

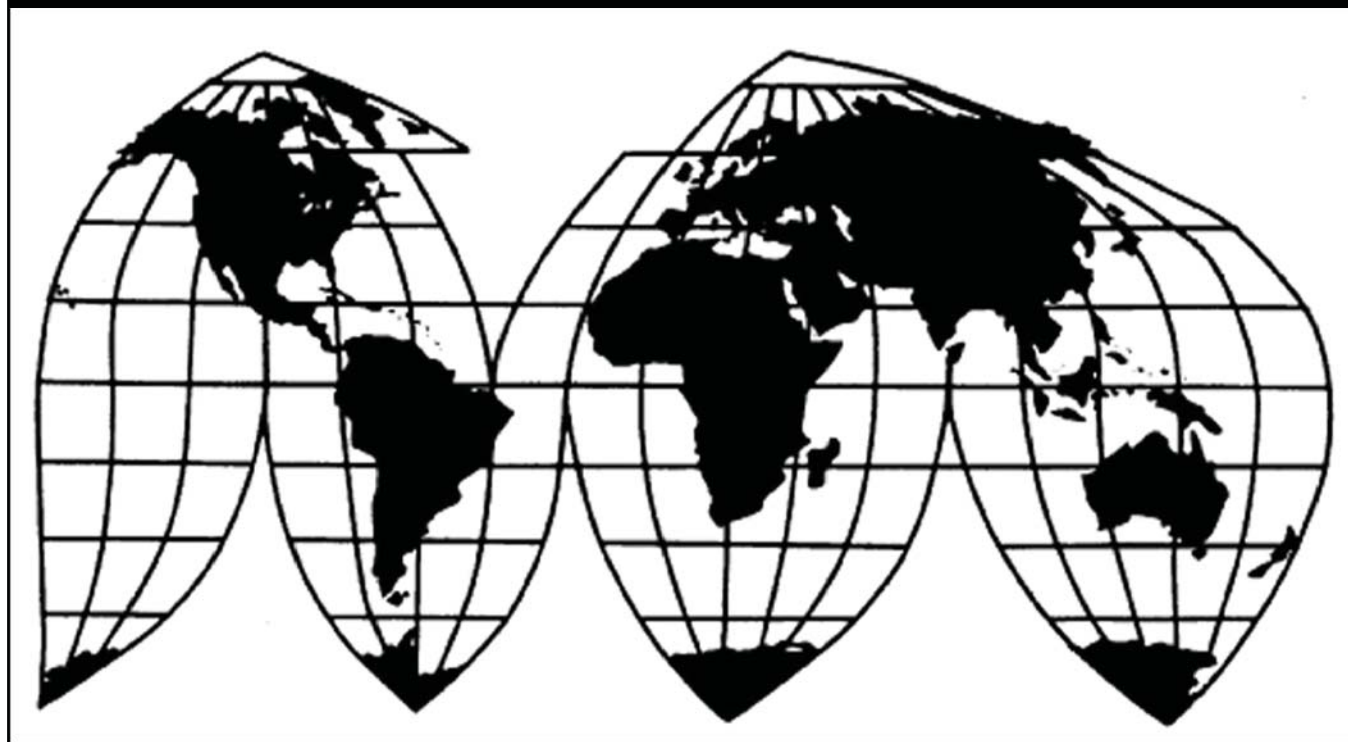
Large Residential Washers

Investigation No. TA-201-076

Publication 4745

December 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Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted.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. TA-201-76

Large Residential Washers

DETERMINATION

On the basis of information developed in the subject investigation, the Commission determined pursuant to section 202(b) of the Trade Act of 1974 that large residential washers are being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing an article like or directly competitive with the imported article.

Having made an affirmative injury determination pursuant to section 202(b) of the Trade Act of 1974, the Commission was required to make certain additional findings under the implementing statutes of certain free trade agreements (“FTAs”) or under statutory provisions related to certain preferential trade programs. Under section 311(a) of the NAFTA Implementation Act (19 U.S.C. § 3371(a)), the Commission found that imports of LRWs from neither Canada nor Mexico account for a substantial share of total imports or contribute importantly to the serious injury caused by imports. The Commission also found that imports of LRWs from Australia, CAFTA DR countries, Colombia, Jordan, Korea, Panama, Peru, and Singapore, individually, are not a substantial cause of serious injury or threat thereof, under the relevant FTA implementing legislation. See 19 U.S.C. § 2112 note (Jordan); 19 U.S.C. § 3805 note (Australia, Colombia, Korea, Panama, Peru, Singapore); 19 U.S.C. § 4101 (CAFTA-DR). The Commission also found that the serious injury substantially caused by imports to the domestic industry producing a like or directly competitive article does not result from the reduction or elimination of any duty provided for under the U.S.-Israel Free Trade Agreement or from duty free treatment provided for under the Caribbean Basin Economic Recovery Act provisions of the Caribbean Basin Initiative Trade Program or the GSP program. 19 U.S.C. § 2112 note (Israel); 19 U.S.C. § 2703(e) (CBERA); 19 U.S.C. § 2253(e)(6) (GSP).

REMEDY RECOMMENDATIONS

In order to address the serious injury to the domestic industry producing large residential washers and be most effective in facilitating the efforts of the domestic industry to make a positive adjustment to import competition, the Commissioners recommend the following actions.

The Commissioners recommend that the President impose a tariff-rate quota (TRQ) on imports of large residential washers for a duration of three years. For U.S. imports of large residential washers that exceed 1.2 million units, the Commissioners recommend a tariff rate of 50 percent *ad valorem*, in addition to the current rate of duty. The Commissioners recommend

that the in-quota volume remain constant throughout and that the above-quota tariff rate decrease by five percentage points during each year of the remedy period. Chairman Schmidlein and Commissioner Williamson additionally recommend an in-quota tariff rate of 20 percent *ad valorem*, which would decrease to 18 percent in the second year of the remedy period and 15 percent in the third year of the period, in addition to the current rate of duty. Vice Chairman Johanson and Commissioner Broadbent do not recommend an additional in-quota tariff rate for large residential washers.

The Commissioners also unanimously recommend that the President impose a separate TRQ on imports of covered parts of large residential washers for a duration of three years. For U.S. imports of covered parts that exceed 50,000 units, they recommend a tariff rate of 50 percent *ad valorem*, in addition to the current rate of duty. They recommend that the in-quota volume increase by 20,000 units in each year of the remedy period, and that the above-quota tariff rate decrease by five percentage points each year. They do not recommend an in-quota tariff rate for covered parts.

Summary of Commissioners' Recommended Actions Large Residential Washers			
	Year 1	Year 2	Year 3
Large Residential Washers: TRQ			
In-Quota Volume Level	1.2 million units	1.2 million units	1.2 million units
Above-Quota Tariff Rate	50%	45%	40%
In-Quota Tariff Rate (<i>Schmidlein & Williamson</i>)	20%	18%	15%
In-Quota Tariff Rate (<i>Johanson & Broadbent</i>)	0%	0%	0%
Covered Parts: TRQ			
In-Quota Volume Level	50,000 units	70,000 units	90,000 units
Above-Quota Tariff Rate	50%	45%	40%
In-Quota Tariff Rate	0%	0%	0%

Having made negative findings with respect to imports from Canada and Mexico under section 311(a) of the North American Free Trade Agreement Implementation Act, the Commissioners recommend that imports from Canada and Mexico be excluded from the above TRQs and increased rates of duty. The Commissioners also recommend that the above TRQs and increased rates of duty not apply to imports from Australia, Colombia, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, Korea, Nicaragua, Panama, Peru, and Singapore, or to imports from the beneficiary countries under the Caribbean Basin Economic Recovery Act.

Commission's Views on Injury

Based on the facts in this investigation, we determine pursuant to section 202(b) of the Trade Act of 1974 ("Trade Act")¹ that large residential washers ("LRWs") are being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing an article like or directly competitive with the imported article.² Having made an affirmative determination in this global safeguard investigation, we are required to make certain additional findings under the implementing statutes of certain free trade agreements.³ We find that imports of LRWs from neither Canada nor Mexico account for a substantial share of total imports or contribute importantly to the serious injury caused by imports. We also find that imports of LRWs from Australia, CAFTA-DR countries, Colombia, Jordan, Korea, Panama, Peru, and Singapore, individually, are not a substantial cause of serious injury or threat thereof, under the relevant FTA implementing legislation. Finally, we determine that the serious injury substantially caused by imports to the domestic industry producing a like or directly competitive article does not result from the reduction or elimination of any duty provided for under the U.S.-Israel Free Trade Agreement⁴ or from duty-free treatment provided for under the Caribbean Basin Economic Recovery Act provisions of the Caribbean Basin Initiative Trade Program or the GSP program.⁵

I. Background

On June 5, 2017, Whirlpool Corporation ("Whirlpool"), a producer of LRWs and covered parts (see below for definition) in the United States, properly filed the amended petition

¹ 19 U.S.C. § 2252(b).

² The Commission's affirmative serious injury determination was unanimous, reflecting the views of Chairman Rhonda K. Schmidlein, Vice Chairman David S. Johanson, and Commissioners Irving A. Williamson and Meredith M. Broadbent.

³ Specifically, the Commission is required to make certain additional findings under the implementing statutes for the North American Free Trade Agreement ("NAFTA") (Canada and Mexico), the U.S.-Dominican Republic – Central America Free Trade Agreement ("CAFTA-DR") (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic), the U.S.-Australia Free Trade Agreement, the U.S.-Korea Free Trade Agreement ("KORUS"), the U.S.-Colombia Trade Promotion Agreement, the Agreement between the United States of America and the Hashemite Kingdom of Jordan on the Establishment of a Free Trade Area, the U.S.-Panama Trade Promotion Agreement, the U.S.-Peru Free Trade Agreement, the U.S.-Singapore Free Trade Agreement, and the U.S./Israel Free Trade Agreement or under statutory provisions related to preferential trade programs (Caribbean Basin Economic Recovery Act ("CBERA") and Generalized System of Preferences ("GSP")). See 19 U.S.C. § 2112 note (Jordan, Israel); 19 U.S.C. § 2253(e)(6) (GSP); 19 U.S.C. § 2703(e) (CBERA); 19 U.S.C. § 3371 (NAFTA); 19 U.S.C. § 3805 note (Australia, Colombia, KORUS, Panama, Peru, Singapore); 19 U.S.C. § 4101 (CAFTA-DR).

⁴ 19 U.S.C. § 2112 note, U.S./Israel FTA Implementing Act §§ 403(b), 403(d).

⁵ 19 U.S.C. §§ 2253(e)(6), 2703(e)(2), 2703(e)(4).

requesting this investigation.⁶ The Commission published notice of the investigation in the *Federal Register* on June 13, 2017.⁷ Whirlpool and Haier U.S. Appliance Solutions, Inc., d/b/a/ GE Appliances (“GE”), a non-petitioning domestic producer that supports the petition, filed prehearing and posthearing briefs (independently in the injury phase and jointly in the remedy phase) and participated in the hearings in the injury and remedy phases of the investigation.

Several respondent interested parties also participated in the investigation. Importer LG Electronics USA, Inc. and foreign producers LG Electronics, Inc.; LG Electronics Vietnam Haiphong Co., Ltd.; LG Electronics Thailand Co., Ltd.; and Nanjing LG-Panda Appliance Co. (collectively “LG”) filed prehearing briefs (one jointly with Samsung and one limited to LG in the injury phase) and posthearing briefs, and participated in the hearings, in the injury and remedy phases of the investigation. Importer Samsung Electronics America, Inc. and foreign producers Samsung Electronics Co., Ltd.; Samsung Digital Appliances Mexico; Samsung Electronics HCMC Complex; Suzhou Samsung Electronics Co., Ltd.; and Suzhou Samsung Electronics Co., Ltd. (collectively, “Samsung”), also filed prehearing briefs (jointly with LG in the injury phase) and posthearing briefs, and participated in the hearings, in the injury and remedy phases of the investigation.

Several governments have also participated in the investigation. In the injury phase of the investigation, the governments of Indonesia, Korea, and Taiwan filed prehearing submissions and delivered oral statements at the hearing, the government of Mexico filed pre- and posthearing submissions and written testimony, the European Commission filed a prehearing submission, and the government of Vietnam filed a posthearing submission. In the remedy phase of the investigation, the government of Korea filed pre- and posthearing submissions and delivered an oral statement at the hearing, the government of Taiwan filed a prehearing submission and delivered an oral statement at the hearing, the government of Indonesia filed pre- and posthearing submissions, the government of Mexico filed a prehearing submission, the government of Vietnam delivered an oral statement at the hearing, and the government of Thailand filed a posthearing submission.

Several additional parties made written submissions during the investigation. In the injury phase of the investigation, the Korea Electronics Association and the China Chamber of Commerce for Import and Export of Machinery and Electronic Products filed a joint letter. In the remedy phase of the investigation, Sears Holdings Management Corporation filed a posthearing brief. Group Dekko, Inc., Mansfield Engineered Components, Revere Plastics Systems, LLC, and Wabash Plastics, Inc. filed statements of information, United States Steel Corporation filed a letter, and Green Bay Packaging and TH Plastics, Inc. filed statements of interest.

⁶ Confidential Staff Report (“CR”) at I-1-2; Public Staff Report (“PR”) at I-1.

⁷ 82 Fed. Reg. 27075 (June 13, 2017).

U.S. industry data are based on questionnaire responses from four firms that are estimated to have accounted for all known U.S. production of LRWs in 2016.⁸ U.S. import data are based on questionnaire responses of five firms that are estimated to have accounted for virtually all U.S. imports of LRWs in 2016.⁹ The Commission also received questionnaire responses from 16 foreign producers/exporters of LRWs, which are believed to have supplied all U.S. imports of LRWs in 2016.¹⁰

II. Domestic Industry Producing a Product that is Like or Directly Competitive with the Imported Article

A. Like or Directly Competitive Domestic Product

In making determinations in global safeguard investigations, the Commission examines the three statutory criteria. Specifically, to make an affirmative determination, the Commission must find –

- (1) an article is being imported into the United States in increased quantities;
- (2) the domestic industry producing an article that is like or directly competitive with the imported article is seriously injured or threatened with serious injury; and
- (3) the article is being imported in such increased quantities as to be a substantial cause of serious injury or threat of serious injury to the domestic industry.¹¹

Before considering whether the three statutory criteria are satisfied, the Commission first defines the domestic industry. The statute defines the term “domestic industry” as “the producers as a whole of the like or directly competitive article or those producers whose collective production of the like or directly competitive article constitutes a major proportion of the total domestic production of such article.”¹² The Commission defines the domestic industry

⁸ CR at I-4, 33; PR at I-3, 24. Three responding domestic producers reported production of LRWs and one responding domestic producer reported production of out-of-scope washers. CR at I-33; PR at I-24.

⁹ CR at I-4; PR at I-3.

¹⁰ CR at I-4; PR at I-3. Foreign producers’ questionnaires were received from firms in Brazil and Colombia, but they reported no exports to the United States over the January 2012-March 2017 period comprising the period of investigation, and there were no known U.S. imports of LRWs from either country. *Id.*

¹¹ See 19 U.S.C. § 2252(b)(1)(A).

