⁹ Purchases required by the customer to buy domestic accounted for 20.9 percent of total reported purchases. *** reported that *** percent of its purchases were required by their customers to be domestic.

Table II-8

LRWs: Purchasers' comparisons between U.S.-produced and imported product

Factor	U.S. vs. China			U.S. vs. nonsubject			China vs. nonsubject		
	S	C	I	S	C	I	S	C	I
Availability	11	17	0	7	6	1	2	11	2
Brand	7	19	1	8	6	0	7	7	1
Color	0	27	1	3	11	0	3	12	0
Energy Star rated	0	28	0	2	12	0	2	13	0
Delivery terms	7	20	0	5	6	2	2	9	3
Delivery time	18	10	0	9	3	2	2	8	5
Design/style	0	21	7	4	8	2	7	8	0
Direct discounts offered	1	13	13	3	7	3	6	7	1
Ease of use	1	27	0	2	11	1	2	13	0
Fit, feel, and finish	1	22	5	4	9	1	5	10	0
Indirect discounts offered	1	14	12	3	6	4	5	8	1
Innovative features	1	19	8	2	9	3	8	7	0
Large capacity	1	23	4	4	9	1	5	10	0
LED or LCD display for front load LRW	0	27	0	3	11	0	2	13	0
Margin opportunity	0	17	11	2	9	3	2	13	0
Minimum quantity requirements	8	20	0	3	9	2	1	11	3
Model-specific margin (MAP minus cost)	0	16	12	2	10	3	3	12	0
Packaging	0	24	3	2	11	0	2	12	0
Price ¹	2	13	13	4	8	2	5	9	1
Product consistency	6	22	0	3	11	0	1	13	1
Product range	3	22	3	8	4	2	7	7	1
Promotional support	1	17	10	3	10	1	4	10	1
Quality meets industry standards	3	25	0	2	11	0	1	13	1
Quality exceeds industry standards	3	23	2	2	11	1	3	11	1
Reliability of supply	11	17	0	6	7	1	1	12	2
Technical support/service	8	20	0	2	11	1	1	12	2
Steam cycle	0	27	1	3	11	0	3	12	0
U.S. transportation costs ¹	2	26	0	2	12	0	1	13	0
Water heater	0	28	0	4	10	0	3	12	0

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

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

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

Comparison of U.S.-produced and imported LRWs

In order to determine whether U.S.-produced LRWs can generally be used in the same applications as imports from China, U.S. producers, importers, and purchasers were asked whether the products can "always," "frequently," "sometimes," or "never" be used interchangeably. As shown in table II-9, all U.S. producers and most purchasers reported that domestic LRWs and subject imports are "always" interchangeable. Responding importers reported that domestic LRWs and subject imports are "sometimes" interchangeable. *** assert

that interchangeability is limited because of differences in products and distribution channels. They contend that they sell only in the high end of the market and do not compete in conventional top load washers which comprise a large portion of U.S. production.

Table II-9

LRWs: Interchangeability between LRWs produced in the United States and in other countries, by country pairs

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. subject countries: U.S. vs. China	3	0	0	0	0	0	2	0	17	8	2	0
Nonsubject countries comparisons: U.S. vs. nonsubject	3	0	0	0	0	1	2	0	14	6	2	0
China vs. nonsubject	3	0	0	0	0	0	2	0	14	6	1	0

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

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

As can be seen from table II-10, a majority of purchasers reported that domestically-produced LRWs and Chinese LRWs “always” met minimum quality specifications.

Table II-10

LRWs: Ability to meet minimum quality specifications, by source¹

Source	Always	Usually	Sometimes	Rarely or never
United States	20	9	0	0
China	17	6	1	0
All other sources	9	3	1	0

¹ Purchasers were asked how often domestically produced or imported product 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 product from the United States, subject, or nonsubject countries. As seen in table II-11, all U.S. producers reported that differences other than price were “sometimes” a factor in their firms’ sales of LRWs. In contrast, both responding importers reported that differences other than price were “always” a factor in their firms’ sales of LRWs. Most responding purchasers reported that differences other than price were “sometimes” a factor in their firms’ purchases of LRWs.

Table II-11

LRWs: Significance of differences other than price between LRWs produced in the United States and in other countries, by country pairs

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. subject countries: U.S. vs. China	0	0	3	0	2	0	0	0	4	4	17	2
Nonsubject countries comparisons: U.S. vs. nonsubject	0	0	3	0	3	0	0	0	1	2	16	2
China vs. nonsubject	0	0	3	0	2	0	0	0	1	2	14	2

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

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

In further comments, *** stated that all manufacturers offer a high quality product and are assessed in light of price. However, *** listed numerous non-price factors that differentiate LRWs from different countries, including capacity, colors, innovative features, style, and warranty. *** added that it had been rated number one in LRW customer satisfaction by *** and was also rated number one for certain high-efficiency top load and front load washers in Consumer Reports. *** reported that its brand provides innovative technology and preferable design compared to U.S. product and added that has been recognized in Consumer Reports for its high quality product. ***

*** also reported that they have consistently been ranked in the top 10 by Consumer Reports.

Several purchasers cited quality, availability, technical support, product range, and features as important non-price factors, without specifying which firms (if any) generally perform better on those factors. More specifically, *** stated that Samsung and LG do not offer good consumer support for repairs in the United States and also sell LRWs by container load which makes it difficult for smaller retailers to purchase.

ELASTICITY ESTIMATES

This section discusses elasticity estimates. Parties were encouraged to comment on these estimates in their prehearing or posthearing brief. Party comments are presented and addressed below.

U.S. supply elasticity

The domestic supply elasticity⁵⁰ for LRWs measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of LRWs. The elasticity of

⁵⁰ A supply function is not defined in the case of a non-competitive market.

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 LRWs. Analysis of these factors earlier indicates that the U.S. industry has the ability to substantially increase or decrease shipments to the U.S. market; an estimate in the range of 6 to 8 is suggested.

U.S. demand elasticity

The U.S. demand elasticity for LRWs measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of LRWs. This estimate depends on factors discussed earlier such as the existence, availability, and commercial viability of substitute products. In the prehearing report, staff estimated that the aggregate demand elasticity for LRWs fell in the range of -0.4 to -1.0. Petitioner took issue with the estimate, and argued that because the average household owns only one washer at a time, the quantity demanded is largely unaffected by changes in price. Based on COMPAS Model results and two published studies, petitioner suggested a range of -0.2 to -0.5.⁵¹ Staff is revising its estimated range to -0.3 to -0.8.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.⁵² Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). In the prehearing report, staff estimated that the elasticity of between U.S.-produced LRWs and imported LRWs was moderately high (in the range of 3 to 6) depending on how much consumers differentiate between domestic and imported product on the basis of brand, quality, and features. Petitioner stated that the range

⁵¹ Whirlpool supplied an econometric analysis of NPD Group market research data on LRWs. The analysis was performed by Larry Dale, a scientist at the Lawrence Berkeley National Laboratory who has written previous work on the elasticity of demand for household appliances. It found that the elasticity of demand was -0.32, also within staff's estimated range. This analysis was also submitted in USITC's prior investigations involving LRWs from Korea and Mexico. Additionally, Whirlpool cited to a study by Dale and Fujita (2008) which estimated the elasticity of demand for household clothes washers to be -0.32, based on annual data from 1980-2002. It also submitted a study by Fujita (2015) estimating the price elasticity for clothes washers using annual data from 1989-2009. Its estimates for clothes washers ranged from -0.34 to -0.78 depending on the various combinations of explanatory variables. Whirlpool's posthearing brief, pp. IV-3-4 and attachments 15, 16, and 18.

⁵² 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.

was reasonable, citing the economic analysis submitted in its posthearing brief.⁵³ Respondents took issue with the estimate, noting that on a weighted-average basis, purchasers ranked non-price factors the same or higher than price.⁵⁴ Respondents argue that LRWs are highly-differentiated final consumer products with non-price factors such as design/style, fit/feel/finish, and innovative features an important factor in purchasing decisions.⁵⁵ Staff notes that nonetheless, purchasers still identified U.S. and subject imports as always or frequently interchangeable, with non-price differences only sometimes a significant factor in deciding between U.S. product and subject imports. However, respondents' objections could be consistent with non-price differences "sometimes" being a significant factor, so staff is revising its estimated range to 3 to 5.

⁵³ Dr. Dale's analysis of NPD data from January 2009 to December 2011 estimated that the elasticity of substitution fell within a range of 3.96 to 4.58, within staff's estimated range.

⁵⁴ Respondents' prehearing brief, p. 22-23, fn.39.

⁵⁵ Respondents noted that the substitution elasticity for LRWs is the same as that estimated by Commission staff for hot rolled steel products and argued that a commodity product should not have the same elasticity as a "highly-differentiated final consumer product like LRWs." Respondents' prehearing brief, p. 23, fn.39. In its posthearing brief, Whirlpool critiqued respondents' arguments and compared the questionnaire responses regarding interchangeability and the significance of differences other than price between imported and domestic product in LRWs and hot rolled steel flat products. Whirlpool argued that based on questionnaire responses to these two questions, it would have been inaccurate to estimate a lower range of substitution elasticities for LRWs than for *HRS Flat Products*. Whirlpool's posthearing brief, pp. IV-1-3.

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 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) and is based on the questionnaire responses of three firms that accounted for virtually all of U.S. production of LRWs during period of investigation.

U.S. PRODUCERS

The Commission sent U.S. producer questionnaires to five firms¹ which included those firms identified in the petition as U.S. producers of LRWs as well as U.S. producers of LRWs in the Commission's prior investigations on LRWs.² The Commission received responses from three firms which accounted for virtually all of domestic LRW production during the period of investigation.³ Table III-1 lists U.S. producers of LRWs, their production location(s), positions on the petition, total production, and shares of total production for 2015.

¹ These five firms included: (1) Whirlpool; (2) GE; (3) Staber; (4) Alliance Laundry Systems LLC; and (5) Electrolux Home Products, Inc.

² During the period of investigation of the Commission's prior investigations on LRWs, three firms ceased LRW production operations in the United States. (1) BSH, which produced front-load LRWs, closed its New Bern, North Carolina facility in May 2011. As of 2015, BSH, founded as a joint venture between Robert Bosch GmbH and Siemens AG, is exclusively owned by the Bosch Group of Stuttgart, Germany. (2) Electrolux, which produced front-load LRWs, closed its facility in Webster City, Iowa in April 2011. Electrolux currently produces and imports into the United States front load LRWs from its facility in Juarez, Mexico. (3) Fisher & Paykel produced top load LRWs at its facility in Clyde, Ohio until late 2009. Subsequently, it transferred this production to its facility in Amata City, Thailand. In 2012, Haier Group of Qingdao, China purchased Fisher & Paykel. *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)—Staff Report*, INV-LL-005, January 10, 2013), p. III-1; *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378 (February 2013), p. III-1.

³ Electrolux ceased production of LRWs in the United States in 2011. Although Alliance did submit a U.S. producer questionnaire in the preliminary phase of this investigation, it failed to submit a response in the final phase. Alliance *** on the petition and accounted for *** percent of total U.S. production of LRWs during the preliminary phase period of investigation.

Table III-1**LRWs: U.S. producers of LRWs, their positions on the petition, production locations, production, and shares of reported production, 2015**

Firm	Position on petition	Production location(s)	Share of production (percent)
GE ¹	***	Louisville, KY	***
Staber	***	Groveport, OH	*** ²
Whirlpool ³	Petitioner	Clyde, OH	***
Total			100.0

¹ GE Appliances (“GE”) is a wholly owned subsidiary of Qingdao Haier Co., Ltd. of Qingdao, China. GE is a minority joint venture partner in Mabe S.A. de C.V., a producer of LRWs in Mexico.

² ***.

³ Whirlpool Overseas Manufacturing S.a.r.l. of Apodaca, Mexico is a wholly owned subsidiary of Whirlpool Corp. of Benton Harbor, MI and produces LRWs in Mexico. As of 2012, the firm did not export LRWs to the United States.

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

Whirlpool

Whirlpool, founded in 1898 and headquartered in Benton Harbor, Michigan, is a manufacturer and marketer of home appliances with net sales totaling approximately \$21 billion and net income of \$783 million in 2015. Globally, the firm employed approximately 100,000 employees in 70 manufacturing and technology research centers in 2015. It manufactures and markets products globally under brand names, such as Whirlpool, KitchenAid, Maytag, Consul, Brastemp, Amana, Bauknecht, Jenn-Air and Indesit. Its principal products are laundry appliances, refrigerators and freezers, cooking appliances, dishwashers, mixers and other portable household appliances. The firm reports earnings by geographic segment, which consist of North America, Latin America, EMEA (Europe, Middle East and Africa) and Asia. The North America segment produces, markets, and distributes home appliances and portable appliances under a variety of brand names, primarily Whirlpool, Maytag, KitchenAid, Jenn-Air, Amana, Roper, Admiral, Affresh and Gladiator, primarily to retailers, distributors and builders.⁴

In 2010, Whirlpool began production of front load LRWs in the United States after investing \$100 million to expand its existing facility in Clyde, Ohio. Prior to 2010, Whirlpool supplied front load LRWs to the U.S. market from Whirlpool’s facilities in Germany and Mexico.⁵ A wholly-owned subsidiary, Whirlpool Overseas Manufacturing S.a.r.l. (“Whirlpool Mexico”), produced and exported LRWs to the United States during the period of investigation of the prior investigation. However, effective July 16, 2012, Whirlpool Mexico ceased exports of LRWs

⁴ Whirlpool SEC Form 10-K, issued February 16, 2016.

⁵ Whirlpool stated that its manufacturing facility in Germany ceased production of LRWs in the first quarter of 2013 and that there is currently no production occurring at the facility. Whirlpool ceased its U.S. imports of LRWs from Mexico in mid-2012, however, the manufacturing facility continues to produce LRWs on a smaller scale for the Mexican home and South American markets. Whirlpool’s postconference brief, Answers to Commission Questions, p. 8; Conference transcript, p. 75 (Liotine).

to the United States and currently produces LRWs for sale in non-U.S. markets. Another wholly-owned subsidiary, Whirlpool Bauknecht Hausgerate GmbH (“Whirlpool Germany”), ***.

General Electric

General Electric, founded in 1892 and headquartered in Fairfield, Connecticut, is a global diversified infrastructure and financial services company offering products and services ranging from aircraft engines, power generation, oil and gas production equipment, and household appliances to medical imaging, business and consumer financing and industrial products. The company operates in approximately 175 countries through eight business segments, which include (1) appliances & lighting (until this division was sold in June 2016 as discussed below); (2) aviation; (3) capital; (4) energy management; (5) healthcare; (6) oil and gas; (7) power and water; (8) transportation. In 2014, General Electric reported \$148.6 billion in revenue and \$15.3 billion in earnings from continuing operations. Globally, the firm employed approximately 305,000 employees in 2014.⁶

In 2010, GE’s appliances division (“GE”) initiated a \$150 million investment at its Louisville, Kentucky facility (“Appliance Park”) to produce top load and front load LRWs in the United States. In 2012, GE began producing a broader range of top load LRWs at Appliance Park. GE previously produced top load LRWs with a capacity of under 3.7 cubic feet at Appliance Park and ***.⁷ In 2013, GE began production of front load LRWs at Appliance Park.

General Electric has been in the process of a multi-year major restructuring where the company has announced that it wishes to focus on its core industrial businesses and thereby reduce the number of its consumer and financial business segments. As part of this restructuring, in September 2014, General Electric announced that it was selling its appliances division to Electrolux AD of Stockholm, Sweden. The U.S. Department of Justice filed to stop the merger in July 2015, arguing that it would lead to less competition and higher prices for buyers of appliances. On December 7, 2015, General Electric announced that it terminated its agreement to sell its appliances division to Electrolux and would now pursue other options to sell the division.⁸ On January 15, 2016, General Electric announced that it entered into a definitive agreement to sell its appliances division to the Chinese company, Qingdao Haier Co., Ltd. (“Haier”). On June 6, 2016, General Electric announced that it had completed the sale of appliances division, GE Appliances, to Haier for \$5.6 billion.⁹ Currently, GE Appliances is a wholly owned subsidiary of Haier. The Haier Group is a large multinational manufacturer and distributor of electronics and home appliances headquartered in Qingdao, China.¹⁰

⁶ General Electric Co. Form 10-K, 2014; <http://www.ge.com/about-us/building>, accessed January 11, 2016.

⁷ *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)—Staff Report*, INV-LL-005, January 10, 2013), pp. III-1-2.

⁸ GE Press Release, December 7, 2015, “GE Statement on Appliances Business.”

⁹ “GE Completes Sale Of Appliances Business To Haier”, GE Press Release, June 6, 2016, <http://pressroom.geappliances.com/news/ge-completes-sale-of-appliances-business-to-haier>, accessed November 2, 2016.

¹⁰ http://www.haier.net/en/about_haier/, accessed November 15, 2016.

Staber

Staber is a private, family-owned firm headquartered in Groveport, Ohio, that produces LRWs and drying cabinets, which serve the medical, fire and laundry equipment sectors. In 1976, Staber began as a firm that re-manufactured laundry equipment from other manufacturers such as Maytag, Whirlpool, GE and Speed Queen. Subsequently, Staber implemented and patented design improvements for a new type of clothes washer. This unique top load washer technology uses a non-circular tub on a horizontal axis, which can hold up to twice as much laundry as a top load LRW with an agitator.¹¹ Staber washers have been produced in Groveport, Ohio since 1993 and most of its sales are shipped factory-direct to the end user.¹²

Alliance¹³

Alliance is a privately-held corporation which was founded in 1908 and headquartered in Ripon, Wisconsin. It manufactures and markets primarily commercial laundry equipment. The firm produces washers and dryers for coin-operated laundries, multi-housing laundries, and some LRWs for residential use. Alliance Laundry Systems manufactures products under the brands Speed Queen, Cissell, Huebsch, IPSO, and UniMac. Alliance produces and markets its residential LRWs under the Speed Queen brand name.¹⁴ In 2014, Alliance reported total global revenues of \$726.3 million and net income of \$29.6 million.¹⁵ Alliance reported that in 2014, *** percent of its total production were LRWs whereas *** percent were commercial washers.¹⁶ Alliance reported *** during the period of investigation.¹⁷ In June 2015, Alliance announced that it had obtained \$400 million in financing to assist in growing the company in both North America and Europe.¹⁸ In June 2015, Alliance undertook a \$46 million expansion, including installation of a 1,500 ton transfer press for its Speed Queen residential washing machines.¹⁹ In May 2016, Alliance announced a \$62.6 million expansion of its

¹¹ Staber described its unique washer technology as consisting of a hexagonal inner basket that rotates inside a stationary outer octagonal tub to gently pump water through the holes of the inner basket and through the laundry. As the angles between the inner basket and outer tub change while the inner basket rotates, a passive pumping action is created between the two, which gently pumps water through the holes of the inner basket and through the laundry. Staber's postconference brief, pp. 1-2.