¹² 19 U.S.C. § 2252(c)(6)(A)(1).

in terms of each like or directly competitive product and evaluates the impact of the pertinent imports on the facilities and workers producing each article.¹³

The legislative history distinguishes between products that are “like” and products that are “directly competitive” with the imported articles, explaining that “like” articles are those that are “substantially identical in inherent or intrinsic characteristics (*i.e.*, materials from which made, appearance, quality, texture, etc.),” whereas “directly competitive” articles are those that “are substantially equivalent for commercial purposes, that is, are adapted to the same uses and are essentially interchangeable therefor.”¹⁴

In determining what constitutes the like or directly competitive product, the Commission has considered a number of factors. The list of factors considered is not fixed, and the weight given to any one factor may vary from case to case depending upon the facts.¹⁵ The list, which derives from Commission practice, has included the physical properties of the article, its customs treatment, its manufacturing process (where and how it is made, *e.g.*, in a separate facility, using what machines and labor skills), the product’s uses, and the marketing channels through which the product is sold.¹⁶ The statute does not prescribe these specific factors nor does it limit the factors that the Commission may consider in making its determination. The Commission looks for clear dividing lines among possible products, and disregards minor variations.¹⁷ Thus, in conducting its analysis, the Commission (1) considers the list of factors,

¹³ See, *e.g.*, *Steel*, Inv. No. 201-TA-073, USITC Pub. 3479 at 29 n.25 (Dec. 2001); *Extruded Rubber Thread*, Inv. No. 201-TA-072, USITC Pub. 3375 at I-8 (Dec. 2000); *Crabmeat from Swimming Crabs*, Inv. No. 201-TA-71, USITC Pub. 3349 at I-8 to I-9 (Aug. 2000); *Circular Welded Carbon Quality Pipe*, Inv. No. 201-TA-070, USITC Pub. 3261 at I-12 to I-13 (Dec. 1999); *Certain Steel Wire Rod*, Inv. No. 201-TA-069, USITC Pub. 3207 at I-10, I-36 (Jul. 1997).

¹⁴ H.R. Rep. No. 571, 93rd Cong., 1st Sess. 45 (1973); Senate Finance Committee, Report on Trade Reform Act of 1974 H.R. 10710, S. Rep. No. 1298, 93rd Cong., 2d Sess. at 121-22 (1974). See, *e.g.*, *Mushrooms*, Inv. No. 201-TA-43, USITC Pub. 1089 at 8, 11-12 (Aug. 1980) (“the intent of the drafting committees was that ‘like’ has to do with the physical identity of the articles themselves, while ‘directly competitive’ relates more to the notion of commercial interchangeableness”); see also *United Shoe Workers of Am. v. Bedell*, 506 F.2d 174, 185-86, 190-91 (D.C. Cir. 1974) (discussing meaning of “like” and “directly competitive” in the context of request for adjustment assistance under the Trade Expansion Act).

¹⁵ See, *e.g.*, *Certain Steel Wire Rod*, Inv. No. 201-TA-69, USITC Pub. 3207 at I-8 (Jul. 1999); *Lamb Meat*, Inv. No. 201-TA-68, USITC Pub. 3176 at I-10 (Apr. 1999); *Wheat Gluten*, Inv. No. 201-TA-67, USITC Pub. 3088 at I-9 (Mar. 1998).

¹⁶ See, *e.g.*, *Extruded Rubber Thread*, Inv. No. 201-TA-72, USITC Pub. 3375 at I-5 to I-6 (Dec. 2000); *Circular Welded Carbon Quality Line Pipe*, Inv. No. 201-TA-70, USITC Pub. 3261 at I-10 (Dec. 1999); *Apple Juice*, Inv. No. 201-TA-69, USITC Pub. 1861 at 3-10 (June 1986); *Fresh Winter Tomatoes*, Inv. No. 201-TA-64 (Provisional Relief Phase), USITC Pub. 2881 at I-7 (Apr. 1995) (Views of Watson, Crawford, and Bragg); *Broom Corn Brooms*, Inv. No. 302-NAFTA-1 (Provisional Relief Phase), USITC Pub. 2963 at I-14 (May 1996).

¹⁷ See, *e.g.*, *Stainless Steel Table Flatware*, Inv. No. 201-TA-49, USITC Pub. 1536 at 3-4 (June 1984).

(2) evaluates the factors in terms of the facts in the investigation, and (3) looks for clear dividing lines between products, disregarding minor variations.

1. The Imported Article

The notice of institution described the imported article(s) under investigation as follows: The articles covered by this investigation are all LRWs and certain parts thereof. For purposes of this petition, the term LRWs 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.¹⁸

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.¹⁹ They are produced in either top load (“TL”) or front load (“FL”) configurations.²⁰ TL LRWs possess drums that spin on a vertical axis and are loaded with soiled clothing through a door on the top of the unit.²¹ FL 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.²² All LRWs are typically used in single-family dwellings.²³

TL LRWs can wash clothes using either an agitator or an impeller.²⁴ Agitator-based TL LRWs are characterized by their use of a pole-shaped agitator inside the drum, which cleans

¹⁸ Large Residential Washers; Institution and Scheduling of Safeguard Investigations and Determinations That the Investigation is Extraordinarily Complicated, 82 Fed. Reg. 27075 (June 13, 2017). Footnotes in the scope definition further describing the various terms used within the definition have been omitted. See CR at I-9-11.

¹⁹ CR at I-15; PR at I-12.

²⁰ CR at I-16; PR at I-12.

²¹ CR at I-16; PR at I-12.

²² CR at I-20; PR at I-15.

²³ CR at I-16; PR at I-12.

²⁴ CR at I-17; PR at I-13.

clothes by swirling them through detergent and water.²⁵ Due to the interior volume occupied by the agitator, agitator-based LRWs generally offer less capacity than other types of LRWs.²⁶ Impeller-based TL 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 high efficiency (“HE”) detergent.²⁷ They reduce energy consumption by spinning clothes at high speed, thereby extracting more water and allowing clothes to spend less time in a dryer.²⁸

FL LRWs typically offer higher performance and greater efficiency with respect to water usage than TL LRWs.²⁹ Like impeller-based TL LRWs, FL LRWs reduce energy consumption by spinning clothes at high speeds that extract more water and reduce drying time.³⁰

2. Arguments of the Parties

Whirlpool argues that the Commission should define the domestic like product to encompass all LRWs and parts described in the scope of the investigation, as well as any residential washers excluded from the scope that are produced domestically, as the Commission did in *LRWs from China*.³¹ Whirlpool contends that domestically produced washers and parts are “like” the imported articles described in the scope, including Samsung’s FlexWash and LG’s Sidekick LRWs, because they share the same physical characteristics and uses, are all produced using similar manufacturing processes, and are sold through the same channels of distribution.³² Whirlpool further argues that the Commission should define the domestic like product to include “covered parts” (*i.e.*, cabinets, tubs, and baskets) pursuant to the “product line” approach it has taken in previous safeguard investigations,³³ because domestic producers manufacture covered parts in the same facilities as LRWs as an essential intermediate step in the production of LRWs.³⁴ Finally, Whirlpool urges the Commission to reject respondents’ request that the scope be amended to include certain types of washers that are currently excluded from the scope and to exclude other types of washers and parts that are currently included in the scope.³⁵

²⁵ CR at I-18; PR at I-14.

²⁶ CR at I-19; PR at I-14.

²⁷ CR at I-19; PR at I-14; CR/PR at Figure I-2.

²⁸ CR at I-19; PR at I-14.

²⁹ CR at I-20; PR at I-15.

³⁰ CR at I-20; PR at I-15.

³¹ Petitioner’s Prehearing Brief at 9-10; Petitioner’s Responses to Commissioner Questions, at II-11; *LRWs from China*, Inv. No. 731-TA-1306 (Final), USITC Pub. 4666 (January 2017) at 9.

³² See Petitioner’s Prehearing Brief at 10-11.

³³ Petitioner’s Prehearing Brief at 11. GE supports the inclusion of covered parts in the domestic like product definition. GE’s Posthearing Brief at 3.

³⁴ Petitioner’s Prehearing Brief at 12.

³⁵ Petitioner’s Posthearing Brief at I-9. GE agrees that the Commission should reject respondents’ request that it amend the scope, for the same reasons argued by Whirlpool. GE’s Posthearing Brief at 3.

Respondents argue that the Commission should expand the scope to include all imported articles for which there is an “obvious counterpart” produced domestically, but exclude from the scope all imported articles without an “obvious counterpart” if “a clear dividing line” separates the articles from other articles in the scope.³⁶ Applying this methodology, respondents claim that the Commission should expand the scope to include PSC/belt drive TL washers, CIM/belt drive FL washers, and extra-wide washers³⁷ because imports of such washers compete with domestically produced LRWs and the imported LRWs within the scope.³⁸ Conversely, respondents argue that the Commission should exclude from the scope Samsung’s FlexWash and LG’s Sidekick LRWs because such washers are not produced domestically and a “clear dividing line” separates them from other LRWs within the scope.³⁹ Respondents also argue that the Commission should amend the scope to exclude parts because imported parts may only be used to repair existing LG and Samsung LRWs, and thus do not compete with domestically produced parts,⁴⁰ and because, in their view, a clear dividing line separates covered parts from LRWs.⁴¹ In the event that parts are not excluded from the scope, respondents argue, the Commission should determine that parts are a separate like product under its traditional six like product factors from the Title VII context.⁴²

3. Analysis

We define the like or directly competitive domestic product as all domestically produced LRWs and covered parts in addition to PSC/belt drive TL washers and CIM/belt drive FL washers based on the following analysis.

a. Whether to Amend the Scope of the Investigation

We reject respondents’ request that the Commission amend the scope of the investigation to include three types of excluded washers and to exclude two types of in-scope washers and covered parts, which do not in their view compete directly with domestically

³⁶ Respondents’ Joint Prehearing Brief at 27.

³⁷ These three product categories are specifically excluded from the scope of the investigation. See CR at I-9-11.

³⁸ Respondents’ Joint Prehearing Brief at 27-29. As evidence of such competition, respondents note Whirlpool’s position that such washers should be included in the domestic like product to the extent they are produced domestically. *Id.* They also highlight the Commission’s finding in *LRWs from China* that there was no clear dividing line between domestically produced CIM/belt drive FL washers and domestically produced LRWs described by the scope. *Id.* (citing USITC Pub. 4666 at 7 n.24).

³⁹ Respondents’ Joint Prehearing Brief at 30-31.

⁴⁰ Respondents’ Prehearing Brief at 32.

⁴¹ Respondents’ Prehearing Brief at 32.

⁴² Respondents’ Prehearing Brief at 33-36. We analyze the appropriate definition of the domestic like product for this investigation using the factors the Commission traditionally considers in safeguard investigations.

produced washers and covered parts.⁴³ Respondents point to *Certain Cameras* and *Certain Motor Vehicles* as investigations in which the Commission allegedly changed the scope of investigation. However, in those investigations, the Commission did not resolve whether certain imports should be subject to the Commission's injury analysis by amending the scope of the investigations, but rather by considering whether the imports were in the scope and like or directly competitive with the domestic article.⁴⁴

We take the same approach here, as we have in the past. Accordingly, we consider respondents' argument that the Commission should amend the scope to exclude Samsung's FlexWash LRWs, LG's Sidekick LRWs, and covered parts to be an argument that there is no domestic article like or directly competitive with imports of these articles, and thus no domestic industry producing them. If the Commission were to find no domestic industry producing an article like or directly competitive with imports of FlexWash LRWs, Sidekick LRWs, and/or covered parts, then imports of such articles could not be a substantial cause of serious injury or threat thereof to any domestic industry. We address that issue below.

We consider respondents' argument that the Commission should amend the scope to include PSC/belt drive TL washers, CIM/belt drive FL washers, and extra-wide washers to be an argument that imports of such out-of-scope washers compete directly with domestically produced washers. Indeed, Whirlpool agrees that PSC/belt drive TL washers and CIM/belt drive FL washers compete with LRWs described by the scope in the U.S. market, and urges the Commission to include any domestic producers of such washers in the domestic industry. The Commission need not amend the scope of the investigation to consider out-of-scope washer imports as an alternative cause of injury, however. Nor is it necessary to amend the scope for the Commission to define the domestic like product to include PSC/belt drive TL washers and CIM/belt drive FL washers, and thus factor apparent U.S. consumption and U.S. shipments of

⁴³ Since 1980, the Commission has only amended the scope of a safeguard investigation at the request of the petitioner. See, e.g., *Crabmeat from Swimming Crabs*, Inv. No. 201-TA-071, USITC Pub. 3349 (Aug. 2000); *Line Pipe*, Inv. No. 201-TA-70, USITC Pub. 3261 (Dec. 1999); *Fresh Winter Tomatoes* (Provisional), Inv. No. 201-TA-64, USITC Pub. 2881 (Apr. 1995) (considered).

⁴⁴ In *Motor Vehicles*, the Commission rejected petitioners' argument that imports from Canada within the scope should nevertheless be excluded from the investigation, explaining that "Commission precedent under Section 201 generally supports the conclusion that all imports should be treated alike for purposes of our investigation." *Certain Motor Vehicles and Certain Chassis and Bodies Thereof*, Inv. No. TA-201-44, USITC Pub. 1110 (Dec. 1980) at 14 (Alberger); see also *id.* at 48 (Calhoun), 102 (Stern). In doing so, the Commission did not alter the scope of the investigation. In *Certain Cameras*, the Commission majority concluded that "because there is no domestic production of high-end or 'keychain' cameras, we determine that there are no domestic industries producing those cameras" and therefore did not include such cameras in its injury and causation analysis. Inv. No. TA-201-62, USITC Pub. 2315 (Sept. 1990) at 9, 14. The Commission did not revise the scope of the investigation to exclude such cameras. Indeed, the Commission recognized that high-end and "keychain" cameras were among the five basic camera types within the scope of the investigation. *Id.* at 9

such products into our analysis of the domestic industry's market share.⁴⁵ We address the issue of whether imports of LRWs are like or directly competitive with domestically produced PSC/belt drive TL washers and CIM/belt drive FL washers below.

b. Domestic LRWs Are Like Imported LRWs

We find that domestically produced LRWs are like the imported LRWs based on the following analysis of the factors the Commission traditionally considers in defining the domestic product like or directly competitive with the imported article.

The physical properties of the article. All LRWs, both imported and domestic, 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.⁴⁶ 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 washer cycles.⁴⁷ Both domestic and imported LRWs are produced in either top load or front load configurations.⁴⁸ All TL LRWs possess drums that spin on a vertical axis, creating a washing action through the use of an agitator, agi-peller, or impeller, and are loaded with soiled clothing through a door on the top of the unit.⁴⁹ All FL 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.⁵⁰ Both domestic and imported LRWs come in an array of models possessing different combinations of features, such as energy efficiency, capacity, appearance (*e.g.*, color, cabinet finishing, decorative elements), and "innovations" (*e.g.*, faster washing, holding detergent for multiple loads, WiFi, and secondary wash chambers), with most features offered by both domestic and imported models.⁵¹ All LRWs are typically purchased by households for use in single-family dwellings.⁵² All responding purchasers reported that domestic and imported LRWs are always or usually interchangeable, and virtually all responding purchasers reported that domestic and imported LRWs are comparable in terms of 22 factors that influence purchasing decisions.⁵³

Customs treatment. All finished LRWs are classifiable in subheading 8450.20.00 of the Harmonized Tariff Schedule of the United States ("HTS").⁵⁴

⁴⁵ See CR/PR at Table C-2. When the Commission defines the domestic like product to include out-of-scope merchandise, the Commission includes U.S. shipments of the out-of-scope merchandise, both imported and domestic, in its calculation of apparent U.S. consumption for purposes of determining the domestic industry's market share.

⁴⁶ CR at I-16; PR at I-12.

⁴⁷ CR at I-16; PR at I-12.

⁴⁸ CR at I-16; PR at I-12; CR/PR at Tables II-3, III-6.

⁴⁹ CR at I-17-21; PR at I-13-15.

⁵⁰ CR at I-20-21; PR at I-15.

⁵¹ CR at I-22-27, V-2-3; PR at I-16-19, V-1-2.

⁵² CR at I-16; PR at I-12.

⁵³ CR/PR at Tables V-8 and V-9.

⁵⁴ CR at I-32; PR at I-24.