¹² <http://www.staber.com/aboutus>, accessed January 11, 2016.

¹³ In the final phase of this investigation, Alliance did not submit a U.S. questionnaire response to the Commission. Information regarding Alliance is based on public sources and its response to the Commission's U.S. producer questionnaire in the preliminary phase of this investigation.

¹⁴ <http://www.alliancelandry.com/about-us/>, accessed January 11, 2016.

¹⁵ Alliance Laundry Holdings LLC, Annual Report, 2014.

¹⁶ U.S. producer questionnaire of Alliance (Preliminary), question II-3a.

¹⁷ Ibid. at question II-2.

¹⁸ "Alliance Laundry Completes New \$400 Million Asset-Backed Finance Facility," PRNewswire, June 29, 2015. <http://www.prnewswire.com/news-releases/alliance-laundry-completes-new-400-million-asset-backed-finance-facility-300106401.html>, accessed November 4, 2016.

¹⁹ Ibid.

manufacturing campus, adding 225,000 sq. ft. for a new North America sales and marketing headquarters and the conversion of an existing warehouse into a manufacturing facility.²⁰

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-2 presents U.S. producers' production, capacity, and capacity utilization for all configurations of LRWs as well as for top load LRWs and front load LRWs. Total U.S. capacity of LRWs for all configurations increased by *** percent from 2013 to 2015, and was higher by *** percent in January-June 2016 than in January-June 2015. Total U.S. production of LRWs of all configurations increased from 2013 to 2015 by *** percent and was higher by *** percent in January-June 2016 than in January-June 2015. U.S. capacity utilization rates for LRWs of all configurations ranged from *** percent in January-June 2015 to *** percent in 2014. In 2015, Whirlpool reported that *** percent of its total U.S. production of LRWs were top load LRWs while *** percent were front load LRWs. GE reported that in 2015, *** percent of its total U.S. production were top load LRWs while *** percent were front load LRWs. Staber only produces top load LRWs.

Table III-2

LRWs: U.S. producers' production, capacity, and capacity utilization, 2013-15, January-June 2015, and January-June 2016

* * * * *

Potential product shifting in U.S. production facilities

*** reported that they are able to switch production from LRWs to another product using the same manufacturing equipment and labor.²¹ *** reported that they produced products other than LRWs on the same manufacturing equipment. ***.²² ***.²³ ***.²⁴ For all reporting U.S. producers, the products other than LRWs produced on the same manufacturing equipment accounted for *** percent to *** percent of overall production during the period of investigation. Table III-3 presents overall U.S. capacity and production on manufacturing equipment used to produce LRWs and other products.

²⁰ Alliance Laundry Systems LLC, "Largest Expansion In Alliance Laundry Systems History Approved," press release, May 11, 2016. <http://www.alliancelaundry.com/news/largestexpansioninalliancelaundrysystemshistoryapproved/> (accessed October 19, 2016).

²¹ U.S. producer questionnaire responses of ***, question II-4(i).

²² U.S. producer questionnaire of ***, question II-3a.

²³ U.S. producer questionnaire of ***, question II-3a.

²⁴ U.S. producer questionnaire of ***, question II-3a.

Table III-3

LRWs: U.S. producers' overall capacity and production on the same equipment as subject production, 2013-15, January-June 2015, and January-June 2016

* * * * *

Whirlpool's foreign trade zone (FTZ) production activities

In 2012, Whirlpool applied to the Foreign Trade Zone Board to create a foreign trade subzone that would encompass its entire Clyde, OH manufacturing facility.²⁵ Whirlpool stated that commencing in 2013, it admitted into the FTZ various out-of-scope LRW components from various countries of origin, including China, for use in the production of LRWs at the Clyde, OH manufacturing facility.²⁶ It further stated that using the FTZ structure allowed Whirlpool to minimize tariff liability while maintaining its global components supply chain.²⁷ Pursuant to FTZ regulations, production activities²⁸ must be approved by the FTZ board and U.S. Customs entries must be made for finished goods leaving the FTZ for U.S. consumption that utilized foreign components in their production. According to these same FTZ regulations, the country of origin of the finished good for Customs purposes is the country of origin of the highest-value

²⁵ Foreign-trade zones are secure areas under the supervision of U.S. Customs and Border Protection ("CBP") that are considered outside the customs territory of the United States for the purposes of duty payment. Authority for establishing these facilities is granted by the Foreign-Trade Zones Board under the Foreign-Trade Zones Act of 1934, as amended (19 U.S.C. 81a-81u), and the Board's regulations (15 C.F.R. Part 400). The Executive Secretariat of the Board is located within Enforcement and Compliance division of the U.S. Department of Commerce. *76th Annual Report of the Foreign Trade Zones Board to the U.S. Congress of the United States*, August 2015, p. 1. Whirlpool's FTZ subzone is 8I, located in Clyde, Ohio. It is a subzone of FTZ 8, Toledo—Lucas County Port Authority.

²⁶ For an example of the type of foreign components admitted into the FTZ, Whirlpool submitted an application for production activities to the FTZ board that named the following components: self-tapping screws, screws, bolts, washers, articles of steel, base metal mountings, housings for wax motors, appliance fans, water filters, various DC motors, various AC multi-phase motors, lamp sockets, halogen lamps, power cords, wire harnesses, carbon brush assemblies, pressure sensors and thermostats. *Foreign-Trade Zone (FTZ) 8—Toledo, Ohio, Notification of Proposed Production Activity, Whirlpool Corporation, Subzone 8I, (Washing Machines), Clyde and Green Springs, Ohio*, 78 FR 64197, October 28, 2013.

²⁷ Petitioner explained that tariff savings occurs when the foreign components admitted into the FTZ have a higher duty rate than a finished washer. In those cases, the foreign components will be classified as the finished washer when they are withdrawn from the FTZ and will be subject to the lower duty applicable to finished washers. U.S. producer questionnaire of Whirlpool, question II-6(b); Petitioner's postconference brief, Answers to Staff Questions, pp. 11-12.

²⁸ Under FTZ regulations, "manufacturing" means any production activities that result in a substantial transformation of a foreign article to a new and different article having a different name, character, and use, or which causes a change in its HTS classification of the merchandise or in its eligibility for entry for consumption. *Foreign Trade Zones Manual*, U.S. Customs and Border Protection, Publication no. 0000-0559A (2011), p. 102.

foreign component, regardless of the number of foreign components or the share of U.S. content.²⁹

Because of this FTZ rule of origin, proprietary data obtained from CBP showed that ***.³⁰ Table III-4 presents Whirlpool's U.S. shipments of LRWs exiting its FTZ for U.S. consumption, the value of foreign content, total value of its U.S. shipments, the unit values, and ratios to total value of its U.S. shipments. As shown in table III-4, in 2015, *** of Whirlpool's total U.S. shipments exited through its FTZ. Of those shipments, *** percent of their content originated in the United States while *** percent were foreign components, some of which from China.³¹ In the preliminary phase of this investigation, the Commission treated LRWs withdrawn by Whirlpool from its FTZ as domestically produced LRWs.³² Due to the nature of these shipments, throughout this report, U.S. shipments of LRWs exiting Whirlpool's FTZ have not been deemed U.S. imports and have not been included in data showing U.S. imports from China.

Table III-4

LRWs: Whirlpool's U.S. shipments of its production of LRWs in its foreign trade zone (FTZ) , 2013-15, January-June 2015, and January-June 2016

* * * * *

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

All configurations of LRWs

As presented in table III-5, the volume of U.S. shipments of LRWs of all configurations increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. shipments increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. The volume of export shipments of LRWs decreased by *** percent from 2013 to 2015 and was lower by *** percent in January-June 2016 than in January-June 2015.³³ The value of export

²⁹ Petitioner's postconference brief, Answers to Staff Questions, pp. 11-12. *Foreign Trade Zones Manual*, U.S. Customs and Border Protection, Publication No. 0000-0559A (2011).

³⁰ In 2013, Whirlpool accounted for *** percent of total U.S. imports from China, in 2014, *** percent, and in 2015, *** percent. Proprietary data obtained from CBP for HTS statistical reporting numbers 8450.20.0040, 8450.20.0080, and 8540.20.0090.

³¹ Again, under FTZ country of origin rules, all foreign components are deemed to be the country of origin of the highest value component. Petitioner's postconference brief, Answers to Staff Questions, pp. 11-12 (example of FTZ country of origin rules).

³² *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Preliminary)*, Publication No. 4306 (February 2012), p. 18.

³³ Whirlpool stated that the primary reason for the domestic industry's reported decrease in export shipments during the period of investigation was the decrease in export shipments to Canada, the U.S. industry's largest export market, due to an economic recession in Canada. Hearing transcript, p. 66 (Fettig). The gross domestic product of Canada, in current U.S. dollars, was \$1.84 trillion in 2013, \$1.78

(continued...)

shipments decreased by *** percent from 2013 to 2015 and was lower by *** percent in January-June 2016 than in January-June 2015. U.S. producers reported that their principal export markets were *** during the period of investigation.

Table III-5

LRWs: U.S. producers' U.S. shipments, exports shipments, and total shipments of all configurations of LRWs, 2013-15, January-June 2015, and January-June 2016

* * * * *

Top load LRWs

Top load LRWs accounted for between *** percent and *** percent of total U.S. producers' U.S. commercial shipments during the period of investigation. U.S. producers' export shipments of top load LRWs accounted for between *** percent and *** percent of all export shipments. As presented in table III-6, the volume of U.S. shipments of top load LRWs increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. shipments increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. The volume of export shipments of LRWs decreased by *** percent from 2013 to 2015 and was lower by *** percent in January-June 2016 than in January-June 2015. The value of export shipments decreased by *** percent from 2013 to 2015 and was lower by *** percent in January-June 2016 than in January-June 2015.

Table III-6

LRWs: U.S. producers' U.S. shipments, exports shipments, and total shipments of top load LRWs, 2013-15, January-June 2015, and January-June 2016

* * * * *

Front load LRWs

Front load LRWs accounted for between *** percent and *** percent of total U.S. producers' U.S. commercial shipments of LRWs during the period of investigation. U.S. producers' export shipments of top load LRWs accounted for between *** percent and *** percent of all export shipments of LRWs. As presented in table III-7, the volume of U.S. shipments of front load LRWs increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. shipments increased by *** percent from 2013 to 2015 but was lower by *** percent in January-June 2016 than in January-June 2015. The volume of export shipments of LRWs increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in

(...continued)

trillion in 2014, and \$1.55 trillion in 2015, a decrease of 15.8 percent during the period of investigation.

<http://databank.worldbank.org/data/reports.aspx?source=2&country=CAN#>

January-June 2015. The value of export shipments increased by *** percent from 2013 to 2015 but was lower by *** percent in January-June 2016 than in January-June 2015.

Table III-7

LRWs: U.S. producers' U.S. shipments, exports shipments, and total shipments of front load LRWs, 2013-15, January-June 2015, and January-June 2016

* * * * *

U.S. producers' U.S. commercial shipments of top load LRWs by Energy Star Rating

U.S. producers were requested to report their U.S. commercial shipments of top load LRWs, by efficiency, or rather, whether a particular top load LRW is considered "high efficiency".³⁴ The parties generally agreed that the "high efficiency" designation is attained by a LRW model that receives the Energy Star rating.³⁵ Therefore, table III-8 presents U.S. producers' U.S. commercial shipments of top load LRWs that have earned an Energy Star rating and those that have not.³⁶ As shown, the share of U.S. shipments of top load LRWs with an Energy Star rating has decreased throughout the period of investigation. In 2013, *** percent of all U.S. producers' U.S. commercial shipments were Energy Star rated whereas this share by January-June 2016 was only *** percent of U.S. shipments. The largest annual decline occurred from 2014 to 2015 as the most current and more stringent energy efficiency standards became effective on March 7, 2015.

Table III-8

LRWs: U.S. producers' U.S. commercial shipments of top load LRWs, by Energy Star rating, 2013-15, January-June 2015, and January-June 2016

* * * * *

³⁴ On March 7, 2015, new energy efficiency standards became effective. *See, Part I, Features, Energy efficiency.* Prior to March 7, 2015, generally, all top load LRWs with an agitator did not meet Energy Star standards and were not considered "high efficiency" while all top load LRWs with an impeller did meet those standards and were considered "high efficiency." Also, all front load LRWs did meet the Energy Star standards and were considered "high efficiency." After the new, more stringent energy efficiency standards became effective on March 7, 2015, those categories of LRW that were considered "high efficiency" were more difficult to discern and the definition of "high efficiency" became somewhat blurred. Generally, all front load LRWs qualify for Energy Star ratings.

³⁵ In the preliminary phase of this investigation, parties were asked how they defined "high efficiency" under the new standards. Three of the four U.S. producers, Whirlpool, GE, and Alliance, stated that they ***. U.S. producer questionnaire responses of Whirlpool, GE, and Alliance, question II-9 (Staber did not provide a response). Samsung stated that ***. LG stated that ***. U.S. importer questionnaire responses of Samsung and LG, question II-7.

³⁶ For data regarding U.S. importers' U.S. commercial shipments based on Energy Star rating, see *Part IV, U.S. importers U.S. commercial shipments.*

Agitator vs. No Agitator

Respondents LG and Samsung argued that competition between domestically-produced LRWs and U.S. imports of LRWs from China is attenuated by the absence of subject imports in the agitator-based top load LRW segment.³⁷ Respondents stated that they neither produce nor import top load LRWs with agitators and therefore, do not compete in this sizable U.S. market segment.³⁸ Petitioner argued that the respondents' focus on agitator vs. non-agitator categories mischaracterizes the issue. It claimed that the presence of an agitator on a particular LRW model does not prevent it from competing in market segments that include LRWs without an agitator. Petitioner claimed that the issue, properly stated, is whether U.S. imports from China compete in the "value" segment of the U.S. market.³⁹ Petitioner stated that respondents do compete in the "value" market segment with low-priced LRWs without agitators. Petitioner presented recent instances in which it experienced competition in the "value" segment of the LRW market from U.S. imports from China. These instances included LRWs without agitators, produced by LG and Samsung, which Whirlpool has claimed competed with domestic top load LRWs with agitators.⁴⁰

U.S. producers were requested to report their U.S. commercial shipments of top load LRWs based on whether or not the LRW model contained an agitator. Models "without agitators" were defined as those models that included "impellers," "agi-pellers," or "infusors." These data are presented in table III-9.⁴¹ As shown, *** U.S. producers' U.S. commercial shipments of top load LRWs during the period of investigation contained agitators. However, these shipments as a share of total top load LRWs *** during the period of investigation as the most recent and more stringent energy efficiency standards, which require the use of less water in the tub during the wash and rinse cycles, created a disincentive to produce top load LRWs with agitators because agitators require more water to function properly.

³⁷ *Large Residential Washers from China*, Inv. No. 731-TA-1306 (Preliminary), USITC Pub. 4591 (February 2016), pp. 23-24; *LG and Samsung Comments on Draft Questionnaires*, August 23, 2016, pp. 10-11; Respondents' prehearing brief, pp. 44-45.

³⁸ Respondents' prehearing brief, p. 44.

³⁹ Petitioner's posthearing brief, pp. I-12-I-13. Respondents claimed that the presence of an agitator itself defines the low-price "value" segment of the U.S. market. They claimed that the Whirlpool and GE use of agitators, even under the more stringent energy efficiency standards, is a way of informing its customers which LRW models are included in the low-priced, value segment. Respondents' posthearing brief, p. 10 & attachment A, p. 6; Hearing transcript, p. 155 (Toohey).

⁴⁰ Petitioner's posthearing brief, I-12-I-13 and II-16-II-19; Petitioner's prehearing brief, p. 63-65; Conference transcript, p. 226 (Herring) ("74 percent of our business {LG} is done above \$600. So there's some segment that does dip below \$600."); Conference transcript, p. 226 (Brindle) ("So Samsung would have a product or two in that price band {\$450-\$500}"). Respondents argued that these statements only established that LG and Samsung had some LRW models within a particular price range and not that these models competed directly with domestic LRW models with agitators. Respondents posthearing brief, attachment A, p. 57.

⁴¹ For data regarding U.S. importers' U.S. commercial shipments based on whether or not the LRW model contains an agitator, see *Part IV, U.S. importers U.S. commercial shipments*.

Table III-9

LRWs: U.S. producers' U.S. commercial shipments of top load LRWs, agitator vs. no agitator, 2013-15, January-June 2015, and January-June 2016

* * * * *

Attachment rate of U.S. producers' U.S. commercial shipments of LRWs with sales of dryers⁴²

Respondents LG and Samsung argued that LRW sales by retailers to consumers, which are accompanied by matching dryer sales, are an important condition of competition in the U.S. market. Specifically, respondents claimed that LRWs and dryers are often designed and marketed to be sold in pairs, and that retailers expect suppliers to offer matching LRWs and dryers at the same price so retail advertisements can feature both products at the same price, even though dryers cost less to produce than LRWs.⁴³ According to them, if the price of a LRW and a dryer is equal then the sale of the dryer, which cost less to produce, would cross-subsidize the profitability of the accompanying LRW. Respondents argued that such product cross-subsidization would create an artificially higher operating income for dryers and an artificially lower operating income for LRWs.⁴⁴

Petitioner stated that it did not intentionally compensate for losses on sales of LRWs with profitable sales of matching dryers.⁴⁵ Petitioner argued that ***. It claimed that when

⁴² See Part IV, *Attachment rate of U.S. importers' U.S. commercial shipments of LRWs with sales of dryers*, for the attachment rate for U.S. commercial shipments of LG and Samsung.

⁴³ The parties appear to agree that retailers are the market participants which set matching dryer and LRW retail prices as a marketing technique. The retailers do not *require* from the manufacturers matched or "bundled" pricing of dryers and LRWs. Petitioner's posthearing brief, p. II-29; Respondents' prehearing brief, p. 103 fn. 213.