Manufacturing process. The record contains no information on the specific manufacturing process used to produce imported LRWs and respondents have not argued that there are any significant differences between domestically produced and imported LRWs. Because imported LRWs largely consist of the same types of components as domestically produced LRWs, however, they would be produced using the same general manufacturing processes as other LRWs.⁵⁵

Uses. All LRWs are used to remove soil from fabric.⁵⁶

Marketing channels. Both domestically produced LRWs and imported LRWs are primarily sold to retailers.⁵⁷

Summary. Based on the preponderance of similarities between domestically produced LRWs and imported LRWs, we find that domestically produced LRWs are like imported LRWs.

c. Domestic LRWs Are Like Imported FlexWash and Sidekick LRWs

We find that domestically produced LRWs are like in-scope imports of Samsung's FlexWash LRWs and LG's Sidekick LRWs. The preceding description of all domestic and imported LRWs applies equally to FlexWash and Sidekick LRWs, as each of those models possess the same inherent or intrinsic characteristics as other LRWs. Respondents contend that there are specific attributes that distinguish FlexWash and Sidekick LRWs from other LRWs. Specifically, Samsung's FlexWash LRWs possess two wash chambers so that two loads can be washed simultaneously at different settings, and LG's Sidekick LRWs consist of a small washer inside a pedestal designed to fit under a FL LRW.⁵⁸ Although no other LRW models appear to possess these particular features, the same can be said of other LRW models possessing innovative features that are exclusive to the model's manufacturer; Whirlpool, GE, Samsung, and LG all reported producing LRWs with exclusive innovations.⁵⁹ An analysis of the factors the Commission traditionally considers in defining the domestic product like or directly competitive with the imported article also indicates that domestically produced LRWs are like FlexWash and Sidekick LRWs.

The physical properties of the article. FlexWash, Sidekick, and other LRWs are similar with respect to major physical properties; all feature metal drums or baskets into which laundry is loaded, plastic tubs that hold water, a motor, a pump, and a user interface and control unit to set washer cycles.⁶⁰ FlexWash LRWs wash clothes in two chambers, with a larger drum accessible from the front of the unit that spins on a horizontal axis, like other FL LRWs, and a

⁵⁵ See CR at I-29-32; PR at I-21-23.

⁵⁶ CR at I-15; PR at I-12.

⁵⁷ CR/PR at Table I-5 (in 2016, *** percent of commercial U.S. shipments of domestically produced LRWs were to retailers and *** percent of commercial U.S. shipments of imported LRWs were to retailers).

⁵⁸ Respondents' Joint Prehearing Brief at 30-31; see also hearing transcript, p. 202 (Herrington) and p. 205 (Riddle).

⁵⁹ CR at V-2-3; PR at V-1-2.

⁶⁰ CR at I-16; PR at I-12.

smaller drum accessible from the top of the unit that spins on a vertical axis, like other TL LRWs.⁶¹ Sidekick LRWs consist of a pedestal designed to fit under a FL LRW containing a small TL washer accessible through a pull-out drawer.⁶² Although these particular physical properties are unique to FlexWash and Sidekick LRWs, other LRWs possess physical properties that are also unique.⁶³ All producers of LRWs seek to differentiate their LRWs in the marketplace through exclusive features and innovations, and FlexWash and Sidekick are examples of such product differentiation.

Customs treatment. FlexWash and Sidekick LRWs are classified under the same statistical reporting number as imports of other LRWs, HTS subheading 8450.20.00.⁶⁴

Manufacturing process. The record contains no information on the specific manufacturing process used to produce FlexWash and Sidekick LRWs. Because FlexWash and Sidekick LRWs largely consist of the same types of components as other LRWs, they would be produced using the same general manufacturing processes as other LRWs.⁶⁵ Respondents have not argued otherwise. Although FlexWash and Sidekick LRWs may require specialized components related to their exclusive features, this would not distinguish them from other LRW models possessing exclusive features, which would also require specialized components related to the features.

Uses. Like other LRWs, FlexWash and Sidekick LRWs are used to wash clothes. Although FlexWash and Sidekick LRWs can be used to wash two loads of laundry simultaneously at different settings with small capacity secondary wash chambers, unlike other LRWs, this does not significantly differentiate their use, which is to wash clothes.

Marketing channels. Respondents do not contend that FlexWash and Sidekick LRWs are sold through different marketing channels than other LRWs. Most LRWs, domestic and imported, are sold to retailers.⁶⁶

Summary. The preceding analysis indicates that domestically produced LRWs are like imported FlexWash and Sidekick LRWs in terms of the factors the Commission traditionally considers in making such determinations. FlexWash and Sidekick LRWs share the same customs treatment, manufacturing process, and marketing channels as other LRWs, and the same general physical properties and uses. To the extent such washers differ from other LRWs in terms of their physical properties and functionality, the differences stem from their innovative

⁶¹ Respondents' Joint Prehearing Brief at 30.

⁶² Respondents' Joint Prehearing Brief at 30.

⁶³ See CR at V-2; PR at V-1; Confidential Staff Report, *LRWs from China*, at Tables I-3-4 (EDIS Doc. No. 617959). For example, Samsung's Activewash LRWs possess a built-in sink and Whirlpool's Load & Go LRWs possess an internal reservoir that dispenses the appropriate amount of detergent over multiple loads of laundry. See *id.* Domestic producers reported *** exclusive innovations, including ***. CR at V-2; PR at V-1.

⁶⁴ CR at I-33; PR at I-24.

⁶⁵ See CR at I-29-32; PR at I-21-23.

⁶⁶ CR at I-32; PR at I-24; CR/PR at Table I-5.

features, and other LRWs offer features that are also innovative. Accordingly, we find that domestically produced LRWs are like imported FlexWash and Sidekick LRWs.⁶⁷

d. PSC/Belt Drive TL Washers and CIM/Belt Drive FL Washers Are Like Imported LRWs

We find that domestically produced “out-of-scope” PSC/belt drive TL washers and CIM/belt drive FL washers, produced by Alliance Laundry Systems (“Alliance”), are like, or at least directly competitive with, imports of LRWs described by the scope of the investigation. Although the scope of the investigation expressly excludes PSC/belt drive TL washers and CIM/belt drive FL washers, Whirlpool has argued that the Commission should define the like product to include such washers, as it did in *LRWs from China*, and respondents do not disagree.⁶⁸ Although the record contains limited information on domestically produced PSC/belt drive TL washers and CIM/belt drive FL washers, an analysis of the Commission’s traditional factors indicates that such washers are like imported LRWs.

Physical properties. In *LRWs from China*, the Commission found that the only physical difference between out-of-scope CIM/belt drive FL washers and in-scope LRWs is the use of a controlled induction motor and a belt drive system, which some consumers and producers may perceive as inferior to the direct drive system found in many in-scope LRWs.⁶⁹ Similarly, the only physical difference between out-of-scope PSC/belt drive TL washers and in-scope LRWs is the use of a permanent split capacitor motor and a belt drive system.⁷⁰ Although such washers do not possess the high spin speeds or vibration reduction technology of in-scope LRWs possessing direct drive systems,⁷¹ CIM/belt drive FL washers imported by GE are Energy Star certified, which is a product feature found on many domestically produced LRWs possessing direct drive systems.⁷²

Customs treatment. PSC/belt drive TL washers and CIM/belt drive FL washers are classified under the same statistical reporting number as other LRWs, HTS subheading 8450.20.00.⁷³

⁶⁷ Based on the same analysis, we further find that domestically produced LRWs are directly competitive with imported Flexwash and Sidekick LRWs.

⁶⁸ Petitioner’s Prehearing Brief at 10; Respondents’ Joint Prehearing Brief at 28. Respondents argue that these two types of washers should be included in the scope. As discussed above, we reject that argument. However, because we include producers of these types of washers in the domestic industry, these types of washers are included in the apparent consumption and domestic industry data. Because they are not in the scope of imported articles, they are not subject to any remedial measures that result from this investigation.

⁶⁹ USITC Pub. 4666 at 9.

⁷⁰ See CR at I-10; PR at I-8-9.

⁷¹ Petitioner’s Responses to Commissioner Questions at II-2-4; Hearing Tr. at 85-86 (Tubman).

⁷² Samsung’s Posthearing Brief at 6; CR at I-23-24; PR at I-17-18; CR/PR at Table III-7.

⁷³ CR at I-33; PR at I-24.

Manufacturing process. The record contains no information on the manufacturing process used to produce PSC/belt drive TL washers and CIM/belt drive FL washers. Because PSC/belt drive TL washers and CIM/belt drive FL washers consist of the same types of components as other LRWs, they would be produced using the same general manufacturing processes as other LRWs.⁷⁴

Uses. Like other LRWs, PSC/belt drive TL washers and CIM/belt drive FL washers are used to wash clothes.

Marketing channels. Domestically produced PSC/belt drive TL washers and CIM/belt drive FL washers are sold ***.⁷⁵ ***.⁷⁶

Based on the preponderance of similarities between PSC/belt drive TL washers and CIM/belt drive FL washers and other LRWs, we find that domestically produced PSC/belt drive TL washers and CIM/belt drive FL washers are like imported LRWs.

e. Domestic Covered Parts Are Like Imported Covered Parts

As Whirlpool acknowledges, imports of covered parts do not compete with domestically produced covered parts because they may only be installed in specific imported LRW models, for purposes of repairing them.⁷⁷ Domestically produced parts are designed for use in specific domestically produced LRW models, and are used to both assemble and repair such LRWs. Nevertheless, we find that domestic LRW parts are like imported LRW parts because each of these subassemblies installed in an LG or Samsung LRW has substantially the same physical attributes and functionality as the corresponding subassembly installed in a Whirlpool or GE LRW.⁷⁸ Application of the factors the Commission typically considers to determine likeness for purposes of safeguard investigations indicates that domestic parts are like the corresponding imported parts within the scope of the investigation.

The physical properties of the article. Domestically produced and imported covered parts share the same general physical characteristics. The cabinet assembly is the metal shell of

⁷⁴ See CR at I-29-32; PR at I-21-23.

⁷⁵ Domestic Producers' Questionnaire of Alliance at Question II-8; CR at I-32; PR at I-24; CR/PR at Table I-5.

⁷⁶ Domestic Producers' Questionnaire of Alliance at Question II-8; CR at I-32; PR at I-24; CR/PR at Table I-5.

⁷⁷ Petitioner's Responses to Commissioner Questions at II-15.

⁷⁸ Congress intended for "like" products to be "substantially identical in inherent or intrinsic characteristics (*i.e.*, materials from which made, appearance, quality, texture, etc.)" H.R. Rep. No. 571, 93rd Cong., 1st Sess. 45 (1973); Senate Finance Committee, Report on Trade Reform Act of 1974 H.R. 10710, S. Rep. No. 1298, 93rd Cong., 2d Sess. at 121, 122 (1974). Like products need not be directly competitive.

a washer.⁷⁹ The tub assembly consists of a plastic tub and a seal.⁸⁰ The basket assembly consists of a side wrapper, a base, and a drive hub.⁸¹

Customs Treatment. All covered parts are classified under HTS subheading 8450.90.20, providing for tubs and tub assemblies, and HTS subheading 8450.90.60, providing for other parts.⁸²

Manufacturing process. The record contains no information on the manufacturing process used to produce imported covered parts. Because imported covered parts possess the same physical characteristics as domestically produced parts, the manufacturing process used to produce imported covered parts would likely be similar to that used to produce the same parts domestically.⁸³ Respondents do not argue otherwise.

Uses. Domestically produced and imported covered parts share the same general functionality when installed in LRWs. Cabinets are the metal shell used to cover LRWs, plastic tubs hold water, and metal drums hold laundry.⁸⁴

Marketing channels. Domestically produced and imported covered parts are both sold to authorized service centers and distributors for the repair of LRWs.⁸⁵

Based on the preponderance of similarities between domestically produced and imported covered parts, we find that domestically produced covered parts are like imported covered parts. Even if domestically produced parts were not like imported parts within the scope of the investigation, we would still define the domestic industry to include domestic production of such parts pursuant to the “product line” approach discussed in the following section.

In sum, we have found that domestically produced LRWs, PSC/belt drive TL washers, CIM/belt drive FL washers, and covered parts are like the imported LRWs and covered parts within the scope of the investigation. Accordingly, we define the like or directly competitive domestic product as all domestically produced LRWs, PSC/belt drive TL washers, CIM/belt drive FL washers, and covered parts.

B. Domestic Industry

The term “domestic industry” is defined in section 202(c)(6)(A)(i) of the Trade Act to mean

⁷⁹ CR at I-29; PR at I-21.

⁸⁰ CR at I-9, 29-30; PR at I-7, 21-22.

⁸¹ CR at I-9, 30; PR at I-7, 22.

⁸² CR at I-32-33; PR at I-22.

⁸³ See CR at I-29-30; PR at I-21-22; Hearing Tr. at 245 (Wingate).

⁸⁴ See CR at I-9 nn.18-19, I-30-31; PR at I-7 nn.18-19, I-22.

⁸⁵ CR at II-4 n.4, III-10 n.9; PR at II-2 n.4, III-5 n.9. Imported covered parts are also sold to retailers. CR at II-4 n.4; PR at II-2 n.4.

with respect to an article, the domestic producers as whole of the like or directly competitive article or those producers whose collective production of the like or directly competitive article constitutes a major proportion of the total domestic production of such article.⁸⁶

This definition was added by the Uruguay Round Agreements Act (“URAA”) and codified existing Commission practice.⁸⁷

The Commission has broad discretion to determine what constitutes the domestic industry producing a like or directly competitive article in global safeguard investigations, generally adhering to the principal that “{t}he industry should be defined in a manner which allows for a meaningful analysis of the statutory criteria in light of the legislative history of section 201.”⁸⁸ The concept of industry employed in section 201 of the Trade Act is not the same as that used in the antidumping and countervailing duty provisions of Title VII.⁸⁹ As the Commission has stated,

Title VII is narrowly aimed at remedying the specific advantages imports may be receiving from unfair trade practices. The purpose of section 201 either is to prevent or remedy serious injury to domestic productive resources from all imports. In light of the purpose of section 201 and in contrast to Title VII, the sharing of productive processes and facilities is a fundamental concern in defining the scope of the domestic industry under section 201.⁹⁰

The legislative history to the Trade Act indicates that the concern in a safeguard investigation is “the question of serious injury to the productive resources (*e.g.*, employees, physical facilities, and capital) employed in the divisions or plants in which the article in question is produced.”⁹¹

⁸⁶ 19 U.S.C. § 2252(c)(6)(A)(i).

⁸⁷ Uruguay Round Agreements Act Statement of Administrative Action (“URAA SAA”), H. Doc. 103-316, vol. I (103rd Cong. 2nd Sess.) at 961.

⁸⁸ *Steel*, Inv. No. 201-TA-075, USITC Pub. 3479 at 30 (quoting *Stainless Steel and Alloy Tool Steel*, 201-TA-048, USITC Pub. 1377 at 12 (May 1983)).

⁸⁹ The statutory definitions of “domestic industry” are different. Compare 19 U.S.C. § 2252(c)(6)(A)(1) (defining the term for purposes of global safeguard investigations as “domestic producers as a whole of the like or directly competitive article ...”) with 19 U.S.C. §§ 1677(4)(A), 1677(10) (defining “domestic industry” in antidumping and countervailing duty investigations as “the producers as a whole of a domestic like product ...,” and in turn is defining “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses” with the imports subject to investigation).

⁹⁰ *Steel*, Inv. No. 201-TA-075, USITC Pub. 3479 at 30 (quoting *Stainless Steel and Alloy Tool Steel*, 201-TA-048, USITC Pub. 1377 at 16 n.21 (May 1983)).

⁹¹ H.R. Rep. 93-71 at 46 (1973); see also H.R. Rep. 100-576 at 661-62 (1988); S. Rep. 100-71 at 46-47 (1987); H.R. Rep. 100-40 at 86-96 (1987).

Consistent with our definition of the like or directly competitive domestic product, we define the domestic industry as all domestic producers of LRWs, PSC/belt drive TL washers, CIM/belt drive FL washers, and covered parts, including Whirlpool, GE, Alliance, and Staber.⁹²

In addition to finding that domestic covered parts are like imported covered parts, we include domestic covered parts production in our definition of the domestic industry based on the vertically integrated nature of domestic parts and LRW production. In previous investigations, the Commission “traditionally has followed a product line approach” to defining a domestic industry, including within the industry definition “all domestic facilities and workers producing a product like or directly competitive with the imported article.”⁹³ As the Commission explained in *Electric Shavers*, “Congress has directed the Commission to consider the impact of imports on domestic productive resources, employees, physical facilities, and capital, and the Commission has traditionally defined the industry to include all of the facilities involved in the production of an article, including the various stages that might be involved in such production.”⁹⁴ In this investigation, virtually all domestically produced LRWs are assembled from covered parts produced domestically in the same facilities as the LRWs.⁹⁵ Accordingly, the production facilities producing assembled LRWs necessarily include the facilities for producing covered parts. For this reason also, we include all domestic producers of covered parts in our definition of the domestic industry.