⁴⁴ In the preliminary phase of this investigation, the Commission invited the parties to argue how matching dryer sales could be a condition of competition, but addressed the issue of product cross-subsidization of LRWs and dryers and declined to consider dryer profitability in its analysis. The Commission stated:

Contrary to respondents' suggestion that alleged profits on dryers might outweigh the domestic industry's losses on LRWs, the focus of our injury analysis must be domestic producers as a whole of the domestic like product, which is LRWs. Accordingly, we do not examine the effects of subject imports on the domestic producers' overall corporate operations, or on consolidated product lines such as all home laundry equipment, but only on the operations producing LRWs. Nor does the statute generally permit us to compare the performance of one industry versus another, such as the LRW and dryer industries.

Large Residential Washers from China, Inv. No. 731-TA-1306 (Preliminary), USITC Pub. 4591 (February 2016), p. 21.

⁴⁵ Hearing transcript, p. 35, 97 (Fettig)(“ we evaluate it based on the profitability of washers by themselves. We evaluate investments in dryers for capital on dryers by themselves . . . You know, the fact of the matter is you cannot subsidize a major product category like washers with profitability off the rest of your line. It's just a -- it's a slippery slope and we don't do it. We don't do it at all.”).

LRWs and dryers are sold as pairs, and at the same price, it is done at a different level of trade, namely, at the retail level.⁴⁶

In the final phase of this investigation, the Commission asked U.S. producers what share of their U.S. commercial shipments in 2015 were made with accompanying dryer sales (known hereafter as the “attachment rate”).⁴⁷ U.S. producers were also asked if the invoice price differed for the LRW and the dryer for these “attached” 2015 U.S. shipments.

Whirlpool maintained that it ***. Nonetheless, it reported that ***.⁴⁸ Whirlpool also estimated that of the U.S. commercial shipments that did include both a LRW and a dryer during the period of investigation, ***.⁴⁹

GE reported that it does not compile data on sales of its LRWs that include an accompanying dryer nor is it able to reasonably estimate an attachment rate of its U.S. commercial shipments in 2015. It did state that ***.⁵⁰

U.S. PRODUCERS’ INVENTORIES

Table III-10 presents U.S. producers’ end-of-period inventories of LRWs and the ratio of these inventories to U.S. producers’ production, U.S. shipments, and total shipments over the period of investigation. U.S. producers’ end-of-period inventories ***.

⁴⁶ Petitioners’ postconference brief, pp. 41-42.

⁴⁷ ***.

⁴⁸ Whirlpool stated that the “attachment rate” may be defined differently depending upon the level of trade. It defined the attachment rate at the wholesale level as the ratio of total dryer sales to LRWs sales in the aggregate. At the retail level, the definition is the share of actual customers that purchase a dryer and LRW on the same invoice. Respondents stated that they define attachment rate using the “wholesale” definition, namely, the ratio of dryer sales to LRW sales in a given period. Hearing transcript, p. 171 (Thompson).

Whirlpool maintained that its “retail” attachment rate is ***. Petitioner’s posthearing brief, p. II-30. At the hearing, it stated that using the wholesale definition, the attachment rate can range from 20 to 120 percent depending on the LRW model. Hearing transcript, p. 78 (Fettig); Petitioner’s posthearing brief, pp. II-29-II-30.

In its questionnaire response, Whirlpool also provided an estimate, based on 2015 sales data, of an “attachment rate” that was defined as the ratio of total wholesale dryer sales to total wholesale LRW sales for the SKUs which “aesthetically match” one another. Using this methodology, Whirlpool estimated attachment rates of *** percent for top load LRWs with agitators, *** percent for top load LRWs with impellers, and *** percent for front load LRWs. It stated that individual shipments to retailers may include only washers, only dryers, or a combination of the two, in varying proportions. U.S. producer questionnaire of Whirlpool, question II-15.

⁴⁹ Whirlpool reported that the average price difference between the LRW and the accompanying dryer in 2015 was *** in transactions involving top load LRWs with agitators, *** in transactions involving top load LRWs with impellers, and *** in transactions involving front load LRWs. U.S. producer questionnaire of Whirlpool, question II-15(c).

⁵⁰ U.S. producer questionnaire of GE, question II-16.

Table III-10

LRWs: U.S. producers' inventories, 2013-15, January-June 2015, and January-June 2016

* * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

*** U.S. producers, Whirlpool, GE, or Staber, reported U.S. imports or purchases of U.S. imports of LRWs from China.

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Data provided by U.S. producers on the number of production and related workers ("PRWs") engaged in the production of LRWs, the total hours worked by such workers, wages paid to such PRWs, productivity, and unit labor costs during the period of investigation are presented in table III-11.

Table III-11

LRWs: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2013-15, January-June 2015, and January-June 2016

* * * * *

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

U.S. IMPORTERS

The Commission sent U.S. importer questionnaires to 10 firms¹ identified in the petition and proprietary import data obtained from U.S. Customs and Border Patrol (“CBP”) as possible U.S. importers of LRWs, as well as to all U.S. producers. The Commission received questionnaire responses from three firms. Among those responses, Samsung Electronics America, Inc. (“Samsung USA”)² and LG Electronics USA, Inc. (“LG USA”) accounted for virtually all U.S. imports of LRWs from China.³ Electrolux North America, Inc. (“Electrolux”) reported U.S. imports from ***. LG and Samsung also reported ***. Reported U.S. imports from nonsubject countries accounted for approximately *** percent of total U.S. imports from nonsubject countries in 2015.⁴

¹ The ten possible U.S. importers included: ***.

Whirlpool reported that it *** during the period of investigation.

Sears Holding Corp. is a U.S. purchaser and not a U.S. importer of LRWs.

GE reported that it ***. U.S. producer questionnaire of GE; Supplemental U.S. importer questionnaire issued to GE.

Haier America and its parent company, Haier Group, a producer of LRWs in China, declined to submit questionnaires in this investigation. ***.

² Top load LRWs imported by Samsung USA have recently experienced quality concern issues. On September 28, 2016, the U.S. Consumer Product Safety Commission (“CPSC”) announced that it was in consultations with Samsung USA to address safety issues related to certain top load washing machines it manufactured between March 2011 and April 2016. On November 4, 2016, Samsung USA, in cooperation with the CPSC, announced a voluntary recall of certain top-load washers manufactured between March 2011 and the present. The recall was prompted by reports of instances where the washer drums lost balance, triggering excessive vibrations, resulting in the top separating from the washer. The recall offers either free in-home repair or a rebate based on the manufacture date and model of the recalled washer. The recall affects approximately 34 models and 3 million LRW units. *Samsung Announces Voluntary Recall of Certain Top Load Washers*, Samsung press release, November 4, 2016.

On August 12, 2016, a federal class action seeking injunctive, compensatory, and punitive damages was filed regarding the alleged defects in Samsung’s top load LRWs. The suit is currently seeking class certification in federal court. *Moore vs. Samsung Electronics America, Inc.*, Case No. 2:16-cv-4966, U.S. District of New Jersey, August 12, 2016.

³ Proprietary data obtained from CBP show that in 2015, ***, accounted for *** percent of all U.S. imports from China under HTS statistical reporting numbers 8450.20.0040, 8450.20.0080, and 8540.20.0090. The remaining small volumes of U.S. imports from China were imported by ***. The proprietary data obtained from CBP showing U.S. imports from China by ***. See, *Part III, Whirlpool’s foreign trade zone (FTZ) production activities*.

⁴ Estimated data coverage of U.S. imports from nonsubject countries in 2015 is calculated by comparing total U.S. imports from nonsubject countries as reported by those firms listed in table IV-1 with total U.S. imports from nonsubject sources as compiled by proprietary import data obtained from CBP ***. Estimated data coverage of U.S. imports from nonsubject countries is likely understated

(continued...)

Table IV-1 lists all responding U.S. importers of LRWs, their headquarter locations, and their share of quantities of U.S. imports, by source, during the period of investigation.

Table IV-1
LRWs: U.S. importers by source, 2015

Firm	Headquarters	Share of imports by source (percent)		
		China	All other sources	Total imports
Electrolux ¹	Charlotte, NC	***	***	***
LG USA ²	Englewood Cliffs, NJ	***	***	***
Samsung USA ³	Ridgefield Park, NJ	***	***	***
Total		***	***	***

¹ Electrolux Home Products, Inc. (“Electrolux”) is a wholly owned subsidiary of AB Electrolux of Stockholm, Sweden. Electrolux is also affiliated with Electrolux Home Products, Corp. N.V. of Chihuahua, Mexico, a producer of LRWs in Mexico. Electrolux did not submit a U.S. importer questionnaire to the Commission. Electrolux’s U.S. imports from ***.

² LG Electronics USA, Inc. (“LG USA”) is a wholly owned subsidiary of LG Electronics, Inc. of Seoul, Korea, which is a producer of LRWs in Korea, and an affiliate of Nanjing LG Panda Appliances Co., Ltd. of Nanjing City, China, which is a producer of LRWs in China.

³ Samsung Electronics America, Inc. (“Samsung USA”) is a wholly owned subsidiary of Samsung Electronics Co., Ltd. of Gyeonggi-do, Korea, which is a producer of LRWs in Korea, and an affiliate of Suzhou Samsung Electronics Co., Ltd. of Jangsu, China and Suzhou Samsung Electronics Co., Ltd.—Export of Jangsu, China, both of which are producers of LRWs in China. Samsung USA is also affiliated with Samsung Electronics Mexico, S.A. de C.V. of Queretaro, Mexico, which is a producer of LRWs in Mexico.

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

U.S. IMPORTS

All configurations of LRWs

Table IV-2 presents data for U.S. imports of LRWs of all configurations from China and nonsubject countries. The U.S. import data are compiled using responses to the Commission’s U.S. importer questionnaire. As shown in table IV-2, the quantity of U.S. imports of LRWs from China increased by *** percent from 2013 to 2015, and was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. imports of LRWs from China increased by *** percent from 2013 to 2015, and was higher by *** percent in January-June 2016 than in January-June 2015. The quantity of U.S. imports from nonsubject countries of LRWs decreased by *** percent from 2013 to 2015 but was higher by *** percent in January-June 2016 than in January-June 2015.⁵ The value of U.S. imports from nonsubject countries of LRWs decreased by *** percent from 2013 to 2015 but was higher by *** percent in January-June 2016 than in

(...continued)

because the HTS subheadings used to compile import data from CBP contain products outside the scope of this investigation.

⁵ ***.

January-June 2015. The largest sources of U.S. imports of LRWs from nonsubject countries in 2015 were: ***.⁶

Table IV-2
LRWs: U.S. imports by source, 2013-15, January-June 2015, and January-June 2016

* * * * *

Top load LRWs

During the period of investigation, top load LRWs accounted for between *** percent and *** percent of total U.S. imports of LRWs from China and between *** percent and *** percent of all U.S. imports from nonsubject countries. As shown in table IV-3, the quantity of U.S. imports of top load LRWs from China increased by *** percent from 2013 to 2015, and was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. imports of top load LRWs from China increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. The quantity of U.S. imports of top load LRWs from nonsubject countries of LRWs decreased by *** percent from 2013 to 2015 but was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. imports of top load LRWs from nonsubject countries of LRWs decreased by *** percent from 2013 to 2015 but was higher by *** percent in January-June 2016 than in January-June 2015.

Table IV-3
LRWs: U.S. imports of top load LRWs, by source, 2013-15, January-June 2015, and January-June 2016

* * * * *

Front load LRWs

During the period of investigation, front load LRWs accounted for between *** percent and *** percent of total U.S. imports of LRWs from China and between *** percent and *** percent of all U.S. imports from nonsubject countries. As shown in table IV-4, the quantity of U.S. imports of front load LRWs from China increased by *** percent from 2013 to 2015, and was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. imports of front load LRWs from China increased by *** percent from 2013 to 2015, and was higher by *** percent in January-June 2016 than in January-June 2015. The quantity of U.S. imports of front load LRWs from nonsubject countries of LRWs decreased by *** percent from 2013 to 2015 but was higher by *** percent in January-June 2016 than in January-June 2015. The value of U.S. imports of front load LRWs from nonsubject countries of LRWs decreased by

⁶ Based on 2015 proprietary import data obtained from CBP of all U.S. imports under HTS statistical reporting numbers 8450.20.0040, 8450.20.0080, and 8540.20.0090.

*** percent from 2013 to 2015 but was higher by *** percent in January-June 2016 than in January-June 2015.

Table IV-4

LRWs: U.S. imports of front load LRWs, by source, 2013-15, January-June 2015, and January-June 2016

* * * * *

U.S. IMPORTERS' U.S. SHIPMENTS

U.S. importers' U.S. commercial shipments of top load LRWs by Energy Star Rating

U.S. importers were requested to report their U.S. commercial shipments of top load LRWs, by efficiency, or rather, whether a particular top load LRW is considered “high efficiency”.⁷ The parties generally agreed that the “high efficiency” designation is attained by a LRW model that warrants the Energy Star rating.⁸ Therefore, table IV-5 presents U.S. importers’ U.S. commercial shipments of top load LRWs by those that have earned an Energy Star rating and those that have not.⁹ As shown, prior to 2015, before the current and more stringent energy efficiency standards became effective, *** percent of U.S. importers’ U.S. commercial shipments of top load LRWs from China warranted an Energy Star rating. In 2015, after the more stringent standards became effective, *** percent of all U.S. importers’ U.S. commercial shipments from China warranted the Energy Star rating. With regard to U.S. importers’ U.S. commercial shipments from nonsubject countries, *** percent warranted the Energy Star rating throughout the period of investigation.¹⁰

⁷ On March 7, 2015, new energy efficiency standards became effective. *See, Part I, Features, Energy efficiency.* Prior to March 7, 2015, generally, all top load LRWs with an agitator did not meet Energy Star standards and were not considered “high efficiency” while all top load LRWs with an impeller did meet those standards and were considered “high efficiency.” Also, all front load LRWs did meet the Energy Star standards and were considered “high efficiency.” After the new, more stringent energy efficiency standards became effective on March 7, 2015, those categories of LRW that were considered “high efficiency” were more difficult to discern and the definition of “high efficiency” became somewhat blurred. Generally, all front load LRWs qualify for Energy Star ratings.

⁸ In the preliminary phase of this investigation, parties were asked how they defined “high efficiency” under the new standards. Three of the four U.S. producers, Whirlpool, GE, and Alliance, stated that they ***. U.S. producer questionnaire responses of Whirlpool, GE, and Alliance, question II-9 (Staber did not provide a response). Samsung stated that ***. LG stated that ***. U.S. importer questionnaire responses of Samsung and LG, question II-7.

⁹ For data regarding U.S. producers’ U.S. commercial shipments based on Energy Star rating, see *Part III, U.S. producers’ U.S. commercial shipments.*

¹⁰ These U.S. shipments include U.S. imports reported by ***.

Table IV-5

LRWs: U.S. shipments of imports of top load LRWs, by source and Energy Star rating, 2013-15, January-June 2015, and January-June 2016

* * * * *

Agitator vs. No Agitator

Respondents LG and Samsung argued that competition between domestically-produced LRWs and U.S. imports of LRWs from China is attenuated by the absence of subject imports in the agitator-based top load LRW segment.¹¹ U.S. importers were requested to report their U.S. commercial shipments of top load LRWs based on whether or not the LRW model contained an agitator. Models “without agitators” were defined as those models that included “impellers,” “agi-pellers,” or “infusors.” These data are presented in table IV-6.¹² As shown, during the entire period of investigation, *** of U.S. importers’ U.S. commercial shipments of top load LRWs from China contained agitators. With regard to U.S. importers’ U.S. commercial shipments from nonsubject countries, throughout the period of investigation, *** contained agitators.¹³

Table IV-6

LRWs: U.S. shipments of imports by source, agitator vs. no agitator, 2013-15, January-June 2015, and January-June 2016

* * * * *

Attachment rate of U.S. importers’ U.S. commercial shipments of LRWs with sales of dryers¹⁴

Respondents argued that LRW sales by retailers to consumers, which are accompanied by matching dryer sales, are an important condition of competition in the U.S. market. In the final phase of this investigation, the Commission asked U.S. importers what share of their U.S. commercial shipments of LRWs in 2015 were made with accompanying dryers (the “attachment

¹¹ *Large Residential Washers from China*, Inv. No. 731-TA-1306 (Preliminary), USITC Pub. 4591 (February 2016), pp. 23-24; *LG and Samsung Comments on Draft Questionnaires*, August 23, 2016, pp. 10-11.

¹² For data regarding U.S. producers’ U.S. commercial shipments based on whether or not the LRW model contains an agitator, see *Part III, U.S. producers’ U.S. commercial shipments*. Whirlpool contended that although respondents do not produce an LRW with an agitator, they still compete in the “value” segment of the U.S. LRW market. Petitioner’s posthearing brief, II-16-II-19.

¹³ These U.S. shipments include U.S. imports reported by ***.

¹⁴ See Part III, *Attachment rate of U.S. producers’ U.S. commercial shipments of LRWs with sales of dryers*, for the attachment rate for U.S. commercial shipments of Whirlpool.

rate”). U.S. importers were also asked if the invoice price differed for the LRW and the dryer for these “attached” 2015 U.S. shipments.¹⁵

Based on its own internal records, LG USA reported that its attachment rate of LRWs to dryers in 2015 was *** percent of shipments for top load LRWs with an impeller and *** percent of shipments for front load LRWs. It stated that during the period of investigation, ***.¹⁶

Similarly, Samsung USA reported that its attachment rate of LRWs to dryers in 2015 was *** percent of shipments for top load LRWs with an impeller and *** percent of shipments for front load LRWs. It also stated that during the period of investigation, ***.¹⁷

Both LG USA and Samsung USA stated that in the ordinary course of business, they analyze the profitability of both LRWs and dryers together as a single “laundry” business unit in making pricing, product launch, and investment decisions.¹⁸

Electrolux reported that its attachment rate of LRWs to dryers in 2015 was *** percent of shipments for top load LRWs with an impeller and *** percent of shipments for front load LRWs. It stated that during the period of investigation, ***.^{19 20}

NEGLIGENCE

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.²¹ 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

¹⁵ Respondents stated that they define “attachment rate” as the ratio of dryer sales to LRW sales in a given period. Hearing transcript, p. 171 (Thompson). Whirlpool stated that the “attachment rate” may be defined differently depending upon the level of trade. It defined the attachment rate at the wholesale level as the ratio of total dryer sales to LRWs sales in the aggregate. At the retail level, the definition is the share of actual customers that purchase a dryer and LRW on the same invoice. Petitioner’s posthearing brief, pp. II-29-II-30.

¹⁶ U.S. importer questionnaire of LG USA, question II-13.

¹⁷ U.S. importer questionnaire of Samsung USA, question II-13.

¹⁸ Respondents’ posthearing brief, pp. 3, 12, exh. 1 & 2. Whirlpool stated that it makes pricing and capital investment decisions regarding LRWs based solely on its LRW business segment. Hearing transcript, p. 97 (Fettig); Petitioner’s posthearing brief, p. II-29.

¹⁹ U.S. importer questionnaire of LG USA, question II-13.

²⁰ Neither LG USA, Samsung USA, nor Electrolux reported *** during the period of investigation.

²¹ Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.²² Based on data compiled from U.S. importer questionnaires, U.S. imports from China accounted for *** percent of total U.S. imports of LRWs by quantity during 2015 which is the most recent 12-month period for which data are available.

CRITICAL CIRCUMSTANCES

On July 26, 2016, Commerce issued its preliminary determination that “critical circumstances” exist with regard to U.S. imports from China of LRWs from Samsung USA.²³ If both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to antidumping duties retroactive by 90 days from July 26, 2016, the effective date of Commerce’s preliminary affirmative LTFV determination. However, on December 15, 2016, Commerce published a negative final determination²⁴ regarding critical circumstances finding that Samsung’s U.S. imports of LRWs from China did not increase the requisite 15.0 percent or more during the period it examined.²⁵ As a consequence of Commerce’s final negative critical circumstances determination, the Commission is not required to make a critical circumstances determination in the final phase of this investigation.

²² Section 771 (24) of the Act (19 U.S.C § 1677(24)).

²³ *Large Residential Washers From the People’s Republic of China: Preliminary Determination of Sales at Less Than Fair Value, Affirmative Preliminary Determination of Critical Circumstances, in Part, and Postponement of Final Determination*, 81 FR 48741, July 26, 2016.

When petitioners file timely allegations of critical circumstances, Commerce examines whether there is a reasonable basis to believe or suspect that (1) either there is a history of dumping and material injury by reason of dumped 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 subject merchandise at LTFV 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.

²⁴ *Large Residential Washers From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 81 FR 90776, December 15, 2016.

²⁵ *Issues and Decision Memorandum for the Final Determination; Large Residential Washers from the People’s Republic of China*, Christian Marsh, Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations, U.S. Department of Commerce, December 8, 2016, p.

APPARENT U.S. CONSUMPTION AND U.S. MARKET SHARES

All configurations of LRWs

Data on apparent U.S. consumption of LRWs of all configurations are presented in table IV-7. From 2013 to 2015, the quantity of apparent U.S. consumption of LRWs increased by *** percent and was higher by *** percent in January-June 2016 than in January-June 2015.²⁶ The value of apparent U.S. consumption increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. In 2015, total U.S. capacity to produce LRWs accounted for *** percent of total apparent U.S. consumption.

Data on U.S. market shares for LRWs are also presented in table IV-7. From 2013 to 2015, U.S. producers' U.S. market share based on volume decreased by *** percentage points, and was lower by *** percentage points in January-June 2016 than in January-June 2015.²⁷ From 2013 to 2015, U.S. producers' U.S. market share based on value decreased by *** percentage points, and was lower by *** percentage points in January-June 2016 than in January-June 2015. U.S. imports from China increased their U.S. market share by *** percentage points from 2013 to 2015 based on volume and *** percentage points based on value but was lower by *** percentage points based on volume (***) percentage points based on value) in January-June 2016 than in January-June 2015. U.S. imports from nonsubject countries decreased their U.S. market share by *** percentage points from 2013 to 2015 based on volume and *** percentage points based on value but was higher by *** percentage points based on volume (***) percent based on value) in January-June 2016 than in January-June 2015.

Table IV-7

LRWs: U.S. shipments of domestic product, U.S. shipments of imports, apparent U.S. consumption, and U.S. market shares, 2013-15, January-June 2015, and January-June 2016

* * * * *

Top load LRWs

Data on apparent U.S. consumption of top load LRWs are presented in table IV-8. From 2013 to 2015, the quantity of apparent U.S. consumption of top load LRWs increased by *** percent and was higher by *** percent in January-June 2016 than in January-June 2015. The

²⁶ During the preliminary phase of this investigation, the parties agreed that the increase in apparent U.S. consumption during the period of investigation was due in large part to strength in the housing market, both housing starts and sales of existing homes, and pent up replacement demand following the last recession. Petitioner's postconference brief, pp. 18-19; Respondents' postconference brief, p. 40.

²⁷ Petitioner argued that because of LTFV U.S. imports from China, it was neither able to capture any market share of the rising demand during the period of investigation nor recapture market share from U.S. imports after antidumping and countervailing duties were imposed on LRWs from Korea and Mexico in 2013. Petitioner's postconference brief, pp. 25-26.

value of apparent U.S. consumption increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015.

Data on U.S. market shares for top load LRWs are also presented in table IV-8. From 2013 to 2015, U.S. producers' U.S. market share based on volume decreased by *** percentage points, and was lower by *** percentage points in January-June 2016 than in January-June 2015. From 2013 to 2015, U.S. producers' U.S. market share based on value decreased by *** percentage points and was lower by *** percentage points in January-June 2016 than in January-June 2015. U.S. imports from China increased their U.S. market share by *** percentage points from 2013 to 2015 based on volume and *** percentage points based on value but was lower by *** percentage points based on volume (*** percentage points based on value) in January-June 2016 than in January-June 2015. U.S. imports from nonsubject countries decreased their U.S. market share by *** percentage points from 2013 to 2015 based on volume and *** percentage points based on value but was higher by *** percentage points based on volume (*** percent based on value) in January-June 2016 than in January-June 2015.

Table IV-8

LRWs: U.S. shipments of domestic product, U.S. shipments of imports, apparent U.S. consumption, and U.S. market shares of top load LRWs, 2013-15, January-June 2015, and January-June 2016

* * * * *

Front load LRWs

Data on apparent U.S. consumption of front load LRWs are presented in table IV-9. From 2013 to 2015, the quantity of apparent U.S. consumption of front load LRWs increased by *** percent and was higher by *** percent in January-June 2016 than in January-June 2015. The value of apparent U.S. consumption increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015.

Data on U.S. market shares for front load LRWs are also presented in table IV-9. From 2013 to 2015, U.S. producers' U.S. market share based on volume increased by *** percentage points²⁸ but was lower by *** percentage points in January-June 2016 than in January-June 2015. From 2013 to 2015, U.S. producers' U.S. market share based on value increased by *** percentage points but was lower by *** percentage points in January-June 2016 than in January-June 2015. U.S. imports from China increased their U.S. market share by ***

²⁸ Petitioner stated that the increase of its U.S. market share of front load LRWs and the corresponding decrease in U.S. market share of U.S. imports from nonsubject countries during the period of investigation was the result, in part, of its repatriation of its production of front load LRWs from Mexico to the United States. It reported that its U.S. imports from Mexico ceased in 2012. Petitioner's posthearing brief, p. I-5. Petitioner maintained that its U.S. market share gain in front load LRWs would have been much greater but for dumped U.S. imports of LRWs from China. Hearing transcript, p. 94 (Levy). Respondents argued that petitioner is not entitled to the U.S. market share once held by its affiliate in Mexico and that the respondents also lost U.S. market share from its operations in the nonsubject countries of Mexico and Korea. Respondents' posthearing brief, p. 5 fn. 16.

percentage points from 2013 to 2015 based on volume and *** percentage points based on value and was higher by *** percentage points based on volume (*** percentage points based on value) in January-June 2016 than in January-June 2015.²⁹ U.S. imports from nonsubject countries decreased their U.S. market share by *** percentage points from 2013 to 2015 based on volume and *** percentage points based on value but was higher by *** percentage points based on volume (*** percent based on value) in January-June 2016 than in January-June 2015.

Table IV-9

LRWs: U.S. shipments of domestic product, U.S. shipments of imports, apparent U.S. consumption, and U.S. market shares of front load LRWs, 2013-15, January-June 2015, and January-June 2016

* * * * *

²⁹ Respondents claimed that none of its increase in U.S. market share during the period of investigation came at the expense of the domestic industry, which increased its U.S. market share during the period, but rather, at the expense of U.S. imports from nonsubject countries, including its operations in Korea and Mexico. Respondents' posthearing brief, p. 5 fn. 16.

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

Raw material costs, as a share of U.S. producers' total cost of goods sold (COGS), declined from *** percent in 2013 to *** percent in 2015. The primary raw materials used to produce LRWs are copper, aluminum, polypropylene, crude oil, carbon steel, stainless steel, and synthetic rubber.¹

*** of *** responding U.S. producers and *** of *** responding importers reported that raw material costs have decreased over the period of investigation.² U.S. importer *** reported that it has maintained its washer pricing in the U.S. market as global commodity prices for steel, plastic resin, and other metals continue to decrease. *** stated that it does not pass on raw material cost increases to its customers when raw material prices increase.

Both *** reported buying commodities on a *** basis. *** reported that *** for cold-rolled steel is ***, stainless steel has a ***, and for polypropylene has ***.³

The price of steel fluctuated during January 2013 through June 2016 (figure V-1). Prices of stainless steel cold-rolled sheet peaked in October 2014 and then declined. Overall, the price of stainless steel cold-rolled sheet decreased by 30.0 percent from January 2013 to June 2016. Prices of cold-rolled coil increased irregularly from 2013 through mid-2014, gradually decreased through December 2015 before increasing through June 2016. Overall, price of cold-rolled coil increased by 14.8 percent from January 2013 to June 2016. The prices of other raw material inputs such as polypropylene resin and copper have decreased during the period of investigation. Whirlpool reported that the prices for polypropylene resin have decreased by *** cents per pound or *** percent. The price of copper decreased by 12.1 percent from January 2013 to August 2015.⁴

¹ *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, USITC Staff Report, INV-LL-005, January 2013, p. V-1.

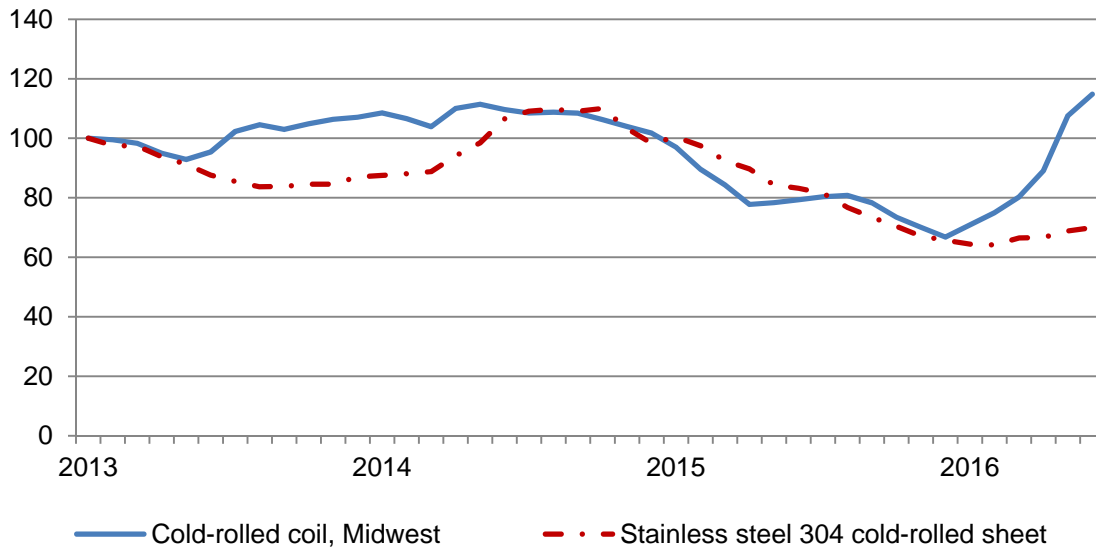
² U.S. producer *** and U.S. importer *** reported that raw material prices fluctuated over the period of investigation.

³ Petitioner's postconference brief, Answer to staff questions, p. 9, and GE's postconference submission, p 1.

⁴ BLS Producer Price Index-Commodities, January 15, 2016. Data for copper were only available through August 2015.

Figure V-1

Raw material costs: U.S. price indexes of cold-rolled steel in coil and stainless steel cold-rolled sheet, monthly, January 2013-June 2016



Source: American Metal Markets, October 2016.

U.S. inland transportation costs

*** and *** reported that they typically arrange transportation to their customers. Among U.S. producers, U.S. inland transportation costs ranged from *** to *** percent of the delivered cost of LRWs. Among U.S. importers, U.S. inland transportation costs ranged from *** to *** percent of the delivered cost of LRWs.

PRICING PRACTICES

Pricing methods

Price negotiations

Generally, purchasers reported weekly or even daily purchases of LRWs, with purchases from a given supplier often varying based on price.⁵ Most (19 of 30) purchasers contact 2 to 5 suppliers before making a purchase.

⁵ Sixteen purchasers reported that they purchase LRWs daily, thirteen purchase weekly, and one purchases monthly.

Minimum Advertised Prices

In the LRW market, pricing negotiations with retailers often consist of suppliers suggesting a minimum advertised price (MAP) for retail sale. At retail prices at or above the MAP, the supplier will support the retailer with advertising funds. The supplier then negotiates a profit margin for the retailer, consisting of the difference between the MAP and the retailer's acquisition cost. During promotional periods, the supplier may reduce the MAP and provide additional promotional support to preserve the retailer's profit margin.

Price determination and contracts

U.S. producers and importers set prices for LRWs using a variety of methods (table V-1). *** reported selling LRWs on the basis of transaction-by-transaction negotiations, contracts, set price lists, and margin opportunity.⁶ *** reported selling LRWs on the basis of transaction-by-transaction negotiations, contracts, and profit margin off of MAP.⁷ *** reported selling LRWs using a flexible price list negotiation. It stated that it uses a set price list for negotiations with individual customers; however, its prices change regularly through the use of a broad range of incentive programs.

Table V-1

LRWs: U.S. producers and importers reported price setting methods, by number of responding firms¹

Method	U.S. producers	Importers
Transaction-by-transaction	3	2
Contract	2	2
Set price list	2	1
Profit margin of minimum advertised price	1	2
Other	1	2

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 reported selling most of their product in the spot market whereas importers reported selling the vast majority of their product under annual contracts. As shown in table V-2, U.S. producers and importers reported their 2015 U.S. commercial shipments of LRWs by type of sale. *** reported that its short-term contracts averaged 90 days, allowed for price

⁶ *** reported using the margin opportunity to the estimated low retail price and *** reported using a profit margin off of the MAP.

⁷ Importer *** stated that washers and dryers are designed, marketed, and priced to be sold in pairs; and therefore, the profit margins calculated off of the MAP are linked to the dryer pricing.

renegotiation, and did not have a meet-or-release provision. *** and *** long-term contracts ranged from 1 to 3 years. *** and *** reported that their long-term contracts fixed prices and did not have meet-or-release provisions. *** and *** reported that their annual contracts have fixed prices and no meet-or-release provisions.

Additionally, *** reported that ***.⁸ ***.

Table V-2

LRWs: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2015

* * * * *

Cross-product impact

Most purchasers (24 of 30) reported that the availability and/or price of a highly featured LRW affects the sales of a less featured LRW. *** reported that the availability of a highly featured washer at a price equal to or lower than a less featured washer negatively impacts the demand for the less featured washer. Several purchasers described that when the price gap is close (with one firm specifying within \$200), consumers are willing to upgrade to a more highly featured LWR. One purchaser reported that the whole category of LRWs is compressed when higher priced LRWs are discounted.

Purchasers were asked how often price reductions on highly featured top load and front load washers from China put downward pressure on prices for less featured top load washers with agitators from the United States. More than half of purchasers (17 of 30) reported that highly featured top load washers from China “always” or “usually” put downward pressure on price for less featured top load washers with agitators from the United States, six purchasers reported “sometimes” and seven purchasers reported “never.” Thirteen of 30 purchasers reported that highly featured front load washers from China “always” or “usually” put downward pressure on prices for less featured top load washers with agitators from the United States, nine purchasers reported “sometimes” and eight reported “never.” Several purchasers stated the price of top load agitator models must decrease in order to maintain line logistics⁹ of good-better-best within each supplier’s line. Of the purchasers that reported that price reductions on highly featured top load and front load washers from China “sometimes” put downward pressure on prices for less featured top load washers with agitators from the United States, some attributed the price declines to key promotional periods during which all vendors are running discounts.

Purchasers were also asked how often price reductions on less featured top load washers with agitators from the United States put downward pressure on prices for highly featured top load and front load washers from China. Most purchasers (20 of 30) reported that less featured top load washers with agitators from the United States “never” put downward pressure on prices for highly featured top load LRWs from China. Similarly, most purchasers (21 of 30) reported that

⁸ ***.

⁹ Retailers floor a range of LRWs across a full range of price points.

less featured top load washers with agitators from the United States “never” put downward pressure on prices for highly featured front load LRWs from China. A few purchasers reported that if the price of less featured models declines, suppliers will sometimes provide discounts on high featured models in order to maintain parity in the marketplace.

Product life cycle pricing

*** and most purchasers (22 of 29) reported that the different stage of a LRW’s lifecycle does not affect the product’s price. *** reported that discounting appears at every stage of the product life cycle. *** reported that “except for small volumes of leftover inventory sold at closeout, *** has no business reason to reduce wholesale prices for any given model based on its so-called ‘life cycle.’” *** and seven purchasers reported the different stages of a LRW’s life cycle affect the product’s price. *** reported that LRWs are typically discounted at “end of life.” *** reported that the average life cycle for each model is 18 months but can range from 12 to 20 months. *** stated that when a new model is introduced, suppliers generally charge a premium price for consumers willing to pay more for the newest model. According to ***, once the model is mainstream, the price is reduced generally and remains relatively flat. At the end of a model’s life cycle, production, sales volumes, and prices are reduced to clear inventory as newer models are introduced. U.S. purchaser *** also stated that as products age, they become less competitive with new products and therefore their prices are reduced; it noted that additional discounting occurs when a product enters end-of-life in order to eliminate remaining inventory. U.S. purchaser *** reported that when the product’s price is reduced for consumers to liquidate remaining product, the product cost to *** does not change.

The majority of purchasers (24 of 30) reported that the cost of a LRW over its lifecycle does not impact their firms’ purchasing decision and 20 of 28 purchasers reported that it also does not impact their customers’ purchasing decisions. However, six purchasers indicated that the cost of a LRW over its lifecycle impacts their firms’ purchasing decision. Two purchasers stated that the product’s energy rating is a feature that is considered in the purchasing process.¹⁰ Two purchasers reported concerns with how long the product was going to last. Two purchasers described closeout pricing at the end of a product’s lifecycle.