In sum, we define the domestic industry to include all domestic producers of LRWs, PSC/belt drive TL washers, CIM/belt drive FL washers, and covered parts, including Whirlpool, GE, Alliance, and Staber.

⁹² CR at Table I-6.

⁹³ *Heavyweight Motorcycles and Engines and Powertrain Subassemblies Therefor*, Inv. No. TA-201-47, USITC Pub. 1342 (Feb. 1983) at 7 (Eckes); *see also id.* at 28-29 (Haggart); *Electric Shavers and Parts Thereof*, Inv. No. TA-201-62, USITC Pub. 1819 (Sept. 1990) at 6; *Certain Canned Tuna Fish*, Inv. No. TA-201-53, USITC Pub. 1558 (Aug. 1984) at 4; *Fishing Rods and Parts Thereof*, Inv. TA-201-45, USITC Pub. 1194 (Nov. 1981) at 4-5; *Motor Vehicles*, USITC Pub. 1110 at 7.

⁹⁴ *Electric Shavers*, USITC Pub. 1819 at 6 (citing H.R. Rep. No. 571, 93^d Cong., 1st Sess. 46 *1973)). The legislative history to the 1974 Trade Act indicates that the concern in a safeguard investigation is “the question of serious injury to the productive resources (*e.g.*, employees, physical facilities, and capital) employed in the divisions or plants in which the article in question is produced.” H.R. Rep. 93-71 at 46 (1973); *see also* H.R. Rep. 100-576 at 661-62 (1988); S. Rep. 100-71 at 46-47 (1987); H.R. Rep. 100-40 at 86-96 (1987).

⁹⁵ Whirlpool produces all in-scope parts at the same U.S. facility in which they are assembled into LRWs. Petitioner’s Responses to Commissioner Questions at II-12-13; Hearing Tr. at 52 (Fettig). In *LRWs from China*, the Commission found that the vast majority of LRW parts within the scope that are produced domestically are consumed in the domestic production of finished LRWs. USITC Pub. 4666 at 8. ***. CR at III-9; PR at III-5; CR/PR at Tables I-6, III-5.

III. Increased Imports

After defining the domestic industry that manufactures a product that is like or directly competitive with the imported article, the Commission next examines whether imports are entering in “increased quantities.” Under section 202 of the Trade Act, imports have increased when the increase is “either actual or relative to domestic production.”⁹⁶ Consistent with its usual past practice,⁹⁷ the Commission in this safeguard investigation considered import trends over the most recent five-year period as the framework for its analysis, but it may consider longer or shorter periods and may focus on the most recent period, as it deems appropriate.⁹⁸

We find that this statutory criterion is satisfied because imports increased during the period of investigation, both in absolute terms and relative to domestic production. In absolute terms, imports of LRWs increased steadily from *** units in 2012 to *** units in 2013, *** units in 2014, *** units in 2015, and *** units in 2016, a level *** percent higher than in 2012.⁹⁹ Imports of LRWs were *** units in interim 2017, as compared to *** units in interim 2016.¹⁰⁰ At the same time, imports increased steadily relative to the domestic industry’s production from *** percent in 2012 to *** percent in 2013, *** percent in 2014, *** percent in 2015, and *** percent in 2016.¹⁰¹ Imports relative to the domestic industry’s production were *** percent in interim 2017, as compared to *** percent in interim 2016.¹⁰²

IV. Substantial Cause of Serious Injury or Threat of Serious Injury

A. Legal Standards and Statutory Requirements

The second of the three statutory criteria concerns whether the domestic industry is seriously injured or threatened with serious injury. Section 202(c)(6)(C) of the Trade Act defines the term “serious injury” as “a significant overall impairment in the position of a

⁹⁶ 19 U.S.C. § 2252(b)(1)(A) (requiring the Commission to determine whether an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof); *see also* 19 U.S.C. § 2252(c)(1)(C) (in turn requiring with respect to substantial cause, that the Commission take into account an increase in imports (either actual or relative to domestic production)).

⁹⁷ *See, e.g., Steel*, Inv. No. 201-TA-73, USITC Pub. 3479 at 32-33 (Dec. 2001); *Extruded Rubber Thread*, Inv. No. 201-TA-72, USITC Pub. 3375 at I-8 (Dec. 2000).

⁹⁸ The period of investigation in this safeguard investigation, January 2012 to March 2017, overlaps with the period of investigation in *LRWs from China*, which was January 2013 to June 2016, and with part of the period of investigation in *LRWs from Korea and Mexico*, which was January 2009 to June 2012.

⁹⁹ CR at II-1; PR at II-1; CR/PR at Table II-1.

¹⁰⁰ CR/PR at Table II-1.

¹⁰¹ CR/PR at Tables II-1, C-2.

¹⁰² CR/PR at Tables II-1, C-2.

domestic industry,” and section 202(c)(6)(D) defines the term “threat of serious injury” as “serious injury that is clearly imminent.”¹⁰³

In determining whether serious injury or threat of serious injury exists, the Commission considers “all economic factors which it considers relevant, including (but not limited to)” the following enumerated factors –

(A) with respect to serious injury –

(i) the significant idling of productive facilities in the domestic industry,¹⁰⁴

(ii) the inability of a significant number of firms to carry out domestic production operations at a reasonable level of profit, and

(iii) significant unemployment or underemployment within the domestic industry ... ;¹⁰⁵

(B) with respect to threat of serious injury –

(i) a decline in sales or market share, a higher and growing inventory (whether maintained by domestic producers, importers, wholesalers, or retailers), and a downward trend in production, profits, wages, productivity, or employment (or increasing underemployment) in the domestic industry,

(ii) the extent to which firms in the domestic industry are unable to generate adequate capital to finance the modernization of their domestic plants and equipment, or are unable to maintain existing levels of expenditures for research and development, and

(iii) the extent to which the United States market is the focal point for the diversion of exports of the article concerned by reason of restraints on exports of such article to, or on imports of such article into, third country markets.¹⁰⁶

The presence or absence of any of these factors is not “necessarily dispositive” of whether increased imports are a substantial cause of serious injury, or threat of serious injury, to the industry.¹⁰⁷ As part of its analysis, the Commission must “consider the condition of the domestic industry over the course of the relevant business cycle.”¹⁰⁸

The third statutory criterion also requires a finding that the article is being imported in such increased quantities as to be a “substantial cause” of serious injury or threat of serious injury. Section 202(b)(1)(B) defines “substantial cause” as “a cause which is important and not

¹⁰³ 19 U.S.C. §§ 2252(c)(6)(C), 2252(c)(6)(D).

¹⁰⁴ The statute further provides that the term “significant idling of productive facilities” includes the closing of plants or the underutilization of production capacity. 19 U.S.C. § 2252(c)(3).

¹⁰⁵ 19 U.S.C. § 2252(c)(1)(A).

¹⁰⁶ 19 U.S.C. § 2252(c)(1)(B).

¹⁰⁷ 19 U.S.C. § 2252(c)(3).

¹⁰⁸ 19 U.S.C. § 2252(c)(2)(A).

less than any other cause.”¹⁰⁹ Thus, the increased imports must be both an important cause of the serious injury or threat and a cause that is equal to or greater than any other cause.

In determining whether increased imports are a substantial cause of serious injury or threat of serious injury, the statute directs the Commission to take into account all economic factors that it finds relevant, including but not limited to – “... an increase in imports (either actual or relative to domestic production) and a decline in the proportion of the domestic market supplied by domestic producers.”¹¹⁰ The statute directs the Commission to consider “the condition of the domestic industry over the course of the relevant business cycle,” but it provides that the Commission “may not aggregate the causes of declining demand associated with a recession or economic downturn in the United States economy into a single cause of serious injury or threat of injury.”¹¹¹ The legislative history states that the provision is meant to clarify that import relief should be available during a recession or economic downturn.¹¹²

The statute also directs the Commission to “examine factors other than imports” that may be a cause of serious injury or threat to the domestic industry and include the results of its examination in its report.¹¹³ Thus, the Commission is required to (1) examine factors other than increased imports and (2) make findings with respect to these other factors. The legislative history states that the purpose of this provision “is to assure that all factors injuring the domestic industry are identified.”¹¹⁴

B. Existing Antidumping and Countervailing Duty Orders

The U.S. Department of Commerce imposed antidumping and countervailing duty orders on imports of LRWs from Korea and an antidumping duty order on imports of LRWs from Mexico in February 2013, and an antidumping duty order on imports of LRWs from China in February 2017.¹¹⁵ Several past Commission global safeguard investigations have included articles covered by one or more antidumping or countervailing duty orders in the scope of the

¹⁰⁹ 19 U.S.C. § 2252(b)(1)(B).

¹¹⁰ 19 U.S.C. § 2252(c)(1)(C).

¹¹¹ 19 U.S.C. § 2252(c)(2)(A).

¹¹² Senate Finance Committee, Omnibus Trade and Competitiveness Act of 1987: Report on S. 490, Rept. 100-71, 100th Cong., 1st Sess. at 50 (1987).

¹¹³ 19 U.S.C. § 2252(c)(2)(B).

¹¹⁴ Senate Finance Committee, Omnibus Trade and Competitiveness Act of 1987: Report on S. 490, Rept. 100-71, 100th Cong., 1st Sess. at 50 (1987). The legislative history of the Trade Act includes examples of other causes “such as changes in technology or consumer tastes, domestic competition from substitute products, plant obsolescence, or poor management,” which, if found to be more important causes of injury than increased imports, would require a negative determination. Senate Finance Committee, Trade Reform Act of 1974 Report on H.R. 10710, S. Rept. 1298, 93rd Cong., 2nd Sess. at 121 (1974).

¹¹⁵ CR at I-5-6; PR at I-3-4.

investigation, and the inclusion of such articles in the scope of existing orders, alone, did not dictate any particular outcome for the Commission's serious injury analysis.¹¹⁶

C. Conditions of Competition and the Business Cycle

The following conditions of competition inform our analysis of whether LRWs are being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing an article like or directly competitive with the imported article.¹¹⁷

1. Demand Conditions

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.¹¹⁸ Thus, demand for LRWs is primarily driven by necessity. Most responding domestic producers, importers, and purchasers reported that U.S. demand for LRWs increased during the period of investigation, due to improved U.S. economic performance, increased activity in the housing market, and the satisfaction of pent-up replacement demand from the last recession.¹¹⁹ Apparent U.S. consumption of LRWs increased from *** units in 2012 to *** units in 2013, *** units in 2014, *** units in 2015, and *** units in 2016, a level *** percent higher than in 2012.¹²⁰ Apparent U.S. consumption was *** units in interim 2017, up *** percent from *** units in interim 2016.¹²¹

¹¹⁶ For example, the Commission's investigation in *Steel* included various types of carbon flat-rolled steel subject to existing orders. The Commission took the orders into account in its injury analysis and in fashioning its remedy proposal, including the fact that some of these measures already provided some degree of protection to the domestic industry. *Steel*, Inv. No. 201-TA-73, USITC Pub. 3479 at 364 n.59 (Dec. 2001); *Carbon and Certain Steel Alloy Products*, Inv. No. 201-TA-51, USITC Pub. 1553 at a-24 (Jul. 1984) (noting that antidumping and countervailing duty orders were already in effect on several of the products subject to the investigation and that other covered products were the subject of suspension agreements); see also *Nucor Corp. v. United States*, 318 F. Supp. 2d 1207, 1236 (Ct. Int'l Trade 2004), *aff'd*, 414 F.3d 1331 (Fed. Cir. 2005) and *Wheatland Tube Co. v. United States*, 495 F.3d 1355, 1363-67 (Fed. Cir. 2007) (recognizing in the context of antidumping and countervailing duty investigations that safeguard measures may be imposed on imports that are subject to antidumping or countervailing duty orders).

¹¹⁷ We also take these conditions of competition into consideration in our analysis of imports from individual countries in section V below.

¹¹⁸ CR at V-9; PR at V-5.

¹¹⁹ CR at V-13-14; PR at V-8; CR/PR at Table V-3.

¹²⁰ CR/PR at Table C-2.

¹²¹ CR/PR at Table C-2.

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.¹²² Five large appliance retailers – *** – together accounted for *** percent of reported purchases of LRWs in 2016.¹²³ Sears purchases LRWs on an original equipment manufacturer (“OEM”) basis ***, for resale under its own Kenmore brand.¹²⁴ Consistent with our practice of examining 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.¹²⁵ Nevertheless, we also recognize that consumer preferences influence retailers’ purchasing decisions.¹²⁶

2. Supply Conditions

The U.S. market is currently served by four domestic producers, which accounted for *** percent of apparent U.S. consumption in 2016; in-scope imports, which accounted for *** percent of apparent U.S. consumption in 2016; and out-of-scope imports (PSC/belt drive TL washers and CIM/belt drive FL washers), which accounted for *** percent of apparent U.S. consumption in 2016.¹²⁷

The domestic industry consists of Whirlpool, GE, Alliance, and Staber, with Whirlpool alone accounting for *** percent of domestic LRW production in 2016.¹²⁸ Between 2012 and 2016, the domestic industry made capital investments totaling \$*** and research and development (“R&D”) expenditures of \$*** to design and produce LRWs.¹²⁹ In 2012 and 2013, Whirlpool and GE completed their “repatriation” or “on-shoring” of LRW production, having invested in the domestic production of LRWs that had previously been imported by the companies as well as new platforms.¹³⁰ Among the other investments reported by Whirlpool

¹²² CR/PR at Table I-5. Buying groups negotiate prices on behalf of multiple retailers.

¹²³ CR/PR at Table V-21.

¹²⁴ CR at I-45, V-40; PR at I-32, V-25; *LRWs from China*, USITC Pub. 4666 at 15-16.

¹²⁵ See *LRWs from China*, USITC Pub. 4666 at 16; *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.

¹²⁶ See CR at V-17; PR at V-10; Hearing Tr. at 109-10 (Fettig); Respondents’ Joint Prehearing Brief at 95-96; Samsung’s Posthearing Brief at 14-15.

¹²⁷ CR/PR at Table C-2.

¹²⁸ CR/PR at Tables I-6, III-4, C-2.

¹²⁹ CR/PR at Table III-14.

¹³⁰ See CR/PR at Tables III-2, D-1. Whirlpool invested in the domestic production of FL LRWs that had formerly been imported from Germany and Mexico. *Id.* at Table III-3. GE replaced LRWs imported (Continued...)

were ***.¹³¹ GE made investments in the design and domestic production of new large capacity TL and FL LRWs.¹³² Both companies reported developing and introducing innovative new features on their LRWs during the period of investigation, with Whirlpool introducing *** innovations, including ***, and GE introducing *** innovations, including ***.¹³³ On June 6, 2016, General Electric announced that it had completed the sale of its appliance division to a Chinese company, Qingdao Haier Co., Ltd., for \$5.6 billion.¹³⁴

LG and Samsung accounted for virtually all subject imports during the period of investigation.¹³⁵ In 2012, at the beginning of the period of investigation, they imported LRWs primarily from Korea and, in Samsung's case, Mexico.¹³⁶ 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 sold at less than fair value ("LTFV") and, in the case of LRWs from Korea, subsidized.¹³⁷ Consequently, on February 15, 2013, Commerce issued antidumping and countervailing duty orders on LRWs from Korea and Mexico.¹³⁸ LG commenced production of LRWs in China in ***, while Samsung's two Chinese production facilities commenced production of LRWs in *** and ***, respectively.¹³⁹ Both companies subsequently replaced most U.S. imports of LRWs from Korea and Mexico with imports of LRWs from China.¹⁴⁰ In January 2017, the Commission determined that a domestic industry was materially injured by reason of LRWs from China that Commerce determined were sold at LTFV, resulting in Commerce' imposition of an antidumping duty order on LRWs from China on February 6, 2017.¹⁴¹ LG commenced production of LRWs in Thailand in *** and *** in Vietnam in ***, while Samsung *** of LRWs in Vietnam in *** and *** to produce LRWs in Thailand that same year.¹⁴² LG and Samsung subsequently replaced most U.S. imports of LRWs from China with imports of LRWs from Thailand and Vietnam.¹⁴³ There is evidence that both companies experienced temporary supply disruptions in late 2016 into interim 2017 stemming from their

(...Continued)

from *** with domestically produced top load LRWs in 2012 and domestically produced front load LRWs in 2013. *Id.* at Tables III-2-3, D-1; Confidential Views, *LRWs from China*, at 22 (EDIS Doc. No. 617959).