Sales terms

The most typical payment terms for both U.S. producers and importers were net 30 days. *** typically quote prices on a delivered basis, while *** reported quoting prices on an f.o.b. warehouse basis.

¹⁰ The DOE implemented new regulations which increased both the minimum efficiency standards and the efficiency standards required for Energy Star certification for all LRWs in March 2015.

Direct and indirect discounts

Discounts on prices of LRWs fall into two categories: direct discounts (i.e., discounts, incentives, rebates, and other adjustments that are tied to a specific product being sold) and indirect discounts that are not tied to a specific product (i.e., allocated discounts, incentives, allowances, rebates tied to some broad performance measure or volume discounts based on multiple products, including different white goods and electronic products). U.S. producers and importers described a wide variety of total discounts. *** reported that they provide discounts both on a “sell-in” basis (to the retailer at the time of the sale from *** to the retailer) and on a “sell-through” basis (at the time of the retailer’s sale to the consumer). *** elaborated that its “sell-in” discounts are more prevalent to smaller retailers and “sell-through” discounts based on total volume sold more prevalent with larger retail customers. ***.¹¹ *** reported that using retail sale promotions during limited promotional windows based on “sell-through” quantities and providing quantity discounts, annual total volume discounts, sales incentives, promotional discounts, cooperative advertising, co-marketing funds, sales person incentives, inventory financing, display allowances, and transition funds on a “sell-in” basis. *** reported that almost all of its rebate programs are customer specific and are tailored differently to take into account the products covered (washer, both washer and dryer, and/or other *** products), the duration of the rebate program (one day, one week, or one month), the type of retailer, and a specific model.

Direct discounts

U.S. producers and importers reported a wide variety of direct discount policies (table V-3). *** indicated that they use quantity discounts, annual total volume discounts, sale incentives (including SPIFFS (sales person incentives)), promotional discounts, cooperative advertising allowances, and co-marketing funds. In addition, *** also noted providing inventory financing, display allowances, and transition funds. *** reported using annual total volume discounts, sales incentives, promotional discounts, cooperative advertising allowances, co-marketing funds, display allowances, and market development fund. *** reported using annual total volume discounts, promotional discounts, “Dealer Support” rebates (including annual volume rebates, price protection, trailing credits,¹² and sell-through support), SPIFFs, markdown support, display allowances, and bundle rebates. *** stated that discounts are offered on a case-by-case basis based on customers citing to cut-rate retail prices for subject imports.

¹¹ ***. *** producer questionnaire response, section IV-4c.

¹² *** described a trailing credit as a pre-agreed upon allowance, typically based on a percentage of sales (gross or net) that are allocated for promotional, operational or marketing activities. These credits are based on actual sales volume, and thus are realized after the sale and invoice of goods.

Table V-3**LRWs: U.S. producers' and importers' discounts offered by type**

Discounts	U.S. producers	U.S. importers
Quantity discounts	2	1
Annual total volume discounts	2	3
Sales incentives	2	2
Promotional discounts	2	3
Cooperative advertising allowances	2	2
Co-marketing funds	2	2
Other ¹	3	2
Total firms reporting	3	3

¹ Other discounts include: SPIFFS, inventory financing, display allowances, transition funds, market development fund, display allowance, dealer support rebates.

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

Indirect discounts

U.S. producers *** and importers *** described using a variety of different indirect discounts. *** reported providing a variety of indirect discount programs across a range of appliances, customers, buyer groups, and time periods. These indirect discounts include volume rebates, special price allowances (SPAs), and other trailing credits.¹³ *** added that some indirect discounts were offered on a conditional basis (e.g. for reaching volume targets, or increasing its floor space), while other programs were discretionary. *** reported that indirect discounts play an important role in its price negotiations with customers because they contribute to the margin that retailers demand in exchange for floor spots. *** reported that it offers backside adjustments or rebates on an ad hoc basis in order to meet a competitive offer. *** reported that at any given time, a *** reseller may be involved in or eligible for 20-30 distinct rebate programs over a given year. *** reported offering indirect discounts and rebates on a customer specific basis, but did not elaborate on the types of indirect discounts. *** reported that it does not distinguish between direct and indirect discounts. It reported providing different rebate programs based on the products covered (washers or washers and dryers), the time period, the type of retailer, and specific model. *** reported offering volume rebates through its annual programs, consumer rebates for specific models, store support, and co-op support. Among all sellers, indirect discounts were based on factors such as sales volume and marketing.

*** reported offering direct and/or indirect discounts for floor space. *** reported offering display discounts to customers in exchange for minimum floor space requirements and noted that flooring may also be a requirement in price negotiations on a given product. ***

¹³ *** described a trailing allowance as a type of discount where the final amount is not known at the time of sale. During the course of the year, *** accrues for an estimated amount of rebate dollars which is then reconciled at the end of the program period to reflect the actual volume sold in that period.

reported offering discounts, rebates, and other types of allowances in exchange for floor space, end-cap space, and promotional displays. It stated that these negotiations occurred on an individual case-by-case basis. *** reported providing specific indirect discounts or promotions for some retailers to support product placement in stores. *** reported that it sometimes provides allowances to retailers for promotional displays or to maintain floor space.

Promotional discounts

Purchasers were asked to describe the types of promotional activity, discounts, rebates, and allowances supported by their LRW suppliers by indicating the degree (on a scale of 0 to 5) to which each type of activity has been used by each supplier to support retail sales at their firms since January 1, 2013.¹⁴ Their responses are summarized in table V-4. Purchaser characterizations of suppliers' promotional activity were roughly equal across all suppliers.

Table V-4

LRWs: Purchasers' average importance of promotional activities by suppliers used to support retail sales

Suppliers	National advertising	Co-op advertising	National promotions	In-store promotions	Sales Personnel Incentives (SPIFFS)	Other discount rebates
GE	2.3	3.3	3.3	3.3	2.9	3.3
Whirlpool	2.8	3.7	3.7	3.7	3.2	3.8
LG	2.9	3.5	3.8	3.2	2.9	3.7
Samsung	3.2	3.5	4.0	3.6	2.9	3.5
Other	3.4	3.0	4.0	2.7	2.8	3.0

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

Nineteen of 30 purchasers indicated that the volume of LRWs sold each year at promotional prices has increased since January 1, 2013; eight reported that the volume has remained the same and three reported that the volume has decreased. Purchasers reported that not only has promotional activity become more frequent, but the promotional MAP have become more aggressive during holiday promotional periods. One purchaser stated that consumers now wait to buy during holiday promotional periods. Purchasers reported an average of 66 percent of their LRW sales were made at promotional prices in 2015.¹⁵ Most purchasers (23 of 30) reported

¹⁴ A one (1) indicates that the promotional activity was minimally impactful while a five (5) indicates that the promotional activity was highly impactful and helpful in increasing purchasers' retail sales. A zero (0) indicates that the promotional activity was not used.

¹⁵ Purchasers reported a range of 20 to 100 percent with 12 purchasers reporting a range of 65 to 75 percent.

that they negotiate support levels with their suppliers when planning for major holiday promotions. Half of responding purchasers (13 of 26) indicated that they signal to one supplier the relative levels of support being offered by other competing suppliers.

To understand the nature and size of discounts in the LRW industry, Commission questionnaires requested data on discounts from U.S. producers and importers. Table V-5 summarizes 2015 U.S. producer and importer data on direct and indirect discounts for LRWs, the pricing products for LRWs, all other washers and dryers, and other goods sold by producers and importers. Data for 2013 and 2014 are summarized in Appendix D.

Table V-5

LRWs: Total quantity and value sold, direct and indirect discounts by selected firms, 2015¹

* * * * * * *

Price leadership

Twenty-seven of 30 purchasers listed one or more price leaders. The firms most frequently reported to be price leaders were Whirlpool (listed by 16 purchasers), Samsung (listed by 13 purchasers), GE (listed by 6 purchasers), and LG (listed by 5 purchasers). Several purchasers stated that Whirlpool led prices up and Samsung led prices down.¹⁶ *** identified Whirlpool as a price leader and stated that Whirlpool promotes the lowest priced product. *** stated that as the industry leader in laundry, Whirlpool typically has the largest and widest breadth of promotional offerings and other suppliers typically follow suit when Whirlpool lowers prices. *** stated that when excluding promotional pricing, U.S. manufacturers lead price changes that affect the market; however it noted that there is price parity across all major manufacturers. Purchasers that identified Samsung as a price leader described lowered prices and aggressive promotional discounts. Two purchasers reported that Samsung reduces prices by 35 to 40 percent.¹⁷

PRICE DATA

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and net f.o.b. value of LRWs shipped to unrelated U.S. customers.¹⁸ Data were

¹⁶ Four purchasers that identified Whirlpool as a price leader reported that Whirlpool is the market leader in raising prices; two of these purchasers described Whirlpool as unsuccessful with price increases because other suppliers continued to lower prices and extend promotions.

¹⁷ One purchaser (***) stated that Samsung's manufactured suggested retail prices are inflated which allows Samsung to show higher discounts on promotional MAPS.

¹⁸ Firms were requested to report f.o.b. factory and f.o.b. port sales values and were instructed to deduct all U.S.-inland transportation costs from their sales values.

requested from January 2013 through June 2016, and specifications for all SKUs that fell under each product were also requested. Pricing data for the following products were requested.

Product 1.-- Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 3.7 cubic feet but less than 4.2 cubic feet; no water heater included; no steam cycle(s) included; no LCD display; white finish.

Product 2.-- Top loading, Energy Star rated washer; direct drive; impeller; rated DOE capacity greater than or equal to 4.2 cubic feet but less than 4.7 cubic feet; no water heater included; no steam cycle(s) included; solid opaque lid; white finish.

Product 3.-- Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 3.7 cubic feet but less than 4.2 cubic feet; water heater included; steam cycle(s) included; no LCD display; white finish.

Product 4.-- Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 4.2 cubic feet but less than 4.7 cubic feet; no water heater included; no steam cycle(s) included; no LCD display; white finish.

Product 5.-- Top loading, Energy Star rated; direct drive; impeller; rated DOE capacity greater than or equal to 4.7 cubic feet by less than 5.2 cubic feet; no water heater included; no steam cycle included; lid includes clear or tinted window; white finish.

Product 6.-- Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 4.2 cubic feet but less than 4.7 cubic feet; water heater included; steam cycle(s) included; no LCD display; any non-white finish.

Product 7.-- Top loading, Energy Star rated; direct drive; impeller; rated DOE capacity greater than or equal to 4.7 cubic feet by less than 5.2 cubic feet; water heater included; steam cycle included; lid includes clear or tinted window; white finish.

Product 8.-- Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 4.2 cubic feet but less than 4.7 cubic feet; water heater included; steam cycle(s) included; no LCD display; white finish.

Product 9.-- Top loading washer; not Energy Star rated; rated DOE capacity greater than or equal to 3.7 cubic feet but less than 4.2 cubic feet; no direct drive; impeller; no water heater included; no steam cycle(s) included; solid opaque lid; white finish.

Product 10.-- Top loading, Energy Star rated washer; direct drive; impeller; rated DOE capacity greater than or equal to 5.2 cubic feet but less than 5.7 cubic feet; water heater included; steam cycle(s) included; lid includes clear or tinted window; white finish.

Products 1-4 and 6 are the same as products 1-4 and 6 from the preliminary phase. Product 5 from the preliminary phase was replaced by products 5 and 7 described above, as suggested by respondents. Product 7 from the preliminary phase was modified and replaced with product 9

described above as suggested by respondents. Products 8 and 10 are new products to this phase of the investigation, and based on the suggestions of various parties.¹⁹

Three U.S. producers and two importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.^{20 21 22 23 24}

Pricing data reported by these firms accounted for approximately 15.3 percent of U.S. producers' shipments of LRWs and 69.6 percent of U.S. shipments of subject imports from China in 2015. Price data for products 1-10 are presented in tables V-6 to V-15 and figure V-2.

Table V-6

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 1¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

¹⁹ Specifically, GE and Whirlpool suggested product 8. Respondents suggested products 5, 7, 8, 9, and 10.

²⁰ 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.

²¹ *** provided U.S. producer pricing data for ***. *** provided U.S. producer pricing data for ***. *** provided U.S. producer pricing data for ***. *** provided pricing data on imports from China for ***. *** provided pricing data on imports from China for ***.

²² ***. Petitioner's posthearing brief, p. II-17 and exhibit 4.

²³ Respondents objected to the reliability of the price data and stated that Whirlpool did not deduct all of its U.S. inland freight costs from its price data. Respondents argued that freight costs are high and estimated that Whirlpool's freight from factory to regional warehouse would likely be in the range of the average port to regional warehouse freight costs of LG and Samsung *** per unit. Whirlpool stated that it deducted the freight costs associated with transporting the product from the distribution centers to the customer but did not deduct its warehousing costs described as ***. Whirlpool stated that ***. In its posthearing brief, Whirlpool revised its pricing data and deducted the entirety of these *** costs. Whirlpool's revised price data reflect an additional *** percent average deduction in freight costs (***). Staff has included Whirlpool's revised data in the price data. Respondents' prehearing brief, pp. 59-65. Hearing transcript, pp. 79-80 (Levy) and pp. 180-181 (Klett). Whirlpool's posthearing brief, attachment 2.

²⁴ Respondents objected to limiting the pricing product definitions to exclude certain product features such as belt drive, LCD displays, and infusers from the pricing data and identified specific GE and Whirlpool models that they argued should be included in the pricing analysis. Whirlpool argued that the specific SKUs identified by respondents should not be included because the specified models were either not sold during the POI or the models did not meet the product definition and command a price premium. ***. Respondents' prehearing brief, p. 67 and exhibit 35. Petitioner's posthearing brief, part II, pp. 24-25, and attachment 7.

Table V-7

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 2¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-8

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 3¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-9

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-10

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-11

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-12

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 7¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-13

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 8¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-14

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 9¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Table V-15

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 10¹ and margins of underselling/(overselling), by quarters, January 2013-June 2016

* * * * *

Figure V-2

LRWs: Weighted-average prices and quantities of domestic and imported product 1,¹ by quarters, January 2013-June 2016

* * * * *

Price trends

In general, prices decreased during January 2013-June 2016.²⁵ Table V-16 summarizes the price trends, by product and by country. As shown in the table, domestic price decreases ranged from 3.2 to 77.6 percent while import price decreases ranged from 1.5 to 42.5 percent.^{26 27}

Table V-16

LRWs: Summary of weighted-average f.o.b. prices for products 1-10 from the United States and China

Item	Number of quarters	Low price (per unit)	High price (per unit)	Change in price ¹ (percent)
Product 1:				
United States	13	***	***	34.7
China	13	***	***	(29.7)
Product 2:				
United States	13	***	***	10.0
China	12	***	***	(42.5)
Product 3:				
United States	10	***	***	(²)
China	14	***	***	(21.8)
Product 4:				
United States	9	***	***	(²)
China	10	***	***	(²)
Product 5:				
United States	14	***	***	(3.2)
China	14	***	***	(18.7)

Table continued on next page.

²⁵ Petitioner argued that price declines during a period of increased demand were the result of subject import underselling. Whirlpool’s prehearing brief, p. 38. However, respondents alleged that the price declines reflect a normal pricing pattern in the market due to the product lifecycle. Respondents reported that when a model is first introduced it is sold at higher prices, the price declines as it enters the mainstream, and then there are steep declines in both volume and price in the last few months of being shipped and as the model is being closed out. ***. Respondents’ posthearing brief, p. 49 and exhibit 17 and 18. ***.

²⁶ ***.

²⁷ ***.

Table V-16 --Continued

LRWs: Summary of weighted-average f.o.b. prices for products 1-10 from the United States and China

Item	Number of quarters	Low price (per unit)	High price (per unit)	Change in price ¹ (percent)
Product 6:				
United States	14	***	***	(16.0)
China	14	***	***	(22.5)
Product 7:				
United States	14	***	***	(37.3)
China	14	***	***	(1.5)
Product 8:				
United States	14	***	***	(25.4)
China	14	***	***	(10.2)
Product 9:				
United States	14	***	***	(77.6)
China	6	***	***	(²)
Product 10:				
United States	7	***	***	(²)
China	10	***	***	(²)

¹ Percentage change is calculated using data from the first quarter in which data were available in the first year to the last quarter in which data were available if it is among the last four quarters of the period studied.

² ***.

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

Price comparisons

As shown in table V-17, prices for LRWs imported from China were below those for U.S.-produced LRWs in 100 of 111 instances (***)²⁸; margins of underselling ranged from 0.1 to 41.6 percent.²⁸ In the remaining 11 instances (***)²⁸, prices for LRWs from China were between 6.6 and 26.5 percent above prices for the domestic product.

²⁸ Respondents argued that capacity differences within pricing product definitions distorted price comparisons. Additionally, respondents contend that domestic price declines for products 1-3 reflect models at the end of their lifecycle and not underselling by subject imports. Respondents' prehearing brief, pp. 71-73.

Table V-17

LRWs: Instances of underselling/(overselling) and the range and average of margins, by country, January 2013-June 2016

Source	Underselling				
	Number of quarters	Quantity (units)	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Product 5	***	***	***	***	***
Product 6	***	***	***	***	***
Product 7	***	***	***	***	***
Product 8	***	***	***	***	***
Product 9	***	***	***	***	***
Product 10	***	***	***	***	***
Total, underselling, China	100	***	14.3	0.1	41.6
Source	(Overselling)				
	Number of quarters	Quantity (units)	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Product 5	***	***	***	***	***
Product 6	***	***	***	***	***
Product 7	***	***	***	***	***
Product 8	***	***	***	***	***
Product 9	***	***	***	***	***
Product 10	***	***	***	***	***
Total, overselling, China	11	***	(15.2)	(6.6)	(26.5)

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

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

LOST SALES AND LOST REVENUE

In the preliminary phase of the investigation, the Commission requested U.S. producers of LRWs to identify purchasers in which producers experienced instances of lost sales or revenue due to competition from imports of LRWs from China, during the period of investigation. Of the 4 responding U.S. producers, three reported that they had to reduce prices, and two reported that

they had to roll back announced price increases. Three U.S. producers reported that they had lost sales. Two U.S. producers²⁹ identified 28 firms where they lost sales or revenue (3,789,867 units consisting of both types of allegations).³⁰ U.S. producers were also asked to provide information regarding the timing, method of sale, and product type related to the lost sales and lost revenue allegations. ***. Whirlpool alleged that ***,³¹ and ***.³² Whirlpool also alleged that ***. ***.³³ Whirlpool reported that Sears uses a formal bidding process for its Kenmore OEM purchases and provides the specifications and estimated volumes for each model. According to Whirlpool, bids are awarded based on price.³⁴

LG reported that the Sears bidding sheets sets the minimum specifications for certain model levels, but OEM manufacturers are able to offer more features for those model levels. Respondents argued that quality and feature of products are factors in the awarded bids.³⁵ LG also reported that it did not participate in an SSI competitive bid in 2015, but instead, its 2015 negotiation with Sears was a continuation of the old agreement awarded in 2011.³⁶ ***.³⁷

In the final phase of this investigation, all three U.S. producers reported that they had to either reduce prices or roll back announced price increases, and all three firms reported that they had lost sales. As noted in Part II, the Commission received purchaser questionnaire responses from 30 purchasers.³⁸ Responding purchasers reported purchasing 5.9 million branded LRWs (table V-18), and *** OEM LRWs (table V-19) during 2015.

²⁹ U.S. producer *** reported losing sales; however, could not provide purchaser contact information due to the time constraints of the preliminary investigations.

³⁰ U.S. producer *** provided purchaser contact information, but did not provide data on the total quantity of units.

³¹ ***. Whirlpool's prehearing brief, p. 53.

³² Respondents argued ***. Respondents posthearing brief, Answers to Questions from Commissioners and Staff, p. 38.

³³ Petition, pp. 63-67 and exhibits 31-A to 31-J.

³⁴ Hearing transcript, p. 48 (Abdelnour).

³⁵ Respondents' posthearing brief, Answers to Questions from Commissioners and Staff, pp. 37-38.

³⁶ Respondent's posthearing brief, Answers to Questions from Commissioners and Staff, p. 39; and October 28, 2016 submission by *** on behalf of ***.

³⁷ October 28, 2016 submission by *** on behalf of ***.

³⁸ Three purchasers (***) submitted lost sale lost revenue survey responses in the preliminary phase but did not respond in the final phase of these investigations.

Table V-19

LRWs: Purchasers' responses to purchasing patterns for OEM merchandise

* * * * *

Of the 30 responding purchasers, 14 reported that, since 2013, they had purchased imported LRWs from China instead of U.S.-produced LRWs. Eight of these purchasers reported that Chinese import prices were lower than U.S.-produced LRWs, and eight of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than domestically produced LRWs. Six purchasers provided an estimate of the quantity of purchases shifted to Chinese imports rather than domestic sources; quantities ranged from 100 units to 35,000 units (table V-20). Purchasers identified buyer requests, color and brand, as non-price reasons for purchasing imported rather than U.S.-produced product.

Table V-20

LRWs: Purchasers' responses to shifting supply sources

* * * * *

Of the 30 responding purchasers, eight reported that U.S. producers had reduced prices in order to compete with lower-priced imports from China (table V-21; 15 purchasers reported that they did not know). The reported estimated price reduction ranged from 10 to 30 percent. In describing the price reductions, purchasers indicated price reductions occurred during promotional periods which reportedly occurred 8 to 12 times per year.

Table V-21

LRWs: Purchasers' responses to U.S. producer price reductions

* * * * *

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

BACKGROUND

Three U.S. producers reported usable financial results on their LRW operations: GE, Staber, and Whirlpool.¹ *** of the period's total LRW sales quantity (***) percent), followed by *** percent. *** percent of total LRW sales quantity.²

As described at the Commission's staff conference and with respect to LRW operations specifically, Whirlpool's front load production was repatriated from Mexico to the United States during 2012 and 2013. In terms of how this restructuring of operations impacted U.S. LRW financial results, Whirlpool stated that ". . . {t}here are no material non-recurring expenses to be reported."³ During this period Whirlpool also undertook additional U.S. investments in front load and top load production (representing the update of existing platforms as well as the development of new platforms).⁴

GE was acquired by Haier in June 2016. With regard to the acquisition, GE stated that ***.⁵ As noted in Part III of this report, while GE expanded parts of its U.S. LRW operations during the period examined, the company also reportedly ***.⁶

¹ U.S. producers reported their financial results on the basis of generally accepted accounting principles (GAAP) and for calendar-year periods. Staff conducted a verification of Whirlpool's U.S. producer questionnaire on October 26-28, 2016. Data changes pursuant to verification are reflected in this and other relevant sections of the staff report. Verification report (Whirlpool), p. 3. ***. October 21, 2016 submission by *** on behalf of ***. November 1, 2016 submission by ***.

Whirlpool organizes its reportable segments by geographic region with its U.S.-produced LRW operations included in the North American segment. Whirlpool 2014 10-K, p. 40. As reported to the Commission and with respect to 2015 revenue, ***. USITC auditor final-phase notes.

***. October 21, 2016 submission by ***.

² ***.

³ Whirlpool postconference brief, Answers to Staff Questions, p. 5. ***. Ibid.

⁴ Conference transcript (Liotine), pp. 23-24.

⁵ October 21, 2016 submission by ***.

⁶ *** U.S. producer questionnaire response to II-2. With regard to the expansion of its LRW operations, GE stated that "{n}ew domestic production at Appliance Park directly replaced *** , for high efficiency top-load LRWs. The investments made at Appliance Park also upgraded and expanded long-standing LRW production that had been occurring there." GE postconference brief, Answers to Follow-Up Questions, p. 6.

OPERATIONS ON LARGE RESIDENTIAL WASHERS

Table VI-1 presents the aggregate income-and-loss data for the LRW operations of U.S. producers.⁷ Table VI-2 and table VI-3 present a variance analysis of these financial results and selected company-specific financial information, respectively.⁸

Table VI-1

LRWs: Results of operations of U.S. producers, 2013-15, January-June 2015, and January-June 2016

* * * * *

The changes in average unit values presented below are based on the financial results presented in table VI-1.

* * * * *

Table VI-2

LRWs: Variance analysis on the operations of U.S. producers, 2013-15, January-June 2015, and January-June 2016

* * * * *

Table VI-3

LRWs: Results of operations of U.S. producers, by firm, 2013-15, January-June 2015, and January-June 2016

* * * * *

⁷ The LRW financial results presented in this section of the report reflect the combination of top load and front load financial results. Aggregated and company-specific top load and front load financial results are presented in Appendix E.

⁸ The Commission's variance analysis is calculated in three parts: sales variance, cost of goods sold (COGS) variance, and SG&A expenses variance. Each part consists of a price variance (in the case of the sales variance) or a cost or expense variance (in the case of the COGS and SG&A expenses variance), and a volume variance. The sales or cost/expense variance is calculated as the change in unit price or per-unit cost/expense times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. As 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 expenses variances. In general, the utility of the Commission's variance analysis is enhanced when product mix remains the same throughout the period. As noted in the *Sales volume and value* and *Cost of goods sold* sections, LRW product mix shifted throughout the period due to changes in LRW product features, as well as changes in the relative shares of specific LRW product categories.

Sales volume and value

The majority of the period's LRW revenue represents commercial sales (***) percent) with transfers accounting for the remainder (***) percent).⁹ No LRW internal consumption was reported. When considering revenue by primary LRW product type (i.e., top load and front load), top load made up the substantial majority of overall LRW sales during 2013 through interim 2016. As shown in table VI-3, this is also the case when LRW sales are considered on a company-specific basis.¹⁰

While sharing some directional similarities, GE and Whirlpool *** patterns in terms of period-to-period changes in overall sales volume, top load and front load sales volume, and average sales value.¹¹

With regard to the pattern of overall revenue, table VI-2 (variance analysis) shows that higher total revenue in 2014 reflects the combination of a positive volume variance, the primary factor, and a positive price variance. The subsequent decline in 2015 total revenue, essentially back to the level reported in 2013, reflects the impact of a negative price variance and a negative volume variance. In contrast, lower revenue in interim 2016 compared to interim 2015 reflects a mixed pattern in which a negative price variance was partially offset by a positive volume variance.

As shown in table VI-3, while *** reported lower overall average LRW sale values in interim 2016 compared to interim 2015, *** reported a smaller relative decline in top load average sales value and a marginal increase in front load average sales value. In contrast, *** reported lower average sales values for both product types.¹²

Cost of goods sold and gross profit or loss

Raw material costs, representing a variety of inputs, declined from *** percent of total LRW COGS in 2013 to *** percent in interim 2016.¹³ As shown in table VI-1, average raw material cost was at its highest level in 2014, declined in 2015, and was lower in interim

⁹ ***. Whirlpool postconference brief, Answers to staff questions, p. 1. ***. Verification report (Whirlpool), p. 6.

¹⁰ ***.

¹¹ ***. October 21, 2016 submission by *** on behalf of ***.

***. October 21, 2016 submission by *** on behalf of ***.

¹² To some extent, period-to-period changes in average sales value reflect changes in product mix. Whirlpool stated that it "... continued to add features (with attendant costs) to washer models across its product lineup. This was driven, in part, by the need to build more costly machines designed to comply with more stringent federal water/energy efficiency regulations, which took effect in Q1-2015." Whirlpool postconference brief, Answers to Staff Questions, p. 1. GE stated that ***. GE postconference brief, Answers to Follow-Up Questions, p. 1.

¹³ Whirlpool stated that there were no significant changes in its sourcing of commodity inputs (e.g., carbon and stainless steel, plastic resins), purchased components (e.g., motors, valves, hoses, wire harnesses), and/or printed circuit board assemblies. The company also noted that purchased commodities can represent approximately a third of total raw material cost. Whirlpool postconference brief, Answers to Staff Questions, pp. 1-2. GE identified similar primary raw materials as follows: "...

(continued...)

2016 compared to interim 2015. The cost of LRW raw materials and related inputs reportedly increased during the period due to enhanced technical sophistication, as well as other characteristics such as capacity and spin speed.¹⁴ The underlying cost of commodity inputs, however, generally declined.¹⁵

As described by Whirlpool at the staff conference, LRW manufacturing incurs a high level of fixed costs and requires corresponding high levels of capacity utilization to reduce unit costs.¹⁶ On an overall basis, other factory costs (i.e., the category where fixed manufacturing costs are usually reported) represented the second largest share of COGS and ranged from *** percent of total COGS (2013) to *** percent (interim 2016).¹⁷ Direct labor cost, which accounts for the smallest share of COGS, ranged from *** percent of total COGS (2014, interim 2015-16) to *** percent (2015) (see table VI-1). As shown in table VI-3, while the company-specific average unit direct labor amounts remained within a relatively narrow range, the levels reported by *** were *** throughout the period.¹⁸

On an absolute basis and as ratio to sales, LRW gross profit declined throughout the full-year period and then was higher in interim 2016 compared to interim 2015. In addition to reporting different directional patterns, *** absolute levels of overall LRW gross profit compared to *** throughout the period (see table VI-3).^{19 20} When considering its financial results on top load and front load separately, *** also earned *** (see table E-2 and table E-4).

SG&A expenses and operating income or loss

Table VI-1 shows that the U.S. industry reported operating losses of varying magnitudes throughout the period. While the absolute level of SG&A expenses, and corresponding SG&A expense ratios (total SG&A expenses divided by total revenue), did not fluctuate substantially, the amounts reported exceeded gross profit throughout the period. As shown in table VI-3,

(...continued)

high grade rolled steel, polypropylene, motors (steel and copper/aluminum), electronic control boards, fabricated metal and plastic parts and packaging.” GE postconference brief, Answers to Follow-Up Questions, p. 1.

¹⁴ Conference transcript (Liotine), pp. 76-77. Whirlpool postconference brief, Answers to Staff Questions, p. 2.

¹⁵ ***. October 21, 2016 submission by *** on behalf of ***.

***. October 21, 2016 submission by *** on behalf of ***.

¹⁶ Conference transcript (Liotine), p. 30. The high level of fixed costs was specifically attributed to large investments in capital associated with new platforms, as well as corresponding engineering costs. Ibid.

¹⁷ ***. Verification report (Whirlpool), p. 7.

¹⁸ Each U.S. producer has its own unique product mix and manufacturing operations such that costs in each primary category can be expected to vary to some extent. It is also likely that differences in company-specific raw material, direct labor, and other factory costs also reflect variations in terms of how these costs are assigned/classified in each company’s accounting system.

¹⁹ With regard to its own product-specific results, *** top load financial results, representing the majority of its LRW operations, generated higher gross profit ratios compared to front load. With regard to this pattern, ***. October 21, 2016 submission by *** on behalf of ***.

²⁰ ***. We also continued ***. GE postconference brief, Answers to Follow-Up Questions, p. 2. ***.

company-specific SG&A expenses and corresponding SG&A expense ratios followed ***,²¹
***.²²

While *** companies reported operating losses throughout the period (see table VI-3), *** were consistently higher than *** on both an absolute basis and as a ratio to sales.²³ In general, this difference reflects the combination of *** lower gross profit ratios and relatively *** SG&A expense ratios.

Interest expense, other expenses, and net income or loss

The U.S. industry reported net losses of varying magnitudes throughout the period (see table VI-1). While sharing the same directional trend, annual and interim-period net losses were somewhat greater than corresponding operating losses due to the inclusion of interest expense and other expenses.

As shown in table VI-1, total interest expense, the majority of which was reported by ***, declined throughout the full-year period and was also lower in interim 2016 compared to interim 2015. The other expenses, category, which was *** was generally larger compared to interest expense given declines in the latter category. ***.

As noted in Part III of this report, Energy Efficiency Tax Credits were available during 2012-13 and could be earned on relevant front load and top load washers meeting specified criteria regarding modified energy factors and water consumption. While tax credits were earned pursuant to relevant LRW production during 2012-13, Whirlpool noted that they were used to reduce corporate income tax liability and that U.S. LRW operations did not contribute taxable income.²⁴ At the staff conference, a Whirlpool company official also stated that the generation of tax credits is not a factor in evaluating the financial results of U.S.-produced LRW operations.²⁵ ***.²⁶

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-4 presents firm-specific capital expenditures and research and development (R&D) expenses related to operations on LRWs.

²¹ ***. GE postconference brief, Answers to Follow-Up Questions, p. 2. ***. November 17, 2016 submission by *** on behalf of ***.

²² ***. Verification report (Whirlpool), p. 7. ***. Ibid.

²³ With regard to the manner in which LRW financial results are routinely evaluated, ***. October 21, 2016 submission by *** on behalf of ***. ***. October 21, 2016 submission by *** on behalf of ***.

²⁴ Whirlpool postconference brief, Answers to Staff Questions, p. 10.

²⁵ Conference transcript (Tubman), pp. 138-139.

²⁶ Verification report (Whirlpool), p. 8. ***. Ibid.

Table VI-4
LRWs: Capital expenditures and research and development (R&D) expenses U.S. producers, 2013-

* * * * *

As shown in table VI-4, *** (***) percent of total LRW capital expenditures) reported its largest capital expenditures in 2014 and GE (***) percent of total LRW capital expenditures) reported its largest capital expenditure in 2015. Whirlpool stated that its capital expenditures “. . . are all specific to LRWs. The various projects/activities related almost entirely to the repatriation/expansion/update of the front load model lineup (2012-2015), and various updates/expansions of the top load model lineup (2012-2015).”²⁷ With regard to its capital expenditures, GE stated that ***.²⁸

The industry’s total R&D expenses increased throughout the full-year period and were generally in the same range as corresponding capital expenditures. An exception was 2013 when total R&D expenses were higher compared to corresponding capital expenditures. With regard to its reported R&D expenses, GE stated that ***.²⁹ Whirlpool stated that its “R&D expenses are the engineering and related activities for the development and launch of new LRW models, as reflected in Whirlpool’s Global Resource Planning (“GRP”) system. In Whirlpool’s experience, it is typical for R&D expenses to be greater than capital expenditures in any given year.”³⁰

ASSETS AND RETURN ON INVESTMENT

Table VI-5 presents data on the U.S. producers total assets, asset turnover (sales divided by total assets), and return on assets.³¹

Table VI-5
LRWs: U.S. producers’ total assets, asset turnover, and return on assets, 2013-15

* * * * *

²⁷ Whirlpool postconference brief, Answers to Staff Questions, p. 3. ***. Whirlpool U.S. producer questionnaire (final phase), response to III-13 (note 1).

²⁸ GE U.S. producer questionnaire (final phase), response to III-13 (note 1).

²⁹ GE postconference brief, Answers to Follow-Up Questions, p. 3.

³⁰ Whirlpool postconference brief, Answers to Staff Questions, p. 4.

³¹ With respect to a company’s overall operations, staff notes that a total asset value (i.e., the bottom line number on the asset side of a company’s balance sheet) often reflects an aggregation of a number of assets that, in many instances, are not product specific. The ability to assign total asset values to a discrete product line in turn affects the accuracy of calculated asset turnover and corresponding product-specific return on assets. ***. Verification report (Whirlpool), p. 8. ***. GE postconference brief, Answers to Follow-Up Questions, p. 3.

CAPITAL AND INVESTMENT

The Commission requested U.S. producers of LRWs to describe any actual or potential negative effects on their return on investment or their growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the product), or the scale of capital investments as a result of imports of LRWs from China. Table VI-6 tabulates the responses on actual negative effects on investment, growth and development, as well as anticipated negative effects. Table VI-7 presents the narrative responses of U.S. producers regarding actual and anticipated negative effects on investment, growth and development.

Table VI-6

LRWs: Negative effects of imports from subject sources on investment, growth, and development since January 1, 2013

* * * * *

Table VI-7

Narrative responses by U.S. producers regarding actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2013

* * * * *

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 factors¹--

- (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 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.

THE INDUSTRY IN CHINA

The petition listed three primary producers of LRWs in China.³ The Commission received questionnaire responses from those three producers of LRWs in China, which are

² Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

³ The petition listed (1) Nanjing LG Panda Appliances Co., Ltd. ("LG") and two manufacturing facilities operating as affiliates of Samsung Electronics Co., Ltd., which are (2) Suzhou Samsung Electronics Co., Ltd. ("Samsung") and (3) Suzhou Samsung Electronics Co., Ltd.—Export ("Samsung—Export").

believed to account for the vast majority of production of LRWs in China⁴ and virtually all of exports of LRWs from China to the United States during the period of investigation.⁵ These firms are identified in table VII-1 along with each firm’s production, export shipment, and total shipment data for 2015.