¹³¹ CR/PR at Table D-1; *see also* Domestic Producers' Response of Whirlpool at Attachment 1.

¹³² CR/PR at III-2-3.

¹³³ CR at V-2-3; PR at V-1-2.

¹³⁴ CR at I-37; PR at I-27.

¹³⁵ CR at II-4; PR at II-2; CR/PR at Table II-2..

¹³⁶ *Large Residential Washers from Korea and Mexico*, USITC Pub. 4378 at 19-20; CR/PR at II-1, Table II-2.

¹³⁷ *Large Residential Washers from Korea and Mexico*, USITC Pub. 4378 at 1.

¹³⁸ CR at I-6; PR at I-4.

¹³⁹ CR at I-42-43, IV-13; PR at I-30, IV-7; Confidential Staff Report, *LRWs from China*, at VII-4, VII-6-7 (EDIS Doc. No. 617959); *LRWs from China*, USITC Pub. 4666 at VII-3 -5.

¹⁴⁰ CR at I-42-43; PR at I-30 ; CR/PR at Table II-2.

¹⁴¹ *LRWs from China*, USITC Pub. 4666 at 1; CR at I-6; PR at I-4.

¹⁴² CR at IV-28, 34; PR at IV-15, 18; Foreign Producers' Questionnaire of Thai Samsung Electronics Co., Ltd. at Question II-4.

¹⁴³ CR at I-42-43, II-1-2, IV-13; PR at I-30, II-1, IV-7; CR/PR at Table II-2.

shift in production from China to Thailand and Vietnam, Samsung's recall of 2.8 million TL LRWs, and the bankruptcy of a major shipping company in Asia.¹⁴⁴

In 2017, LG and Samsung announced plans to open LRW production facilities in the United States. Specifically, in February 2017, LG announced plans to open a LRW production facility in Clarksville, Tennessee, in 2019.¹⁴⁵ In June 2017, Samsung announced plans to open a LRW production facility in Newberry, South Carolina, in early 2018.¹⁴⁶

3. Market Dynamics

As already discussed, most washers are sold by domestic producers and importers to the five largest retailers – *** – and most retailers purchase washers through direct negotiations with suppliers.¹⁴⁷ Typical negotiations between LRW suppliers and retailers revolve around prices and margins.¹⁴⁸ Suppliers offer a minimum advertised price (“MAP”) for each LRW model, above which they will support retailers with advertising funds.¹⁴⁹ 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.¹⁵⁰ 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.¹⁵¹

Retailer flooring decisions are an important factor driving sales of LRWs.¹⁵² Retailers seek to display an assortment of models and brands at a range of price points to serve a wide variety of customers.¹⁵³ During product line reviews with each supplier, retailers decide which LRW models to display on the floor of their retail establishment, and how the models are arranged.¹⁵⁴ Placement at the end of an aisle (“end cap”) is considered a favorable location.¹⁵⁵ 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

¹⁴⁴ CR at V-8; PR at V-5; Hearing Tr. at 123-25 (Liotine), 187-88 (Levy), 188-89 (Pepe).

¹⁴⁵ CR at I-42; PR at V-23.

¹⁴⁶ CR at I-43-44; PR at V-22.

¹⁴⁷ CR at V-38; PR at V-22; CR/PR at Table V-11.

¹⁴⁸ CR at V-35-36, 40; PR at V-22, 25.

¹⁴⁹ CR at V-35-36; PR at V-22.

¹⁵⁰ CR at V-36; PR at V-22. Discounts on washers offered by suppliers to retailers can be characterized as direct or indirect. Direct discounts are tied to sales of specific LRWs, whereas indirect discounts are not tied to specific LRW products but are allocated to sales of LRWs, based in part on sales of LRWs. CR at V-40; PR at V-25.

¹⁵¹ CR at V-36; PR at V-22.

¹⁵² CR at V-19-20; PR at V-12-13; Hearing Tr. at 60 (Tubman), 76-77 (Pepe).

¹⁵³ CR at V-19; PR at V-12.

¹⁵⁴ CR at V-19-20; PR at V-12-13.

¹⁵⁵ CR at V-19-20; PR at V-12-13.

individual units.¹⁵⁶ According to Whirlpool and GE, retailer flooring decisions are critical to LRW sales because only LRW models floored by retailers can sell in significant quantities and shape consumer preferences.¹⁵⁷ LG and Samsung agree that lost floor spots result in lost sales.¹⁵⁸

4. Substitutability

We find that there is a moderate to high degree of substitutability between imports and domestically produced LRWs.¹⁵⁹ We further find that price is an important factor in purchasing decisions for LRWs, although non-price factors are also important.¹⁶⁰

Most responding domestic producers and purchasers reported that domestically produced LRWs and imported LRWs are always interchangeable, but most responding importers reported that LRWs from the two sources are sometimes interchangeable. Specifically, three of four responding domestic producers reported that domestically produced LRWs are always interchangeable with imported LRWs, while one (***) reported that they are never interchangeable.¹⁶¹ Eleven of 19 responding purchasers reported that domestically produced LRWs are always interchangeable with imported LRWs, with the balance reporting that LRWs from the two sources are frequently interchangeable.¹⁶² Two responding importers reported that domestically produced LRWs are sometimes interchangeable with imported LRWs, while one reported that LRWs from the two sources are always interchangeable.¹⁶³

Responding purchasers reported that price, quality, and features were among the most important factors influencing their LRW purchasing decisions, although the four largest retailers reported that their most important factors were brand awareness, breadth of selection, the ability to sell a manufacturer's full line, and customer appeal.¹⁶⁴ When asked to rank factors used in purchasing decisions, more responding purchasers (17) ranked price/pricing/cost among their top three factors than any other factor, followed by quality (10) and features/design/technology/innovations (8).¹⁶⁵ Similarly, more responding purchasers (10) ranked price/pricing/cost as the number one factor in their purchasing decisions than any other factor, followed by features/design/technology/innovations (3) and quality (2).¹⁶⁶ When asked whether differences other than price are ever significant to purchasers in choosing between domestically produced LRWs and imported LRWs, most responding domestic producers and

¹⁵⁶ CR at V-20; PR at V-12-13.

¹⁵⁷ CR at V-19; PR at V-12; Hearing Tr. at 60, 63 (Tubman), 66 (Liotine), 77 (Pepe).

¹⁵⁸ Remedy Hearing Tr. at 166 (Herrington), 176 (Riddle); see also LG's Prehearing Remedy Brief at 30-31.

¹⁵⁹ CR at V-15; PR at V-9.

¹⁶⁰ See CR at V-17-18; PR at V-10-11; CR/PR at Table V-4.

¹⁶¹ CR at V-27 n.30; PR at V-17 n.30; CR/PR at Table V-9. ***. CR/PR at Table C-2 note.

¹⁶² CR/PR at Table V-9.

¹⁶³ CR/PR at Table V-9.

¹⁶⁴ CR at V-17; PR at V-10; CR/PR at Table V-4.

¹⁶⁵ CR/PR at Table II-5.

¹⁶⁶ CR/PR at Table II-5.

responding purchasers reported “sometimes” but most responding importers reported “always.”¹⁶⁷

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.¹⁶⁸ Moreover, retailers consider relative profit margins when allocating limited retail floor space to LRW models from different suppliers.¹⁶⁹ *** responding domestic producers and importers engaged in discounting, and reported offering multiple types of discounts.¹⁷⁰

The parties disagreed about the extent to which domestically produced LRWs differed from imported LRWs in terms of non-price factors. Respondents argue that certain non-price factors drove a pronounced shift in consumer preferences towards the LG and Samsung brands and away from U.S. brands during the period of investigation.¹⁷¹ Relying on Traqline consumer survey data, respondents argue that consumer consideration of LG and Samsung brands increased during the period as LG and Samsung successfully leveraged the strength of their respective brands in the consumer electronics realm to build consumer awareness of their LRWs, particularly among younger consumers.¹⁷² Conversely, respondents attribute the declining rate at which consumers considered U.S. brands to Whirlpool’s failure to adequately differentiate Maytag branded LRWs, the declining reliability and quality of Maytag LRWs, the domestic industry’s alleged focus on unpopular agitator-based TL LRWs, and the lingering effects of mold issues with certain LRWs made by Whirlpool prior to the period of investigation.¹⁷³ In response, Whirlpool argues that the Commission should find, as it did in *LRWs from China*, that no supplier of LRWs to the U.S. market has an edge in terms of non-price factors, based on record information indicating that domestically produced LRWs are comparable to imported LRWs in terms of such factors.¹⁷⁴ Whirlpool also questions the reliability of the Traqline consumer survey data, arguing that the data are influenced by price

¹⁶⁷ CR/PR at Table II-11. When asked whether differences other than price are ever significant to purchasers in choosing between domestically produced LRWs and imported LRWs, three responding domestic producers reported “sometimes,” and one reported “***.” CR at V-28 n.31; PR at V-17 n.31; CR/PR at Table V-10. In responding to the same question, six responding purchasers reported “always,” two reported “usually,” and 12 reported “sometimes,” while two responding importers reported “always” and one reported “never.” CR/PR at Table V-10.

¹⁶⁸ CR at V-35-36; PR at V-22.

¹⁶⁹ CR at V-19-20; PR at V-12-13.

¹⁷⁰ CR at V-41; PR at V-25.

¹⁷¹ Respondents’ Joint Prehearing Brief at 37-40.

¹⁷² Respondents’ Joint Prehearing Brief at 37-38; Hearing Tr. at 221 (Ashenfelter).

¹⁷³ Respondents’ Joint Prehearing Brief at 101-03, Appendix 1 at paras. 84-97; Hearing Tr. at 220-22 (Ashenfelter).

¹⁷⁴ Petitioner’s Prehearing Brief at 19-20 (citing *LRWs from China*, USITC Pub. 4666 at 23),

competition and flooring decisions at the wholesale level, and highlights other consumer survey data ranking Whirlpool ahead of LG and Samsung in terms of brand awareness.¹⁷⁵

We find that domestically produced LRWs and imported LRWs are comparable in terms of non-price factors, including brand, as the record as a whole does not support respondents' contention that consumers, and by extension retailers, increasingly favored imported LRWs over domestically produced LRWs for non-price reasons. Indeed, responding purchasers, which accounted for nearly all purchases of LRWs during the period of investigation, reported no such trend. On the contrary, all responding purchasers reported that subject imports are either always (11) or usually (eight) interchangeable with domestically produced LRWs.¹⁷⁶ When asked to compare domestically produced LRWs to subject imports according to 23 factors, most responding purchasers reported that domestically produced LRWs are comparable or superior to imports in terms of most non-price factors, including availability, consumer preferences for particular brands and features resulting in high store turnover, frequency of returns/product reliability, product consistency, product range, reliability of supply, technical support/service, and whether quality meets or exceeds industry standards.¹⁷⁷ These data support our finding of a moderate to high degree of substitutability between subject imports and the domestic like product.

Other information on the record also indicates that domestically produced LRWs are comparable to imported LRWs in terms of non-price factors.¹⁷⁸ Whirlpool, GE, LG, and Samsung each reported numerous innovative features either introduced during the period of investigation or exclusively available on their LRWs during the period.¹⁷⁹ Moreover, both domestically produced and imported LRWs were highly rated in publications and surveys during the period of investigation. Respondents highlight that J.D. Power has rated Samsung number one in customer satisfaction in the FL and TL LRW segment for the last six years; that Forbes ranked Samsung as the tenth most valuable brand in the world; that market research firm MBLM ranked Samsung fifth among brands that American baby boomers love and trust; and that millennials responding to a Moosylvania survey ranked Samsung as their third most preferred brand and LG as their 48th most preferred brand, without naming Whirlpool or GE.¹⁸⁰ Whirlpool highlights that in 2016, Consumer Reports ranked domestically produced LRWs among three of the top five and four of the top ten recommended FL LRW models and six of the

¹⁷⁵ Petitioner's Posthearing Brief at I-7-9.

¹⁷⁶ CR/PR at Table V-9.

¹⁷⁷ CR/PR at Table V-8.

¹⁷⁸ At the hearing, counsel to LG stated that "{w}e are not arguing that our products are superior okay because this is not so much a quality thing that you do have in some other cases where you have some dramatic examples of rejects and so forth." Hearing Tr. at 278 (Porter).

¹⁷⁹ CR at V-2-3; PR at V-1-2. Whirlpool reported *** innovations, GE reported ***, LG reported ***, and Samsung reported ***. *Id.*

¹⁸⁰ Hearing Tr. at 195 (Baxter); Respondents' Joint Prehearing Brief at 37-38, Exhibits 22-23, 25. We note that the brand rankings by Forbes, MBLM, and Moosylvania were influenced by products other than LRWs, which accounted for most of LG's and Samsung's overall sales in the most recent year. CR at IV-20 nn.29-30; PR at IV-11 nn.29-30.

top ten recommended impeller-based TL LRW models, while Reviewed.com ranked domestically produced LRWs among six of the top ten TL LRW models and among four of the top ten FL LRW models.¹⁸¹ Whirlpool also highlights consumer survey data from ***, MillwardBrown, and *** indicating that consumers preferred Whirlpool and Maytag branded laundry products to LG and Samsung branded laundry products during the period of investigation.¹⁸² Indeed, respondents' own Traqline consumer survey data show that a higher percentage of consumers identified Maytag and Whirlpool as "good brand names" for washers than LG and Samsung in 2016, and that a higher percentage of consumers also identified Amana and GE as "good brand names" for washers than LG that year.¹⁸³ Based on all the preceding evidence, we conclude that the U.S. LRW market encompasses a broad range of brands and models offering diverse features and innovations, with no LRW supplier possessing a clear edge over other LRW suppliers in terms of brand, design, performance, features, innovations, and other non-price factors.

The evidence does not support respondents' arguments that there were significant non-price differences favoring the imported LRWs over the domestically produced LRWs during the period of investigation. Although respondents point to Consumer Reports data showing that the percentage of Maytag FL and TL LRWs needing repair increased during the period of investigation, Consumer Reports also reported that the percentage of FL LRWs needing repair increased for all brands during the period, including LG and Samsung.¹⁸⁴ Nor did the repair rates for U.S. brands prevent Consumer Reports from ranking domestically produced LRWs among four of the top ten recommended FL LRW models and six of the top ten recommended impeller-based TL LRW models in 2016.¹⁸⁵ By contrast, Consumer Reports suspended its recommendations for Samsung's TL LRWs in September 2016, after Samsung announced a recall of all TL LRWs produced between March 2011 and April 2016, covering 2.8 million units, because "in rare cases, affected units may experience abnormal vibrations that could pose a risk of personal injury or property damage."¹⁸⁶ Furthermore, all responding purchasers reported that domestically produced LRWs were either comparable or superior to imported LRWs in terms of frequency of returns/product reliability and quality exceeds industry standards.¹⁸⁷

¹⁸¹ Domestic Producers' Questionnaire of Whirlpool at Attachments 3-4.

¹⁸² Domestic Producers' Questionnaire of Whirlpool at Attachment 5; Hearing Tr. at 111-12 (Liotine); Petitioner's Hearing Exhibit 11. Specifically, ***; MillwardBrown consumer survey data ranked Whirlpool number one *** in terms of consumer unaided brand awareness, consideration, and preference ***; and Traqline consumer survey data showed ***. *Id.*

¹⁸³ Respondents' Joint Prehearing Brief at 101.