Table VII-1

LRWs: Reporting producers of LRWs in China, production, share of reported production, exports to the United States, share of exports to the United States, and total shipments, by firm, 2015

Firm	Production (units)	Share of reported production (percent)	Exports to the United States (units)	Share of reported exports to the United States (percent)	Total shipments (units)	Share of firm's total shipments exported to the United States (percent)
LG	***	***	***	***	***	***
Samsung	***	***	***	***	***	***
Samsung - Export	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Producers of LRWs in China

LG Electronics

LG Electronics, Inc. is headquartered in Seoul, Korea and operates four business units (1) home entertainment, (2) mobile communications, (3) home appliances and air solutions, and (4) vehicle components, which produce an array of products such as flat panel televisions, mobile cellular devices, air conditioners, washing machines, and refrigerators. The firm

⁴ As of 2015, the major producers of LRWs in China include: (1) Haier Group, (2) Samsung, (3) LG, and (4) Whirlpool. Whirlpool has two subsidiaries in China, both of which it claimed do not produce LRWs (1) Hisense—Whirlpool (Zhejiang) Electric Appliances Co., Ltd.; and (2) in 2014, Whirlpool acquired a 51-percent majority ownership interest in Hefei Rongshida Sanyo Electric Co., Ltd., a leading Chinese appliance manufacturer in Hefei, China. This firm is now Whirlpool (China) Co., Ltd. “Whirlpool Completes Acquisition Of Majority Stake In Hefei Sanyo” Whirlpool press release, October 24, 2014. <http://investors.whirlpoolcorp.com/releasedetail.cfm?releaseid=877999>, accessed January 11, 2016.

Haier Group, the new parent corporation of GE Appliances, declined to submit a questionnaire in this investigation. ***.

The petition listed 14 other producers of washers in China which it claimed produced out of scope product. Among these listed producers were ***. Petition, pp. 22-26.

⁵ According to proprietary import data obtained from CBP, LG and Samsung accounted for *** percent of all exports of LRWs from China to the United States during the period of investigation.

employs 77,000 people worldwide and reported global sales of \$48.8 billion in 2015.⁶ The firm produces LRWs within its home appliances and air solutions business unit in Korea and at its affiliate in China, Nanjing LG Panda Appliances Co., Ltd. (“LG”). LG reported that it began production of LRWs in China for export to the U.S. market in ***.⁷

LG reported that *** percent of its total sales in the most recent fiscal year were sales of LRWs. It reported that its LRW capacity remained steady from 2013 to 2015 and remained steady through January-June 2016. Its capacity is projected to ***.⁸ LG reported that its production increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015.⁹ Its production is projected to ***. In 2015, *** percent of LG’s total shipments of LRWs were internal consumption, *** commercial shipments in its home market, *** percent were exported to the United States, *** percent were exported to other export markets such as ***. LG reported that its sole U.S. importer of LRWs during the period of investigation was ***.¹⁰

Samsung Electronics

Samsung Electronics, Inc. is headquartered in Gyeonggi-do, Korea and operates nine business units (1) visual display, (2) digital appliances, (3) printing solutions, (4) health and medical equipment, (5) mobile communications, (6) network businesses, (7) memory, (8) system LSI, and (9) LED business, which produce an array of products, such as flat panel televisions, printers, photocopiers, medical equipment, mobile cellular devices, computer networking devices, washing machines, and refrigerators. The firm reported global sales of \$305.0 billion in 2014.¹¹ Samsung produces LRWs in its digital appliances business unit. The firm produces LRWs in Korea, Mexico, and at two affiliates in China (1) Suzhou Samsung Electronics Co., Ltd. (“Samsung”) and (2) Suzhou Samsung Electronics Co., Ltd.—Export (“Samsung—Export”). Samsung reported that it began production of LRWs in China for export

⁶ <http://www.lg.com/global/investor-relations/company-info>, accessed November 3, 2016.

⁷ Foreign producer questionnaire response of LG, question II-2. LG reported that its LRW production facility in China was first established in 1995 and produced top load and front load LRWs for different markets, including China, Middle East and Africa. LG stated that because of cost factors, it had already considered the option of moving its LRW production for the U.S. market from Korea to China before the filing of the petition in the Commission’s first LRW investigations in 2011. Respondents’ postconference brief, exh. B, p. 2.

⁸ LG reported that it projects its 2017 capacity to be *** units compared to *** units in 2016, a ***. It stated that ***. However, LG stated that: ***. Foreign producer questionnaire of LG, question II-3(b).

⁹ LG reported that ***. Foreign producer questionnaire of LG, question II-4a.

¹⁰ LG USA reported that ***. U.S. importer questionnaire of LG USA, question II-9(a).

¹¹ Samsung Electronics Co., Ltd., Annual Report, 2014; http://www.samsung.com/us/aboutsamsung/samsung_group/our_performance/, accessed January 14, 2016.

to the U.S. market in ***.¹² Samsung—Export reported that it began production of LRWs in China for export to the U.S. market in ***.¹³

Samsung

Samsung reported that *** percent of its total sales in the most recent fiscal year were sales of LRWs. It reported that its LRW capacity increased from *** percent from 2013 to 2015 ***. Its capacity *** from January-June 2015 to January-September 2016, ***.¹⁴ Samsung reported that its production, which began in ***, increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015.¹⁵ Its production is projected to ***. In 2015, *** percent of Samsung's total shipments of LRWs were internal consumption, *** commercial shipments in its home market, *** percent were exported to the United States, *** percent were exported to other export markets such as ***. Samsung reported that its sole U.S. importer of LRWs during the period of investigation was ***.¹⁶

Samsung—Export

Samsung—Export reported that *** percent of its total sales in the most recent fiscal year were sales of LRWs. It reported that from 2013 to 2015, its LRW capacity increased by *** percent as it began production of LRWs in China in ***. Its capacity *** from January-June 2015 to January-September 2016, ***.¹⁷ Samsung—Export reported that its production increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015.¹⁸ Its production is projected to ***. In 2015, *** percent of Samsung—Export's total shipments of LRWs were internal consumption, *** commercial shipments in its home market, *** percent were exported to the United States, *** percent were exported to other export markets such as ***. Samsung—Export reported that its sole U.S. importer of LRWs during the period of investigation was ***.¹⁹

¹² Foreign producer questionnaire response of Samsung (Preliminary), question II-2.

¹³ Foreign producer questionnaire response of Samsung—Export (Preliminary), question II-2. Samsung stated that operating cost savings and its ability to consolidate LRW production from Korea and Mexico into one facility in China were the factors in its decision to move production of LRWs from Korea to China. Samsung currently produces LRWs in Korea for markets other than the United States. Respondents' postconference brief, exh. C, p. 1.

¹⁴ Foreign producer questionnaire of Samsung, question II-3(a).

¹⁵ Samsung reported that ***. Foreign producer questionnaire of Samsung, question II-4a.

¹⁶ Samsung USA reported that ***. U.S. importer questionnaire of Samsung USA, question II-8.

¹⁷ Foreign producer questionnaire of Samsung—Export, question II-3(a).

¹⁸ Samsung—Export reported that ***. Foreign producer questionnaire of Samsung—Export, question II-4a.

¹⁹ Samsung USA reported that ***. U.S. importer questionnaire of Samsung USA, question II-9(a).

Data for the LRW industry in China

Table VII-2 presents data for reported capacity, production, inventories, and shipments of LRWs for all reporting producers in China. Collectively, producers in China reported that LRW capacity increased by *** percent from 2013 to 2015 and *** from January-June 2015 to January-June 2016. Their reported LRW production increased by *** percent from 2013 to 2015 and was higher by *** percent in January-June 2016 than in January-June 2015. Capacity and production are projected to ***. In 2015, producers in China reported that *** percent of their total shipments of LRWs were internally consumed, *** commercial shipments in its home market, *** percent were exported to the United States, and *** percent were exported to other markets, including ***.

Table VII-2

LRWs: China's reported production capacity, production, shipments, and inventories, 2013-15, January-June 2015, January-June 2016, and projections for 2016 and 2017

* * * * *

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-3 presents data on U.S. importers' reported inventories of LRWs. U.S. importers' end-of-period inventories of U.S. imports of LRWs from China increased ***, by *** percent from 2013 to 2015 and were higher by *** percent in January-June 2016 than in January-June 2015. U.S. importers' end-of-period inventories of U.S. imports of LRWs from nonsubject countries decreased by *** percent but were higher by *** percent in January-June 2016 than in January-June 2015.

Table VII-3

LRWs: U.S. importers' inventories, 2013-15, January-June 2015, January-June 2016

* * * * *

U.S. IMPORTERS' OUTSTANDING ORDERS

The Commission requested U.S. importers to indicate whether they imported or arranged for the importation of LRWs after June 30, 2016. *** U.S. importers indicated that they had imported or arranged for importation LRWs from China since June 30, 2016. Table VII-4 presents the U.S. importers that had imported or arranged for the importation of the subject product from China and the quantity of those U.S. imports.

Table VII-4

LRWs: U.S. importers' orders of subject imports from China subsequent to June 30, 2016

* * * * *

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

There have been no antidumping or countervailing duty orders in third-country markets on LRWs or related washing machines from China.

INFORMATION ON NONSUBJECT COUNTRIES

Exporters of LRWs

The vast majority of production of LRWs occurs in the United States, China, EU member countries, Korea, and Mexico. Export data specifically for LRWs, as defined by the scope of this investigation, are not available from global trade databases. However, export data are available for a somewhat broader category of washing machines with a dry linen capacity exceeding 10 kilograms. This would include out of scope products such as coin-operated washing machines, front load residential washers with CIM/Belt, top load residential washers with PCS/Belt/Clutch, possibly some stackable units, and very large-sized washing machines. These data, presented in table VII-5, provide an estimate of global exports of washers.²⁰ In 2015, the five leading country exporters (China, Mexico, Korea, United States, and Thailand) accounted for 86 percent of global exports of washing machines of a capacity dry linen capacity exceeding 10 kilograms.

²⁰ Global trade databases present data based on six-digit HTS subheading 8450.20, which describes the article as: “Household- or laundry-type washing machines, including machines which both wash and dry; parts thereof: Machines, each of a dry linen capacity exceeding 10 kg.” Harmonized Tariff Schedule of the United States (2016). HTS subheading 8450.20 covers products that are outside the scope of this investigation such as coin-operated washers. Therefore, export data compiled from these databases may overstate the quantity of exports of LRWs.

Table VII-5
Washers: Leading country exporters and total global exports, 2013-15

Item	Calendar year		
	2013	2014	2015
Value (1,000 dollars)			
United States	307,202	330,903	305,257
China	681,382	901,381	1,072,438
All other major exporting countries.--			
Mexico ¹	449,446	485,006	450,949
Korea ¹	795,802	624,720	444,074
Thailand	236,433	280,003	302,460
Germany	85,291	87,995	79,566
Czech Republic	52,591	58,082	73,455
Sweden	61,551	63,269	58,518
Spain	38,144	44,400	46,613
Italy	23,082	28,048	27,024
Belgium	44,339	43,742	21,326
Japan	16,803	16,754	12,933
All other exporting countries	98,463	115,445	99,431
Total global exports	2,890,529	3,079,746	2,994,044
Share of value (percent)			
United States	10.6	10.7	10.2
China	23.6	29.3	35.8
All other major exporting countries.--			
Mexico ¹	15.5	15.7	15.1
Korea ¹	27.5	20.3	14.8
Thailand	8.2	9.1	10.1
Germany	3.0	2.9	2.7
Czech Republic	1.8	1.9	2.5
Sweden	2.1	2.1	2.0
Spain	1.3	1.4	1.6
Italy	0.8	0.9	0.9
Belgium	1.5	1.4	0.7
Japan	0.6	0.5	0.4
All other exporting countries	3.4	3.7	3.3
Total global exports	100.0	100.0	100.0

¹ Antidumping duty orders entered into effect in February 2013 in the United States on U.S. imports of LRWs from Korea and Mexico. A countervailing duty order also went into effect in February 2013 on U.S. imports of LRWs from Korea.

Note.--Quantity data are not reported since there is no consistent unit used across reporting countries. Some report in units or pieces, others in weight measures such as metric tons.

Source: Official exports statistics under HTS subheading 8450.20 as reported by various national statistical authorities in the GTIS/GTA database, accessed October 3, 2016. HTS subheading 8450.20 covers products that are outside the scope of this investigation such as coin-operated washers. Therefore, export data may overstate the quantity of exports of LRWs.

Major global producers of washers

Whirlpool noted that major competitors in the home appliance market include Arcelik, S.A. (Turkey), Bosch Siemens, AB Electrolux (Sweden), General Electric (United States), Haier (China), Kenmore (Sears, United States), LG (Korea), Mabe (Mexico), Midea (China), Panasonic (Japan), and Samsung (Korea).²¹ These companies produce washers, in addition to other major household appliances, such as dryers, refrigerators, and cooking appliances.

Whirlpool manufactures and markets washers in most parts of the world. Whirlpool reported that laundry appliances accounted for 29 percent of its net sales in 2015 of its net sales of \$20.9 billion in 2015, or approximately \$6.0 billion.²² In 2015, Whirlpool's sales of washing machines, including LRWs and out-of-scope washing machines such as compact washing machines, by region were North America Region, *** percent; Latin America Region, *** percent; Europe, Middle East, and Africa Region, *** percent; and Asia, *** percent.²³ Whirlpool noted that *** of its LRWs are sold in the North America Region.²⁴ Whirlpool stated that they are the largest washer producers in the world and also in North America and Latin America.²⁵ Whirlpool is either the second or third largest manufacturer of washers in Europe, and likely among the top five producers in China, and very strong in India.²⁶

Recently, Whirlpool expanded its global presence. In October 2014, Whirlpool's wholly-owned subsidiary, Whirlpool (China) Investment Co., Ltd., completed its acquisition of a 51 percent equity stake in Hefei Rongshida Sanyo Electric Co., Ltd. ("Hefei Sanyo"). This company was renamed Whirlpool (China) Co., Ltd. ("Whirlpool China").²⁷ In December 2014, Whirlpool completed its acquisition of Indesit Company S.p.A. ("Indesit"). Indesit is an Italian manufacturer of home appliances, including washing machines and dryers.

Whirlpool has manufacturing facilities for washers in ***.²⁸

LG reported its primary production facilities for LRWs in ***.²⁹ LG produced LRWs in Mexico, but has closed this down and moved the production to Thailand.³⁰ LG has indicated plans to move some production from China to Korea.³¹

²¹ Whirlpool, Form 10-K for fiscal year ending December 31, 2015, p. 4.

<https://www.sec.gov/Archives/edgar/data/106640/000010664016000068/whr1231201510xk>. (accessed December 14, 2016).

²² Ibid., pp. 3 and 28 (Item 8. Financial Statements and Supplementary Data).

²³ Petitioner's posthearing brief, p. III-5.

²⁴ Ibid., p. III-5.

²⁵ Hearing transcript, p. 65 (Fettig).

²⁶ Ibid.

²⁷ Whirlpool, Form 10-K for fiscal year ending December 31, 2015, p. 4.

<https://www.sec.gov/Archives/edgar/data/106640/000010664016000068/whr-1231201510xk.htm> (accessed December 14, 2016).

²⁸ Petitioner's posthearing brief, p. III-5.

²⁹ Respondents' posthearing brief, Attachment A, pp. 24-25. Foreign producer questionnaire of LG, question II-3b.

Samsung reported that it has residential washer production in ***.³² During January–November 2016, Samsung’s *** production facility had *** percent of its global sales in North America, the *** production facility had *** percent, and the *** production facility had *** percent.³³

Korea³⁴

Dongbu Daewoo Electronics, LG, and Samsung are the major producers of LRWs in Korea. In February 2013, the Dongbu Group acquired Daewoo Electronics Corp.³⁵ Dongbu Daewoo Electronics reportedly has been increasing production and exports, particularly to China and other third markets.³⁶ Samsung produces LRWs and related dryers in Korea, but these products are not for the U.S. market.³⁷ Samsung’s LRW production for the U.S. market was moved to China, as was its Mexican production for the U.S. market.³⁸ LG currently produces LRWs and dryers in Korea.³⁹ Table VII-6 presents data for exports of washers from Korea to its top destination markets.

(...continued)

³⁰ Pulse by Maeil Business News Korea “LG Electronics Plans First Case of ‘Reshoring’ by Bringing Some Washer Output to Korea,” March 16, 2016.
<http://pulsenews.co.kr/view.php?sc=30800021&year=2016&no=195657> (accessed December 14, 2016).

³¹ Ibid.

³² Respondents’ posthearing brief, Attachment A, pp. 24-25. Foreign producer questionnaire of Samsung, question II-3b.

³³ Respondents’ posthearing brief, Attachment A, p. 24.

³⁴ Some information on the Korean LRW industry was taken from *Certain Large Residential Washers from Korea and Mexico, Investigations Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378, February 2013, pp. VII-5–VII-8).

³⁵ The Korea Herald, “Dongbu Daewoo Electronics Sails Under New Name,” April 1, 2013.
“http://www.koreaherald.com/common_prog/newsprint.php?ud=20130401000613&dt=2 (accessed January 11, 2016).

³⁶ Yoo-chul, Kim, “Dongbu Sees Steep Rise in Appliance Sales,” The Korea Times, November 19, 2015.
http://www.koreatimes.co.kr/www/news/tech/2015/11/133_191383.html (accessed January 11, 2016).
Minhyung, Lee, “Dongbu Daewoo Seeks to Have 300 Stores in China,” The Korea Times, August 4, 2015.
http://www.koreatimes.co.kr/www/news/biz/2015/11/123_184175.html (accessed January 11, 2016).

³⁷ Conference transcript, pp. 211 and 253 (Brindle).

³⁸ Conference transcript, p. 211 (Brindle).

³⁹ Conference transcript, p. 212 (Kim).

Table VII-6
Washers: Korean exports by destination market, 2013-15

Item	Calendar year		
	2013	2014	2015
	Quantity (units)		
Korea's exports to the United States ¹	556,072	286,803	134,738
Korea's exports to other major destination markets.--			
Saudi Arabia	70,523	58,662	86,213
Taiwan	85,975	83,996	74,269
Australia	93,639	96,369	67,668
Mexico	107,618	67,915	51,267
Egypt	38,169	51,363	51,087
China	34,259	46,379	44,365
Colombia	95,212	59,482	37,671
France	49,694	49,799	35,844
All other destination markets	713,327	640,954	362,442
Total Korea exports	1,844,488	1,441,722	945,564
	Value (1,000 dollars)		
Korea's exports to the United States ¹	278,880	142,153	83,785
Korea's exports to other major destination markets.--			
Saudi Arabia	34,192	28,566	41,831
Taiwan	31,369	32,555	26,644
Australia	38,357	39,226	25,764
Mexico	39,529	32,608	26,083
Egypt	14,111	17,901	19,253
China	19,452	27,535	25,337
Colombia	33,412	25,350	16,639
France	18,384	19,726	13,223
All other destination markets	288,116	259,101	165,515
Total Korea exports	795,802	624,720	444,074

Table continued.