¹⁸⁴ Respondents' Joint Prehearing Brief, Appendix 1 at Tables 49-50. Respondents did not submit repair rates for TL LRWs.

¹⁸⁵ Domestic Producers' Questionnaire Response of Whirlpool at Attachment 3.

¹⁸⁶ Domestic Producers' Questionnaire Response of Whirlpool at Attachment 3; CR at V-8; PR at V-5.

¹⁸⁷ CR/PR at Table V-8.

Contrary to respondents' suggestion that mold issues were unique to certain FL LRWs produced by Whirlpool and Maytag prior to the period of investigation, mold issues also afflicted FL LRWs produced by LG and Samsung, and LRWs produced under all four brands and Kenmore were subject to class action lawsuits relating to mold.¹⁸⁸ Respondents' assertion that this litigation continued to have "negative brand perception effects after 2012" because Whirlpool only settled certain claims in September 2016 would apply equally to LG, which settled the claims against its LRWs in June 2016.¹⁸⁹

Nor does the record support respondents' claim that U.S. brands suffered in the eyes of consumers from Whirlpool's alleged failure to adequately differentiate Maytag LRWs from Whirlpool LRWs or from domestic producers' sales of agitator-based TL LRWs. The brand studies submitted by Whirlpool, as well as the Traqline consumer survey data submitted by respondents, generally show that more consumers preferred the Maytag washer brand than the LG and Samsung washer brands during the period of investigation.¹⁹⁰ All responding purchasers reported that domestically produced LRWs were comparable or superior to imported LRWs in terms of consumer preferences for particular brands resulting in high store turnover.¹⁹¹ Furthermore, the domestic industry's production of agitator-based TL LRWs in no way prevented the industry from also offering a full range of FL and impeller-based TL LRWs, which were highly rated by consumer publications.¹⁹² Indeed, the domestic industry invested a major proportion of its substantial capital expenditures and R&D expenses during the period of investigation in commencing and expanding the domestic production of FL LRWs and the development and production of more energy-efficient and innovative TL LRWs.¹⁹³ The record also shows that the popularity of agitator-based TL LRWs rebounded after 2015, with the percentage of apparent U.S. consumption consisting of agitator-based TL LRWs in interim 2017 (***) percent) approaching 2012 levels (***) percent).¹⁹⁴

Finally, respondents' analysis of Traqline consumer survey data does not establish that non-price factors accounted for the apparent increase in the share of consumers considering LG and Samsung LRWs during the period of investigation or the apparent decline in the share of consumers considering Whirlpool and Maytag LRWs.¹⁹⁵ Given that Traqline collected these data

¹⁸⁸ CR at I-21 n.50; PR at I-15 n.50.

¹⁸⁹ CR at I-21 n.50; PR at I-15 n.50. Other claims against Whirlpool were dismissed, as were the claims against Samsung. *Id.*

¹⁹⁰ Domestic Producers' Questionnaire of Whirlpool at Attachment 5; Hearing Tr. at 111-12 (Liotine); Petitioner's Hearing Exhibit 11; Respondents' Joint Prehearing Brief at 101.

¹⁹¹ CR/PR at Table V-8.

¹⁹² Domestic Producers' Questionnaire Response of Whirlpool at Attachment 3.

¹⁹³ See CR at III-28 n.30, III-29 n. 31; PR at III-12 n.30, III-12 n.31; CR/PR at Tables III-3, D-1; Hearing Tr. at 178-79 (Tubman), 179 (Pepe).

¹⁹⁴ CR/PR at Tables II-3, III-7, C-2; Domestic Producers' Questionnaire of Alliance at Question II-10. Agitator-based TL LRWs as a share of apparent U.S. consumption declined from *** percent in 2012 to *** percent in 2013, *** percent in 2014, and *** percent in 2015, before increasing to *** percent in 2016 and *** percent in interim 2016 and interim 2017. *Id.*

¹⁹⁵ Respondents' Joint Prehearing Brief, Appendix 1 at Table 27.

post-purchase, the brands that consumers reported considering would have been influenced to some extent by retail prices and the particular LRW models flooded and advertised by retailers.¹⁹⁶ Retailer pricing and flooring decisions, in turn, are influenced by price competition at the wholesale level.¹⁹⁷ Consequently, we cannot assume that trends in brand consideration as measured by Traqline resulted from non-price factors, as respondents contend, instead of from low-priced import competition at the wholesale level, particularly in light of our findings that domestic and imported LRWs are comparable in terms of non-price factors and, as discussed below, that imported LRWs undercut the prices of domestically produced LRWs.¹⁹⁸

We also find that imported LRWs competed with domestically produced LRWs in all segments of the U.S. market. In making this finding, we recognize that FL LRWs accounted for a higher proportion of import shipments (***) percent in 2016) than domestic industry shipments (***) percent in 2016) and that agitator-based TL LRWs accounted for around half of domestic industry shipments (***) percent in 2016) but few import shipments (***) percent in 2016).¹⁹⁹ These differences in product mix did not attenuate import competition to a significant degree for several reasons. First, imports of FL LRWs and impeller-based TL LRWs, which accounted for nearly all imports, competed directly with domestically produced FL LRWs and impeller-based LRWs, respectively, which accounted for around half of domestic industry shipments in 2016.²⁰⁰ Imports of FL LRWs also competed with domestically produced TL LRWs to the extent that consumers cross-shopped FL and TL LRW models, and all responding purchasers reported that consumers are sometimes or frequently willing to switch between TL and FL LRWs based on relative pricing.²⁰¹ Finally, pricing product data show that imported LRWs competed at nearly all price points in the U.S. market, including those of domestically produced agitator-based TL LRWs.²⁰²

¹⁹⁶ Hearing Tr. at 112 (Liotine); Petitioner’s Responses to Staff Questions at III-3.

¹⁹⁷ CR at V-19-20, 35-36; PR at V-12-13.

¹⁹⁸ Whirlpool challenges the reliability of the Traqline consumer survey data. Specifically, Whirlpool observes that these data show much higher import market shares than the Commission’s data, suggesting a sample biased in favor of consumers who purchased imports. Petitioner’s Responses to Staff Questions at III-3; *compare* Respondents’ Joint Prehearing Brief, Appendix 1 at Table 37 with CR/PR at Table C-2. It also claims that the LRW sales covered by the Traqline consumer survey data accounted for less than ***) percent of apparent U.S. consumption. *Id.*

¹⁹⁹ CR/PR at Tables II-3, III-7, C-2; Domestic Producers’ Questionnaire of Alliance at Question II-10.

²⁰⁰ CR/PR at Tables II-3, III-7, C-2; Domestic Producers’ Questionnaire of Alliance at Question II-10.

²⁰¹ See CR at V-21 (18 responding purchasers reported that consumers are sometimes willing to switch between TL and FL LRWs based on the relative pricing between the two offerings, and two reported that consumers frequently do so); PR at V-13; see also Domestic Producers’ Questionnaire Response of Whirlpool, Attachment 2 (a ***) cross-shopping study ***)).

²⁰² See CR/PR at Tables III-7, V-13-18; Petitioner’s Confidential Hearing Exhibit 1; Domestic Producers’ Questionnaire of Alliance at Question II-10. In *LRWs from China*, the Commission found that subject imports of pricing product 9, an impeller-based TL LRW, undersold domestically produced (Continued...)

D. The Domestic Industry is Seriously Injured

We find that the domestic industry is seriously injured. In light of the domestic industry's substantial investments in the development and production of competitive new LRWs during the period of investigation, the industry should have been well positioned to capitalize on the *** percent increase in apparent U.S. consumption between 2012 and 2016 and the *** percent growth in apparent U.S. consumption in interim 2017 relative to interim 2016.²⁰³ Instead, a significant number of firms were unable to carry out domestic production operations at a reasonable level of profit, necessitating cuts to capital investment and R&D spending that imperil the industry's competitiveness. Consequently, there has been a "significant overall impairment in the position of" the domestic industry.²⁰⁴

The domestic industry's financial performance declined precipitously during the period of investigation, as the industry's operating losses increased *** percent between 2012 and 2016 to reach a total of \$*** during the period.²⁰⁵ The domestic industry's operating losses worsened from negative \$*** in 2012 to negative \$*** in 2013 and negative \$*** in 2014, improved *** to negative \$*** in 2015, and then worsened to negative \$*** in 2016, the largest operating loss of the period.²⁰⁶ The domestic industry's operating loss was negative \$*** in interim 2017, as compared to negative \$*** in interim 2016.²⁰⁷ As a ratio to net sales, the domestic industry's operating loss widened from negative *** percent in 2012 to negative *** percent in 2013 and negative *** percent in 2014, narrowed *** to negative *** percent in 2015, and then widened to negative *** percent in 2016.²⁰⁸ The domestic industry's operating loss as a ratio to net sales was negative *** percent in interim 2017, as compared to negative

(...Continued)

agitator-based top load LRWs with a capacity of 3.6 cubic feet in *** of *** quarterly comparisons at margins ranging from *** to *** percent, even though the subject imported model was more fully featured. Confidential Views, *LRWs from China*, at 35 (EDIS Doc. No. 617959). There is also some evidence that lower prices on more fully featured subject imports adversely affected the sales volumes and prices of less fully featured domestically produced LRWs. See CR at V-21-23; PR at V-13-14; Confidential Views, *LRWs from China*, at 35-36 (EDIS Doc. No. 617959).

²⁰³ See Sections IV.C.1-2 above; CR/PR at Table C-2.

²⁰⁴ 19 U.S.C. § 2252(c)(6)(C).

²⁰⁵ CR/PR at Tables III-11, C-2. We note that the domestic industry's financial results do not include PSC/belt drive TL LRWs and CIM/belt drive FL LRWs produced domestically because ***. *Id.* at C-2 n.4.

²⁰⁶ CR/PR at Table III-11.

²⁰⁷ CR/PR at Table III-11. The domestic industry's net losses showed a similarly adverse trend, worsening from negative \$*** in 2012 to negative \$*** in 2013 and negative \$*** in 2014, improving *** to negative \$*** in 2015, and then worsening to negative \$*** in 2016, a level *** percent higher than in 2012. *Id.* at Tables III-11, C-2. The domestic industry's net loss was negative \$*** in interim 2017, as compared to negative \$*** in interim 2016. *Id.*

²⁰⁸ CR/PR at Table III-11.

*** percent in interim 2016.²⁰⁹ With the exception of Whirlpool’s operating profit of \$*** in 2012, equivalent to *** percent of its net sales that year, both Whirlpool and GE, which accounted for nearly all domestic production of LRWs, suffered worsening operating losses during the period of investigation.²¹⁰

We reject respondents’ contention that the Commission should consider the domestic industry’s profitability in the laundry segment as a whole, including both LRWs and dryers.²¹¹ Relying on a report prepared by their economist, respondents argue that Whirlpool and GE generally sell matching LRWs and dryers to retailers at the same net wholesale price, though dryers cost less to produce, yielding higher profits on dryers that compensate for lower profits or losses on LRWs.²¹² However, under the statute, the focus of our analysis must be the domestic industry producing LRWs, PSC/belt drive TL LRWs, CIM/belt drive FL LRWs, and covered parts, as the producers as a whole of the like or directly competitive article, and no party has argued that domestically produced dryers are like or directly competitive with imported LRWs.²¹³

Furthermore, the record does not support respondents’ assertion that Whirlpool and GE purposely priced their LRWs to sell at a loss on the expectation that profitable sales of matching

²⁰⁹ CR/PR at Table III-11.

²¹⁰ CR/PR at Table E-2. We reject respondents’ allegation that Whirlpool overstated its financial losses by overstating its sales, general, and administrative (“SG&A”) expenses, among other things. Respondents’ Joint Prehearing Brief at 74, Appendix 2. Contrary to respondents’ argument, the Commission verified that Whirlpool reported its financial results, including its SG&A expenses, using appropriate methodologies in *LRWs from China*. CR at III-26 n.27; PR at III-11 n. 27; Verification Report, EDIS Doc. No. 595581. Indeed, when the SG&A ratios for Whirlpool’s North America segment are calculated using the same methodology, with certain items reclassified from COGS, the resulting SG&A ratios are in the same range as those Whirlpool reported for LRWs. CR at III-26 n.27; PR at III-11 n. 27.

We are also unpersuaded by respondents’ argument that Whirlpool’s growing operating losses on sales of LRWs are somehow inconsistent with the increase in Whirlpool’s profit margin for its overall North American operations from 4.8 percent in 2012 to 6.5 percent in 2016, as reported in public filings. Respondents’ Joint Prehearing Brief at 71-74. Under the statute, 19 U.S.C. § 2252(c)(6)(A)(i), the focus of our analysis is the domestic industry producing LRWs, PSC/belt drive TL LRWs, CIM/belt drive FL LRWs, and covered parts, as the producers as a whole of the like or directly competitive article. Because Whirlpool’s financial results for its North America segment are based primarily on sales of products other than LRWs, with LRWs accounting for only 13.1 to 13.5 percent of the North America segment’s total revenue during the 2012-16 period, we do not find those results informative. CR at III-17 n.12; PR at III-8 n.12. Furthermore, in its thorough verification of the domestic producers’ questionnaire response submitted by Whirlpool in *LRWs from China*, the Commission confirmed that all primary information reported by Whirlpool, including its financial data, was reasonable and complied with applicable guidelines. See Verification Report, EDIS Doc. No. 595581.

²¹¹ Respondents’ Joint Prehearing Brief at 66-68.

²¹² Respondents’ Joint Prehearing Brief at 40-47, Appendix 1 (Expert Report of Prof. Orley C. Ashenfelter).

²¹³ 19 U.S.C. § 2252(c)(6)(A)(i).

dryers would compensate. On the contrary, at the hearing, Whirlpool's Chairman and CEO rejected respondents' position, as he did at the hearing for *LRWs from China*:

In the last case, I testified that we evaluate our washer business by itself; that we expect to earn a positive return on investments on our washer investments; and that you cannot subsidize a product business like this with profitability off of other products. . . . I am testifying today under oath and I don't take that lightly. At Clyde, the only appliance that we make is washing machines. The return on investments at Clyde must come from our washer business. Plain and simple, that's the truth.²¹⁴

GE states that it does not and cannot use profits on sales of dryers to compensate for losses on sales of LRWs because GE does not produce dryers domestically, but rather imports them pursuant to a *** contract manufacturing agreement that precludes outsized profits on sales of dryers.²¹⁵ The record is mixed regarding whether Whirlpool and GE sell matching pairs of LRWs and dryers for the same net wholesale price; both companies maintain that LRWs and matching dryers are seldom sold together at wholesale and never at the same net wholesale price.²¹⁶ Moreover, even if the domestic industry's sales of dryers were more profitable than its

²¹⁴ Hearing Tr. at 56-57 (Fettig).

²¹⁵ GE's Posthearing Brief at 5. GE also stresses that ***. *Id.* at 6.

²¹⁶ Whirlpool and GE officials testified at the hearing that few if any LRWs are sold to retailers with matching dryers at the same net wholesale price. Hearing Tr. at 157 (Tubman) ("Negotiations are done separately, so washers and dryers, separately. Are they done similarly? I would say yes, just like any other appliance, where we talk about a map and then discount off of map how much margin they're gonna make as a percent. And then as far as washers and dryers being equal, let's say, the answer's no. Absolutely not. I think 100% of the time I can say, in our case, the washer and the electric dryer net wholesale after discount will not be the same."), 160-61 (Tubman) ("I guess respondents wanna say you always buy the matching dryer to the washer. It's absolutely not true. We sell washers as washers and we sell dryers as dryers. And again, over 65% of the time it's duress, and they're buying one, so the majority are not sold as pairs."), 162 (Pepe) ("So that pricing and that negotiation happens with that team. And much like Casey said, the end result of the washer and the dryer are not the same at a net wholesale price. So they will typically be different.").

Disputing this testimony, respondents highlight ***, and declarations from three current and former employees of appliance retailers, stating that, in their experience, all major manufacturers offered matching LRWs and dryers for the same wholesale prices. Samsung's Posthearing Brief at 13, Exhibits 10, 12, 21-22. We note that *** document does not show "net wholesale pricing" for matching LRWs and dryers, as respondents claim, because the prices listed are not for actual sales, and the extent to which the wholesale prices listed in the document may be subject to further negotiation is unclear. *Id.* at 13, Exhibit 10. ***. CR at V-37; PR at V-23; CR/PR at Table V-11. Although ***, *id.*, Samsung's Exhibit 12 contains ***.

Responding domestic producers reported that few LRWs were sold "paired" with matching dryers. Among domestic producers, *** reported that it does not track the percentage of its LRWs sold with matching dryers, *** reported that sales of such pairs may have accounted for a small share, *** (Continued...)

sales of LRWs, the greater profitability of dryers could not explain the domestic industry's worsening operating and net losses on sales of LRWs during the period of investigation.²¹⁷

As a direct consequence of the domestic industry's inability to earn an adequate return on its investments in new LRW models, the industry curtailed its capital investment and R&D expenditures in 2016.²¹⁸ During the 2012-15 period, the domestic industry increased its capital expenditures and R&D spending on the expectation of strong demand growth and trade relief from the antidumping and countervailing duty actions filed against imports from Korea and Mexico, and the subsequent antidumping duty action against imports from China.²¹⁹ However, low-priced import competition continued with the resulting negative effects on the industry's profitability. As a result, domestic producers reduced capital investment and R&D spending by *** percent in 2016 relative to 2015 levels, and by *** percent relative to 2012 levels,²²⁰ with Whirlpool delaying an investment on a TL LRW platform and curtailing the launch of a new line of TL LRWs with industry leading capacity, and GE cancelling planned investments on its TL and FL LRW platforms.²²¹ Given the extent to which LRW sales are driven by innovation and features, we find that the domestic industry's greatly reduced level of capital investment and

(...Continued)

percent, of its 2016 sales, and *** reported that none of its LRW sales were bundled with dryers. CR at V-36-37 & n.52; PR at V-23 & n.52. By contrast, importers *** estimated that matching pairs of LRWs and dryers accounted for most, *** percent, of their LRW sales. CR at V-37; PR at V-23.

²¹⁷ CR/PR at Table III-11. Respondents' "joint pricing" theory, if true, could at most explain profit margins on sales of LRWs that are consistently lower than profit margins on sales of matching dryers. See Respondents' Joint Prehearing Brief, Appendix 1 at paras. 63 (concluding that "at least for Samsung and LG, ***"), 111 (concluding that "dryers are *** than washers"). The theory cannot explain the domestic industry's *** worsening operating losses during the period of investigation, which fell from *** percent of net sales in 2012 to *** percent of net sales in 2016. CR/PR at Table III-11.

Whirlpool argues that Professor Ashenfelter's analysis of the joint pricing issue has little empirical support. Specifically, Whirlpool alleges that Ashenfelter's analysis is based on unreliable "internet scrapes" of retail prices; fails to define or provide evidence concerning the cross-price elasticities typical of LRWs and dryers, which are likely small given Whirlpool's *** percent rate of "bundled" sales; and mistakenly assumes that Whirlpool has the market power to dictate LRW and dryer prices at a profit maximizing level, contrary to evidence of import underselling, and the industry's declining market share and growing financial losses. Petitioner's Responses to Commissioner Questions at II-28-30.

²¹⁸ Hearing Tr. at 54-55 (Fettig), 63 (Tubman), 66 (Liotine), 171-72 (Pepe).

²¹⁹ Hearing Tr. at 141 (Liotine), 171-72 (Pepe); Petitioner's Prehearing Brief at 44; CR/PR at Table III-14; see also *LRWs from China*, USITC Pub. 4666 at 37 n.224. Whirlpool and GE state that they did not foresee that LG and Samsung would move their production of LRWs for the U.S. market first from Korea and Mexico to China, and then from China to Thailand and Vietnam, and escape the disciplining effect of the resulting antidumping and countervailing duty orders, moves that in Whirlpool's view would have cost hundreds of millions of dollars. CR at II-1-2; PR at III-1; Hearing Tr. at 57-58 (Fettig).

²²⁰ Hearing Tr. at 141 (Liotine); Petitioner's Prehearing Brief at 44; CR/PR at Table III-14.

²²¹ Petitioner's Prehearing Brief at 44-45; Petitioner's Posthearing Brief at I-5; Hearing Tr. at 66 (Liotine); CR at Tables III-13, E-1.

R&D spending in 2016 constitutes further evidence that the domestic industry is seriously injured.

We recognize that the domestic industry did not suffer a significant idling of productive facilities. In line with the domestic industry's substantial capital expenditures, the industry's capacity increased from *** units in 2012 to *** units in 2013, dipped to *** units in 2014, and then increased to *** units in 2015 and *** units in 2016, a level *** percent higher than in 2012.²²² The domestic industry's capacity was *** units in interim 2017, as compared to *** units in interim 2016.²²³ The domestic industry's capacity utilization also increased irregularly, from *** percent in 2012 to *** percent in 2013, *** percent in 2014, *** percent in 2015, and *** percent in 2016, a level *** percentage points higher than in 2012.²²⁴ The domestic industry's capacity utilization was *** percent in interim 2017, as compared to *** percent in interim 2016.²²⁵ There is some evidence that Whirlpool and GE scaled back certain product lines during the period of investigation, and GE reported ***.²²⁶ Nevertheless, there were no plant closures. We also note that Samsung and LG have announced plans to construct new LRW production facilities in the United States, scheduled to commence production in 2018 and 2019, respectively.²²⁷

We also recognize that there has been no significant unemployment or underemployment within the domestic industry. Domestic industry employment increased from *** production-related workers ("PRWs") in 2012 to *** PRWs in 2013, *** PRWs in 2014, *** PRWs in 2015, and *** PRWs in 2016, a level *** PRWs higher than in 2012.²²⁸ Domestic industry employment was *** PRWs in interim 2017, compared to *** PRWs in interim 2016.²²⁹ The domestic industry's hours worked, wages paid, and productivity also increased, irregularly, during the period of investigation.²³⁰

Based on the domestic industry's dramatically worsening financial losses during the period of investigation, we find that the industry is seriously injured. In particular, the magnitude of the domestic industry's operating and net losses (equivalent to *** and *** percent of net sales, respectively, in 2016), and the resulting *** cuts in capital and R&D spending in 2016, lead us to conclude that there has been a significant overall impairment in the position of the domestic industry.

²²² CR/PR at Table C-2.

²²³ CR/PR at Table C-2.

²²⁴ CR/PR at Table C-2.

²²⁵ CR/PR at Table C-2.

²²⁶ Specifically, in 2016, GE idled the production lines for high-end TL LRWs, and Whirlpool curtailed the launch of a new line of TL LRWs with industry leading capacity, ***. CR/PR at Table E-1; Hearing Tr. at 63 (Tubman), 66 (Liotine), 136 (Pepe). GE reported that ***. GE's Posthearing Brief at 7. Similarly, GE reported that ***. *Id.*

²²⁷ CR/PR at Table III-2.

²²⁸ CR/PR at Table C-2.

²²⁹ CR/PR at Table C-2.

²³⁰ CR/PR at Table C-2.

E. Increased Imports are a Substantial Cause of Serious Injury to the Domestic Industry

In determining whether increased imports are a substantial cause of serious injury, we considered the impact of imports as well as the impact of other possible causes. As discussed above, the statute defines “substantial cause” as a cause “which is important and not less than any other cause.”²³¹

We find that imports are a substantial cause of serious injury to the domestic industry. The domestic industry’s operating and net losses increased during the period of investigation as a direct consequence of the declining prices on sales of domestically produced LRWs. Between the first and last quarters for which data are available, the domestic industry’s average prices on sales of all six pricing products declined by between *** and *** percent, or a weighted-average of *** percent.²³² These price declines, coupled with increasing costs, caused the domestic industry’s ratio of cost of goods sold (“COGS”) to net sales to increase from *** percent in 2012 to *** percent in 2016, placing the industry in a cost-price squeeze.²³³ Given strong demand growth, rising costs, and the competitiveness of the domestic industry’s LRWs, we find that the only explanation for the domestic industry’s declining prices and increasing COGS to net sales ratio is the significant increase in low-priced imports of LRWs during the period of investigation.

Imports of LRWs increased significantly during the period of investigation, in terms of both volume and market share. Between 2012 and 2016, imports of LRWs increased from *** units to *** units, for an increase of *** percent.²³⁴ Imports of LRWs remained a substantial *** units in interim 2017, though down from *** units in interim 2016 due to the aforementioned supply disruptions related to LG and Samsung’s transfer of production from China to Thailand and Vietnam and Samsung’s recall.²³⁵ Similarly, U.S. commercial shipments of imported LRWs increased from *** units in 2012 to *** units in 2016, or *** percent.²³⁶ U.S. commercial shipments of imported LRWs were *** units in interim 2017, up from *** units in interim 2016.²³⁷ As a share of apparent U.S. consumption, U.S. commercial shipments of imported LRWs increased from *** percent in 2012 to *** percent in 2013, *** percent in 2014, and *** percent in 2015, before declining *** to *** percent in 2016, a level still *** percentage points higher than in 2012.²³⁸ U.S. commercial shipments of imported LRWs accounted for *** percent of apparent U.S. consumption in interim 2017, up from *** percent

²³¹ 19 U.S.C. § 2252(b)(1)(B).

²³² CR/PR at Table V-13-19.

²³³ CR/PR at Table III-11.

²³⁴ CR/PR at Table II-2.

²³⁵ CR/PR at Table II-2.

²³⁶ CR/PR at Table C-2.

²³⁷ CR/PR at Table C-2.

²³⁸ CR/PR at Table C-2.

in interim 2016.²³⁹ Thus, as imports of LRWs nearly doubled during the period of investigation, they increased their penetration of the U.S. market to a significant degree.

We recognize that the domestic industry's market share fluctuated within a narrow band during the period of investigation, and was roughly the same in 2016 as in 2012.²⁴⁰ The domestic industry's U.S. commercial shipments as a share of apparent U.S. consumption increased from *** percent in 2012 to *** percent in 2013 and *** percent in 2014, declined to *** percent in 2015, and then increased to *** percent in 2016, about the same as in 2012.²⁴¹ The domestic industry's U.S. commercial shipments accounted for *** percent of apparent U.S. consumption in interim 2017, down from *** percent in interim 2016.²⁴²

Although the domestic industry's market share in 2016 was similar to that in 2012, we observe that fluctuations in the domestic industry's market share during the period of investigation coincided with the imposition of provisional measures and antidumping and countervailing duty orders on imports of LRWs during the period. Commerce's imposition of provisional countervailing and antidumping duty measures on LRWs from Korea and Mexico in June and August of 2012, and antidumping and countervailing duty orders on LRWs from Korea and Mexico in February 2013, coincided with an increase in the domestic industry's market share from *** percent in 2012 to *** percent in 2013 and *** percent in 2014.²⁴³ After LG and Samsung completed their shift of production of LRWs for the U.S. market from Korea and Mexico to China in 2015, however, the domestic industry's market share declined to *** percent that year.²⁴⁴ Commerce's imposition of provisional antidumping duty measures on LRWs from China in July 2016, and an antidumping duty order on LRWs from China in February 2017, coincided with an increase in the domestic industry's market share to *** percent in 2016 and *** percent in interim 2017.²⁴⁵ By interim 2017, however, LG and Samsung had

²³⁹ CR/PR at Table C-2.

²⁴⁰ CR/PR at Table C-2.

²⁴¹ CR/PR at Table C-2.

²⁴² CR/PR at Table C-2.

²⁴³ CR at I-5-6; PR at I-3-4; *Large Residential Washers From the Republic of Korea: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Determination*, 77 Fed. Reg. 33181, 33193 (June 5, 2012); *Notice of Preliminary Determination of Sales at Less Than Fair Value and Postponement of Final Determination: Large Residential Washers From the Republic of Korea*, 77 Fed. Reg. 46391, 46400 (August 3, 2012); *Large Residential Washers From Mexico: Preliminary Determination of Sales at Less Than Fair Value and Postponement of Final Determination*, 77 Fed. Reg. 46401, 46408 (August 3, 2012).

²⁴⁴ CR/PR at Table C-2; CR at IV-13; PR at IV-7; CR/PR at Table IV-8.

²⁴⁵ CR at I-6; *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 Fed. Reg. 48741, 48742 (July 26, 2016); see also Hearing Tr. at 123-23 (Liotine) (“{I}n 2016 as both LG and Samsung experienced operational issues as they moved, country-hopped to Vietnam and Thailand, we basically were called upon by our retailers to support much more volume. It was further exacerbated when Samsung had the largest recall on top-load washers ever to supply even more product. And we were able to do so by (Continued...)”)

shifted virtually all LRW production for the U.S. market from China to Thailand and Vietnam.²⁴⁶ Thus, import levels appear to have been restrained by serial antidumping and countervailing duty orders during the period of investigation.

The record also indicates that the domestic industry defended its market share, in part, by reducing its sales prices in response to competition from the increasing volume of low-priced imports of LRWs. As addressed in section IV.C.4 above, we have found 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. For our pricing analysis, we received usable quarterly net U.S. f.o.b. selling price data for six LRW products from two domestic producers and two importers, although not all firms reported pricing for all products for all quarters.²⁴⁷ Reported pricing data accounted for approximately *** percent of U.S. producers' U.S. shipments of LRWs and *** percent of U.S. shipments of imported LRWs during 2016.²⁴⁸

Pricing data on the record of this investigation covered a range of typical LRW products sold in the U.S. market.²⁴⁹ These product definitions encompassed three types of FL LRWs and three types of TL LRWs, each possessing a different combination of features and capacity ranges.²⁵⁰ To ensure that these pricing product definitions were representative, the Commission invited parties in their comments on the draft questionnaires to comment on the appropriate pricing product definitions for this investigation.²⁵¹ Based on comments received from Whirlpool, GE, LG, and Samsung, the Commission adopted six of the ten pricing products

(...Continued)

adding a third shift, by adding overtime, and so we ran very successfully three shifts, and have done so many, many times in the past for Clyde.”).

²⁴⁶ CR/PR at Table C-2; CR at IV-28, 34; PR at IV-15, 18; CR/PR at Tables IV-16,20.

²⁴⁷ CR at V-42; PR at V-26.

²⁴⁸ CR at V-43; PR at V-26. We do not rely on the laundry products purchaser price index (“PPI”) issued by the Bureau of Labor Statistics or Professor Ashenfelter’s analysis of GAP Intelligence retail price data, as advocated by respondents. *See* Respondents’ Joint Prehearing Brief at 87-90, Appendix 1, Exhibits 20-21. The PPI for laundry products is not a reliable proxy for the net wholesale prices of domestically produced LRWs because the index is based partly on wholesale prices for dryers, which are not within the scope of the investigation, and partly on wholesale prices for certain unspecified LRW models, the representativeness of which is unknown. *See id.* at 88. As in *LRWs from China*, USITC Pub. 4591 at 27 n.182, we do not rely on GAP Intelligence retail price data because the level of trade relevant to our analysis is sales by domestic producers and importers to retailers and distributors, not sales by retailers to consumers. Furthermore, the coverage and inclusivity of the retail price data analyzed by Professor Ashenfelter is unclear, and data for 2012 are omitted. Respondents’ Joint Prehearing Brief, Appendix 1 at paras. 101-9 & n.128, Tables 57-58. By contrast, our pricing data cover an appreciable proportion of U.S. shipments of both imports and the domestic like product, CR at V-43, PR at V-26, and permit apples-to-apples price comparisons based on specifically defined LRW products, as further discussed below. CR at V-42; PR at V-26.

²⁴⁹ CR at V-42; PR at V-26.

²⁵⁰ CR at V-17; PR at V-10.