Table VII-6—Continued

Washers: Korean exports by destination market, 2013-15

Item	Calendar year		
	2013	2014	2015
Unit value (dollars per unit)			
Korea's exports to the United States ¹	502	496	622
Korea's exports to other major destination markets.--			
Saudi Arabia	485	487	485
Taiwan	365	388	359
Australia	410	407	381
Mexico	367	480	509
Egypt	370	349	377
China	568	594	571
Colombia	351	426	442
France	370	396	369
All other destination markets	404	404	457
Total Korea exports	431	433	470
Share of quantity (percent)			
Korea's exports to the United States ¹	30.1	19.9	14.2
Korea's exports to other major destination markets.--			
Saudi Arabia	3.8	4.1	9.1
Taiwan	4.7	5.8	7.9
Australia	5.1	6.7	7.2
Mexico	5.8	4.7	5.4
Egypt	2.1	3.6	5.4
China	1.9	3.2	4.7
Colombia	5.2	4.1	4.0
France	2.7	3.5	3.8
All other destination markets	38.7	44.5	38.3
Total Korea exports	100.0	100.0	100.0

¹ Antidumping and countervailing duty orders entered into effect in February 2013 in the United States on U.S. imports of LRWs from Korea.

Source: Official Korean exports statistics under HTS subheading 8450.20 as reported by Korea Customs and Trade Development Institution in the GTIS/GTA database, accessed October 3, 2016. HTS subheading 8450.20 covers products that are outside the scope of this investigation such as coin-operated washers. Therefore, export data may overstate the quantity of exports of LRWs.

Mexico⁴⁰

Currently, there are three major producers of LRWs in Mexico, Electrolux, Mabe, and Whirlpool. In 2011 and 2012, Electrolux moved its LRW manufacturing in the United States to Mexico, but retained some research and development jobs in the United States. Whirlpool moved its remaining Mexican production of front load LRWs from Mexico to the United States during 2012–13.⁴¹ Currently, Whirlpool produces some washing machines in Mexico, but these products are not within the scope of this investigation, and either supply the Mexican home market or other South American countries.⁴² Mabe is a producer of LRWs in Mexico that has an alliance with GE for the production of large appliances, including LRWs. In 2012, Samsung transferred its LRW production from Mexico to China, and now only produces dryers in Mexico.⁴³ Table VII-7 presents data for exports of washers from Mexico to its top destination markets.

⁴⁰ Some information on the Mexican LRW industry was taken from *Certain Large Residential Washers from Korea and Mexico, Investigations Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, Publication No. 4378, February 2013, pp. VII-5–VII-8.

⁴¹ Conference transcript, p. 23 (Liotine).

⁴² Conference transcript, pp. 76–77 (Liotine).

⁴³ Conference transcript, p. 211 (Brindle).

Table VII-7

Washers: Mexican exports by destination market, 2013-15

Item	Calendar year		
	2013	2014	2015
Quantity (units)			
Mexico's exports to the United States ¹	528,134	523,937	468,311
Mexico's exports to other major destination markets.--			
Colombia	206,576	286,372	249,532
Chile	81,045	122,438	119,341
Peru	91,529	160,477	116,628
Canada	5,474	51,100	50,794
Guatemala	16,780	23,638	33,530
Ecuador	34,330	51,897	33,004
Costa Rica	21,930	16,615	27,168
Panama	11,612	22,066	23,252
All other destination markets	110,617	89,900	114,212
Total Mexico exports	1,108,027	1,348,440	1,235,772
Value (1,000 dollars)			
Mexico's exports to the United States ¹	264,446	259,590	247,631
Mexico's exports to other major destination markets.--			
Colombia	55,128	75,931	60,279
Chile	21,625	30,651	26,915
Peru	26,390	40,885	26,571
Canada	2,831	22,749	24,723
Guatemala	4,258	5,908	7,567
Ecuador	9,829	13,531	8,244
Costa Rica	6,150	4,624	6,696
Panama	3,214	5,943	6,130
All other destination markets	55,573	25,193	36,191
Total Mexico exports	449,446	485,006	450,949

Table continued.

Table VII-7—Continued

Washers: Mexican exports by destination market, 2013-15

Item	Calendar year		
	2013	2014	2015
Unit value (dollars per unit)			
Mexico's exports to the United States ¹	501	495	529
Mexico's exports to other major destination markets.--			
Colombia	267	265	242
Chile	267	250	226
Peru	288	255	228
Canada	517	445	487
Guatemala	254	250	226
Ecuador	286	261	250
Costa Rica	280	278	246
Panama	277	269	264
All other destination markets	502	280	317
Total Mexico exports	406	360	365
Share of quantity (percent)			
Mexico's exports to the United States ¹	47.7	38.9	37.9
Mexico's exports to other major destination markets.--			
Colombia	18.6	21.2	20.2
Chile	7.3	9.1	9.7
Peru	8.3	11.9	9.4
Canada	0.5	3.8	4.1
Guatemala	1.5	1.8	2.7
Ecuador	3.1	3.8	2.7
Costa Rica	2.0	1.2	2.2
Panama	1.0	1.6	1.9
All other destination markets	10.0	6.7	9.2
Total Mexico exports	100.0	100.0	100.0

¹ An antidumping duty order entered into effect in February 2013 in the United States on U.S. imports of LRWs from Mexico.

Source: Official Mexican exports statistics under HTS subheading 8450.20 as reported by Mexico's INEGI in the GTIS/GTA database, accessed October 3, 2016. HTS subheading 8450.20 covers products that are outside the scope of this investigation such as coin-operated washers. Therefore, export data may overstate the quantity of exports of LRWs.

Thailand

LG and Samsung are the major producers of LRWs in Thailand. Electrolux, a major producer of LRWs in Europe and Mexico, also has production in Thailand. Electrolux began production of washers in Thailand in 2003, and in 2006 transferred production of commercial laundry products from Denmark to Thailand.⁴⁴ LG established a large manufacturing facility in Rayong, Thailand, in 1997, and by 2013, approximately 40 percent of output of the plant was of washing machines.⁴⁵ Samsung has a home appliance production facility in Sri Racha, Thailand. In 2009, Samsung announced plans to expand capacity to produce home appliances at this facility, including front load washers.⁴⁶ Table VII-8 presents data for exports of washers from Thailand to its top destination markets.

⁴⁴ Electrolux Annual Report 2006, p. 64. http://www.electroluxgroup.com/en/wp-content/uploads/sites/2/2007/04/Electrolux_Annual_Report2006.pdf (accessed December 12, 2016).

⁴⁵ Thailand Board of Investment North America, "LG: Life's Good," 2013. <http://www.thinkasiainvestthailand.com/web/en-success-story-detail.php?id=17> (accessed December 14, 2016).

⁴⁶ Thaivisa, "Samsung has Bt4bn Plan to Up Market Share," November 3, 2009. <http://www.thaivisa.com/forum/topic/311260-samsung-to-invest-bt4bn-in-thailand/> (accessed December 15, 2016).

Table VII-8
Washers: Thailand exports by destination market, 2013-15

Item	Calendar year		
	2013	2014	2015
Value (1,000 dollars)			
Thailand's exports to the United States	6,284	8,216	9,194
Thailand's exports to other major destination markets.--			
United Arab Emirates	20,372	25,386	42,309
Vietnam	12,955	23,350	35,694
Korea South	358	9,101	22,127
Egypt	18,964	23,796	21,416
Saudi Arabia	17,256	10,668	13,314
Mexico	12,632	12,590	13,077
Iraq	661	985	12,564
Indonesia	18,275	15,706	10,844
All other sources	128,676	150,206	121,920
Total Thailand exports	236,433	280,003	302,460
Share of value (percent)			
Thailand's exports to the United States	2.7	2.9	3.0
Thailand's exports to other major destination markets.--			
United Arab Emirates	8.6	9.1	14.0
Vietnam	5.5	8.3	11.8
Korea South	0.2	3.3	7.3
Egypt	8.0	8.5	7.1
Saudi Arabia	7.3	3.8	4.4
Mexico	5.3	4.5	4.3
Iraq	0.3	0.4	4.2
Indonesia	7.7	5.6	3.6
All other sources	54.4	53.6	40.3
Total Thailand exports	100.0	100.0	100.0

Note.--Quantity data are not reported since there is no consistent unit used across reporting countries. Some report in units or pieces, others in weight measures such as metric tons.

Source: Official Thailand exports statistics under HTS subheading 8450.20 as reported by Thai Customs Department in the GTIS/GTA database, accessed December 12, 2016.

Vietnam

LG and Samsung are the major producers of LRWs in Vietnam. Panasonic also has production of LRWs in Vietnam. In 2013, LG announced plans for the construction of a large manufacturing campus in Haiphong, Vietnam, that included washers as well as several other products.⁴⁷ In March 2015, LG began production at the main building in the Haiphong campus, which also houses the manufacturing lines for washers.⁴⁸ In October 2014, Samsung announced plans to establish a manufacturing complex in Vietnam a range of consumer electronics products, including washers.⁴⁹ The plant began production in May 2016.⁵⁰ In March 2013, Panasonic began production of washers near Hanoi, Vietnam.⁵¹ The goal of the Panasonic's factory was for 50 percent of production to serve the local market, and the remaining 50 percent to be exported to other countries in the Association of Southeast Asian Nations (ASEAN).⁵² Table VII-9 presents data for exports of washers from Vietnam to its top destination markets.

⁴⁷ Business Korea, "LG Electronics Builds Home Appliances Factory in Vietnam," February 19, 2013. <http://www.businesskorea.co.kr/english/news/money/544-overseas-infrastructure-construction-lg-electronics-builds-home-appliances-factory> (accessed December 14, 2016).

⁴⁸ LG, "LG'S New Vietnam Production Plant Opens For Business," press release, March 27, 2015. <http://www.lgnewsroom.com/2015/03/lgs-new-vietnam-production-plant-opens-for-business/> (accessed January 8, 2016).

⁴⁹ Yonhap News Agency, "Samsung Electronics to Invest US\$1.4 Bln for Appliance Complex in Vietnam," October 2, 2014. <http://english.yonhapnews.co.kr/business/2014/10/02/64/0501000000AEN20141002002851320F.html> (accessed December 13, 2016).

⁵⁰ Yonhap News Agency, "S. Korean Electronics Firms Rush to Open Plants in Vietnam," August 9, 2016. <http://english.yonhapnews.co.kr/business/2016/08/09/58/0503000000AEN20160809006600320F.html> (accessed December 13, 2016).

⁵¹ Panasonic Vietnam, "Expanding home appliance development through new washing machine factory in Vietnam," press release, March 20, 2013. <https://www.panasonic.com/vn/en/corporate/news/articles/201303-expanding-home-appliance-development-through-new-washing-machine.html#.WFGhF1NpHcs> (accessed December 14, 2016).

⁵² Ibid.

Table VII-9**Washers: Vietnamese exports by destination market, 2013-15**

Item	Calendar year		
	2013	2014	2015
Value (1,000 dollars)			
Nigeria	446	1,134	790
Chile	0	0	203
Switzerland	0	95	126
Panama	66	82	41
Brunei Darussalam	0	21	40
Indonesia	0	0	1
Thailand	2	1	0
Colombia	253	0	0
Philippines	0	94	0
All other sources	4	12	0
Total Vietnam exports	772	1,439	1,203
Share of value (percent)			
Nigeria	57.8	78.8	65.7
Chile	0.0	0.0	16.9
Switzerland	0.0	6.6	10.5
Panama	8.6	5.7	3.4
Brunei Darussalam	0.0	1.4	3.3
Indonesia	0.0	0.0	0.1
Thailand	0.3	0.1	0.0
Colombia	32.8	0.0	0.0
Philippines	0.0	6.5	0.0
All other sources	0.6	0.9	0.0
Total Vietnam exports	100.0	100.0	100.0

Note.--Quantity data are not reported since there is no consistent unit used across reporting countries. Some report in units or pieces, others in weight measures such as metric tons. Estimates used for Nigeria for 2015, as Nigeria is the largest importer from Vietnam and has not yet reported their 2015 exports to the GTA.

Source: Official import statistics of imports from Vietnam under HTS subheading 8450.20 as reported by various countries' statistical authorities in the GTIS/GTA database, accessed December 12, 2016.

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
80 FR 79611 December 22, 2015	<i>Large Residential Washers From China; Institution of an Antidumping Duty investigation and Scheduling of a Preliminary Phase Investigation</i>	https://www.federalregister.gov/articles/2015/12/22/2015-32083/large-residential-washers-from-china-institution-of-an-antidumping-duty-investigation-and-scheduling
81 FR 1398 January 12, 2016	<i>Large Residential Washers From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation</i>	https://www.federalregister.gov/articles/2016/01/12/2016-00473/large-residential-washers-from-the-peoples-republic-of-china-initiation-of-less-than-fair-value
81 FR 6292 February 5, 2016	<i>Large Residential Washers From China: Determination</i>	https://www.federalregister.gov/documents/2016/02/05/2016-02223/large-residential-washers-from-china-determination
81 FR 48741 July 26, 2016	<i>Large Residential Washers From the People's Republic of China: Preliminary Determination of Sales at Less Than Fair Value, Affirmative Preliminary Determination of Critical Circumstances, in Part, and Postponement of Final Determination</i>	https://www.federalregister.gov/documents/2016/07/26/2016-17680/large-residential-washers-from-the-peoples-republic-of-china-preliminary-determination-of-sales-at
81 FR 55231 August 18, 2016	<i>Large Residential Washers From China: Scheduling of the Final Phase of an Antidumping Duty Investigation</i>	https://www.federalregister.gov/documents/2016/08/18/2016-19729/large-residential-washers-from-china-scheduling-of-the-final-phase-of-an-antidumping-duty
81 FR 90776 December 15, 2016	<i>Large Residential Washers From the People's Republic of China: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances</i>	https://www.federalregister.gov/documents/2016/12/15/2016-30150/large-residential-washers-from-the-peoples-republic-of-china-final-determination-of-sales-at-less

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: Large Residential Washers from China
Inv. No.: 731-TA-1306 (Final)
Date and Time: December 7, 2016 - 9:30 a.m.

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

CONGRESSIONAL APPEARANCES:

The Honorable Sherrod Brown, United States Senator, Ohio

The Honorable Rob Portman, United States Senator, Ohio

OPENING REMARKS:

Petitioner (**Jack A. Levy**, Cassidy Levy Kent (USA) LLP)
Respondents (**Michael T. Shor**, Arnold & Porter LLP)

**In Support of the Imposition of an
Antidumping Duty Order:**

Cassidy Levy Kent (USA) LLP
Adducci, Mastriani & Schaumberg LLP
Washington, DC
on behalf of

Whirlpool Corp.

Jeff Fettig, Chairman and CEO, Whirlpool Corp.

Joseph Liotine, President, North America Region, Whirlpool Corp.

Sam Abdelnour, Vice President of Sales, North America Region, Whirlpool Corp.

Casey Tubman, General Manager for Laundry Products, Whirlpool Corp.

Jack A. Levy)
Myles S. Getlan) – OF COUNSEL
Deanna Tanner Okun)

TRADEWINS LLC
Washington, DC
on behalf of

Haier US Appliance Solutions d/b/a GE Appliances

John Magnus) – OF COUNSEL

**In Opposition to the Imposition of an
Antidumping Duty Order:**

Arnold & Porter LLP
Washington, DC
on behalf of

Suzhou Samsung Electronics Co., Ltd.
Suzhou Samsung Electronics Co., Ltd.-Export
Samsung Electronics America, Inc.

Greg Thompson, Director of Laundry Product Management, Samsung Electronics America, Inc.

Daniel Klett, Economist, Capital Trade Inc.

Michael T. Shor) – OF COUNSEL

Curtis, Mallet-Prevost, Colt & Mosle LLP
Washington, DC
on behalf of

LG Electronics USA, Inc.

John Hollen, Vice President of Sales, Home Appliances - OEM, LG Electronics USA

John Toohey, Director of Strategy, LG Electronics USA

Doug Mittrucker, Director of Key Accounts, LG Electronics USA

Sook Hee Roh, Director, Laundry Team, LG Electronics USA

Richard Wingate, Vice President, Compliance *and* General Counsel, LG Electronics
USA

Daniel Klett, Economist, Capital Trade Inc.

Daniel L. Porter)
) – OF COUNSEL
James P. Durling)

REBUTTAL/CLOSING REMARKS:

Petitioner (**Jack A. Levy**, Cassidy Levy Kent (USA) LLP)

Respondents (**Daniel L. Porter**, Curtis, Mallet-Prevost, Colt & Mosle LLP)

APPENDIX C
SUMMARY DATA

Table C-1

LRWs: Summary data concerning the U.S. market, 2013-15, January to June 2015, and January-June 2016

* * * * *

Table C-2

LRWs: Summary data concerning the U.S. market for top load LRWs, 2013-15, January to June 2015, and January-June 2016

* * * * *

Table C-3

LRWs: Summary data concerning the U.S. market for front load LRWs, 2013-15, January to June 2015, and January-June 2016

* * * * *

APPENDIX D

FIRMS' REPORTED DISCOUNT DATA FOR 2013 AND 2014

Table D-1

LRWs: Total quantity and value sold, direct and indirect discounts by selected firms, 2013

* * * * *

Table D-2

LRWs: Total quantity and value sold, direct and indirect discounts by selected firms, 2014

* * * * *

APPENDIX E

**FINANCIAL RESULTS ON TOP LOAD LARGE RESIDENTIAL WASHERS
AND FRONT LOAD LARGE RESIDENTIAL WASHERS**

Table E-1

Top load large residential washers: Results of operations of U.S. producers, 2013-15, January-June 2015, and January-June 2016

* * * * *

The changes in average unit values presented below are based on the financial results presented in table E-1.

* * * * *

Table E-2

Top load large residential washers: Results of operations of U.S. producers, by firm, 2013-15, January-June 2015, and January-June 2016

* * * * *

Table E-3

Front load large residential washers: Results of operations of U.S. producers, 2013-15, January-June 2015, and January-June 2016

* * * * *

The changes in average unit values presented below are based on the financial results presented in table E-3.

* * * * *

Table E-4

Front load large residential washers: Results of operations of U.S. producers, by firm, 2013-15, January-June 2015, and January-June 2016

* * * * *