²⁵¹ *See* Petitioner’s Comments on the Draft Questionnaires at 4-6; GE’s Comments on the Draft Questionnaires at 2-3; LG’s Comments on the Draft Questionnaires at 16-26; Samsung’s Comments on the Draft Questionnaires at 20-24.

used in *LRWs from China*, including three originally proposed by domestic producers (products 1, 2, and 6), two originally proposed by respondents (products 3 and 4), and one originally proposed by both domestic producers and respondents (product 5).²⁵² In their comments on the draft questionnaires, LG and Samsung specifically recommended that the Commission collect sales quantity and value data on pricing products 1-4, as products representative of competition in the U.S. market.²⁵³ 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 is well within the range that the Commission has considered reliable in previous investigations.²⁵⁴ Consequently, we find that the pricing data on the record of this investigation provide a reliable basis for apples-to-apples price comparisons based on specifically defined LRW products.²⁵⁵

²⁵² See CR at V-42 n.62; PR at V-25 n.62; *LRWs from China*, USITC Pub. 4666 at V-11 n.19.

²⁵³ See LG's Comments on the Draft Questionnaires at 25; Samsung's Comments on the Draft Questionnaires at 22.

²⁵⁴ CR at V-43; PR at V-26.

²⁵⁵ We are unpersuaded by respondents' argument that the pricing product definitions are overbroad because each definition encompasses many different models with different features at different points in their life cycles, resulting in pricing data that is allegedly unrepresentative of the model-specific prices considered by purchasers. Respondents' Joint Prehearing Brief at 84. 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 somewhat the similarity of the domestically produced and subject imported LRWs on which pricing data were reported, they also increased pricing product coverage without reducing the similarity of the compared LRWs to an unacceptable level. In this regard, the pricing product definitions used in this investigation were selected by both domestic producers and respondents in *LRWs from China*, as being representative of competition between domestically produced LRWs and imported LRWs in the U.S. market. Specifically, products 1, 2, and 6 were originally proposed by domestic producers (as products 3, 4, and 2 in *LRWs from China*), products 3 and 4 were originally proposed by respondents (as products 5 and 7 in *LRWs from China*), and product 5 was proposed by both domestic producers and respondents (as product 8 in *LRWs from China*). See CR at V-42 n.62; PR at V-25 n.62; *LRWs from China*, USITC Pub. 4666 at V-11 n.19 (noting that both domestic producers and respondents suggested product 8). In their comments on the draft questionnaires for this investigation, LG recommended the inclusion of products 1-4, but with the addition of "or infusor" to the definitions of products 3 and 4, and Samsung endorsed LG's recommended pricing product definitions. See LG's Comments on the Draft Questionnaires at 25; Samsung's Comments on the Draft Questionnaires at 22 ("Samsung supports the proposal made by LG to determining pricing product categories."). Thus, respondents themselves recommended five of the Commission's six pricing product definitions (products 1-5), as being representative of competition in the U.S. market.

Nor do we agree with respondents that the pricing product definitions are unrepresentative because they have not been "updated" from the investigation of *LRWs from China* to include new models featuring greater capacity and different configurations. Respondents' Joint Prehearing Brief at 84-85. In their comments on the draft questionnaires, respondents proposed no additional pricing product definitions corresponding to new models introduced since *LRWs from China* (they
(Continued...))

These pricing data show that imported LRWs were priced lower than domestically produced LRWs in most quarterly comparisons.²⁵⁶ Specifically, imported LRWs were priced lower than domestically produced LRWs in 70 of 92 quarterly comparisons, or 76.1 percent of the time, by a weighted-average margin of 14.2 percent.²⁵⁷ Imported LRWs were priced higher than domestically produced LRWs in the remaining 22 quarterly comparisons, by a weighted-average margin of 6.2 percent.²⁵⁸ There were 3,860,937 units of imported LRWs in quarterly comparisons in which imported LRWs were priced lower than domestically produced LRWs, which far exceeds the 613,567 units of imported LRWs in quarterly comparisons in which imported LRWs were priced higher than domestically produced LRWs.²⁵⁹ Respondents' claim that sales of imported LRWs were driven by features and innovations favored by consumers, which should command a price premium,²⁶⁰ is belied by both the extent to which imported LRWs were priced lower than domestically produced LRWs, and the declining prices of the imported LRW models that respondents identified as particularly innovative.²⁶¹

We find that the significant and growing quantity of low-priced imports depressed and suppressed prices for the domestic like product. Given the moderate to high degree of

(...Continued)

recommended only one additional pricing product definition corresponding to an agitator-based TL LRW). See LG's Comments on the Draft Questionnaires at 16-26; Samsung's Comments on the Draft Questionnaires at 20-24. Furthermore, the pricing product data on the record of this investigation, based largely on product definitions recommended by respondents, cover an appreciable share of domestic producer and importer U.S. shipments. CR at V-43; PR at V-25-26.

Finally, we are unpersuaded by respondents' argument that the price comparisons based on the pricing definitions are not "apples-to-apples" because the more extensive distribution systems employed by Whirlpool and GE may have distorted the pricing data each company reported on an f.o.b. basis. We recognize that Whirlpool and GE utilize more extensive distribution networks than LG and Samsung, including local distribution centers. See *LRWs from China*, USITC Pub. 4666 at 29 n.176. 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. CR at V-41; PR at V-25. Furthermore, in *LRWs from China*, Commission staff verified that Whirlpool's methodology for deducting freight expenses from delivered prices to arrive at f.o.b. prices was reasonable. See Whirlpool Verification Report, *LRWs from China*, EDIS Doc. No. 624007, at 2, 9; see also *LRWs from China*, USITC Pub. 4666 at 29-30. Commission staff verified that GE's methodology for reporting f.o.b. prices, including its adjustment to sales value for freight, was reasonable in this investigation. See GE Verification Report, EDIS Doc. No. 620646, at 6.

²⁵⁶ CR/PR at Table V-17.

²⁵⁷ CR/PR at Tables V-13-18, 20.

²⁵⁸ CR/PR at Tables V-13-18, 20.

²⁵⁹ CR/PR at Table V-20.

²⁶⁰ See Respondents' Joint Prehearing Brief at 37-40; Hearing Tr. at 251 (Porter), 251-53 (Ashenfelter).

²⁶¹ CR/PR at Table V-20; Petitioner's Confidential Hearing Exhibit 2 (citing Respondents' Joint Prehearing Brief, Exhibit 32) (showing that with the exception of *** "innovative" models from Samsung whose prices increased, prices declined *** to *** percent on *** "innovative" LG models and *** to *** percent on *** "innovative" Samsung models between the year of their introduction and 2016).

substitutability between subject imports and the domestic like product, and the importance of price to purchasing decisions, the pervasively lower prices on imported LRWs would have forced domestic producers to either reduce their own prices or lose retailer floor spots and sales. Between the first and last quarters for which pricing data are available, the domestic industry's prices declined *** percent on sales of product 1, *** percent in sales of product 2, *** percent on sales of product 3, *** percent on sales of product 4, *** percent on sales of product 5, and *** percent on sales of product 6.²⁶² Demand trends cannot explain these price declines because apparent U.S. consumption of LRWs increased throughout the period of investigation, by *** percent between 2012 and 2016 and another *** percent between the interim periods.²⁶³ Nor can trends in the domestic industry's production costs explain declining domestic like product prices. The industry's average unit COGS and its ratio of COGS to net sales generally increased during the period of investigation, placing the industry in a cost-price squeeze.²⁶⁴ Given this, we find that the large and increasing volume of low-priced imported LRWs, at prices that undercut domestic like product prices to a significant degree, depressed and suppressed prices for the domestic like product during the period of investigation.

Our finding that imported LRWs depressed and suppressed domestic like product prices is also supported by evidence that low-priced import competition forced Whirlpool to cut prices on *** sales to *** in 2014 and to retract announced price increases in 2012 and 2014, despite strong demand growth and rising costs.²⁶⁵ Specifically, Whirlpool was compelled to cut prices on *** sales of TL LRWs to *** in 2014, losing \$*** in revenues, after *** sent an e-mail in May of that year demanding a price reduction citing "****".²⁶⁶ Whirlpool was also compelled to retract a price increase on LRWs that was scheduled to take effect in July 2012 after ***."²⁶⁷

²⁶² CR/PR at Table V-19. We recognize that imported LRWs were priced higher than domestically produced LRWs in a majority (*** of ***) of quarterly comparisons with respect to product ***, but note that sales of such imports accounted for an insignificant *** percent of all reported import sales by volume. *Id.*

²⁶³ CR/PR at Table C-2.

²⁶⁴ CR/PR at Table III-11. The domestic industry's average unit COGS increased from \$*** in 2012 to \$*** in 2013 and \$*** in 2014, before declining to \$*** in 2015 and \$*** in 2016, a level still *** percent higher than in 2012. *Id.* The industry's average unit COGS was *** percent higher in interim 2017, at \$***, than in interim 2016, at \$***. *Id.* The domestic industry's ratio of COGS to net sales increased steadily from *** percent in 2012 to *** percent in 2013, *** percent in 2014, *** percent in 2015, and *** percent in 2016, a level *** percentage points higher than in 2012. *Id.* The industry's ratio of COGS to net sales was *** percent in interim 2017, up from *** percent in interim 2016. *Id.*

²⁶⁵ Between 2012 and 2014, apparent U.S. consumption increased *** percent and the domestic industry's unit COGS increased *** percent. See CR/PR at Tables III-11, C-2.

²⁶⁶ Petitioner's Prehearing Brief at 61-62, Exhibit 8. Whirlpool also provided evidence, specifically "meet comp" data ***, of over *** separate instances in which retailers asked it to reduce its prices to meet the lower prices of imported LRWs during the period of investigation, representing lost revenues of \$***. *Id.* at 63-64, Exhibits 9-12; Domestic Producers' Questionnaire Response of Whirlpool at Attachment 8.

²⁶⁷ Petitioner's Prehearing Brief at 63, Exhibits 10-11.

Similarly, Whirlpool was compelled to retract a price increase on LRWs that was announced in November 2013 and scheduled to take effect in February 2014 after receiving “pushback” from retailers, including ***.”²⁶⁸

In sum, despite strong demand growth and the competitiveness of domestically produced LRWs, the domestic industry experienced increasing operating and net losses during the period of investigation as its sales prices declined while its costs generally increased. The record shows that the domestic industry’s declining sales prices during the period of investigation resulted from low-priced import competition, as increasing quantities of low-priced imports depressed and suppressed prices for the domestic like product. We therefore conclude that imports were a substantial cause of serious injury to the domestic industry.²⁶⁹

²⁶⁸ Petitioner’s Prehearing Brief at 63, Exhibit 12.

²⁶⁹ We reject respondents’ argument that Commission may not attribute any injury to imports absent a “decline in the proportion of the domestic market supplied by domestic producers,” as provided under 19 U.S.C. § 2252(c)(1)(C), because there is no possibility of “pricing injury” under section 201. Samsung’s Posthearing Brief at 11. Although the Commission is required to “take into account . . . with respect to substantial cause . . . a decline in the proportion of the domestic market served by domestic producers,” 19 U.S.C. § 2252(c)(1)(C), the statute also provides that “{t}he presence or absence of any factor which the Commission is required to evaluate in subparagraphs (A) and (B) of paragraph (1) is not necessarily dispositive of whether an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry.” 19 U.S.C. § 2252(c)(3). Given that 19 U.S.C. § 2252(c)(1)(B)(i) requires the Commission to evaluate “a decline in sales or market share,” we understand section 2252(c)(1) to mean that the Commission need not consider the “absence” of “a decline in sales or market share” to be “dispositive” of whether imports are a substantial cause of serious injury. Further support for our interpretation is found in the discretionary language used by the statute, requiring the Commission to “take into account . . . with respect to substantial cause . . . a decline in the proportion of the domestic market supplied by domestic producers,” which indicates that the presence or absence of this factor is not dispositive. 19 U.S.C. § 2252(c)(1)(C) (emphasis added).

Nor does anything in the statute preclude the Commission from making an affirmative serious injury determination based on the adverse price effects of imports, as respondents claim. While the safeguard statute does not require a dumping finding, this does not mean the statute is blind to injury caused by import pricing. On the contrary, the statute requires the Commission to “take into account *all* economic factors which it considers relevant,” 19 U.S.C. § 2252(c)(1) (emphasis added), and nothing precludes that Commission from placing more weight on a factor, such as prices, that is especially probative in a particular investigation. Indeed, a key “economic factor” that the Commission has considered relevant to substantial cause in previous safeguard investigations is the effect of import prices on a domestic industry’s prices and financial performance. Of the 15 safeguard investigations that resulted in affirmative findings since 1980, the Commission relied on the adverse price effects of imports on the domestic industry to establish that imports were a substantial cause of serious injury or threat thereof in nine. See *Steel*, USITC Pub. 3479 at 60-63, 96-97, 106, 113-16, 163-64, 211-12, 220; *Line Pipe*, USITC Pub. 3261 at I-24-26; *Lamb Meat*, USITC Pub. 3176 at I-23-24; *Wheat Gluten*, USITC Pub. 3088 at I-16; *Wood Shakes and Shingles*, Inv. No. TA-201-56, USITC Pub. 1826 (March 1986) at 14; *Nonrubber Footwear*, Inv. No. TA-201-55, USITC Pub. 1717 (July 1985) at 51; *Steel*, USITC Pub. 1553 at (Continued...)

F. Imports are an Important Cause Not Less Than Any Other Cause

Respondents argue that two alternative causes of injury to the domestic industry are more important than imports. First, respondents argue that Whirlpool's alleged decision to sell matching LRWs and dryers at the same wholesale price net of discounts, as part of a rational strategy to maximize profits on sales of laundry products, explains the domestic industry's financial losses on sales of LRWs.²⁷⁰ Second, they claim that the domestic industry's loss of market share during the period of investigation is entirely explained by the declining rate at which consumers considered U.S. brands before purchasing an LRW during the period, according to Traqline consumer survey data.²⁷¹ We find that neither of these factors is an important cause of injury to the domestic industry, for the following reasons.

We are unpersuaded by respondents' argument that the domestic industry's alleged practice of selling LRWs and matching dryers for the same retail and wholesale prices is a more important cause of the industry's injury than imports.²⁷² Relying on a report prepared by their economist, respondents claim that domestic producers are obligated by their retail customers to establish the same minimum advertised price for matching LRWs and dryers, and thus the same or similar wholesale prices for matching LRWs and dryers, and therefore make joint pricing decisions on matching LRWs and dryers calculated to maximize profits on sales of matching pairs.²⁷³ Because dryers cost less to produce, they maintain, the domestic industry's practice of selling LRWs and matching dryers for the same price yields lower profits on sales of LRWs that are compensated for by higher profits on sales of matching dryers.²⁷⁴ As discussed in section IV.D above, however, the record does not support respondents' assertion that Whirlpool and GE 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, as he did at the hearing for *LRWs from China*:

In the last case, I testified that we evaluate our washer business by itself; that we expect to earn a positive return on investments on our washer investments; and that you cannot subsidize a product business like this with profitability off of other products. . . . I am testifying today under oath and I don't take that lightly. At Clyde, the only appliance that we make is washing machines. The return on

(...Continued)

57-59, 59-60, 62-63, 63-64; *Tool Steel*, USITC Pub. 1377 at 26-31; *Heavyweight Motorcycles*, USITC Pub. 1342 at 40.

²⁷⁰ Respondents' Joint Prehearing Brief at 91-94, Appendix 1; Samsung's Posthearing Brief at 12-14.

²⁷¹ Respondents' Joint Prehearing Brief at 95-105, Appendix 1; Samsung's Posthearing Brief at 14-15.

²⁷² Respondents' Joint Prehearing Brief at 91.

²⁷³ Respondents' Joint Prehearing Brief at 91, Appendix 1.

²⁷⁴ Respondents' Joint Prehearing Brief at 92-93, Appendix 1.

investments at Clyde must come from our washer business. Plain and simple, that's the truth.²⁷⁵

GE states that it does not and cannot use profits on sales of dryers to compensate for losses on sales of LRWs because GE does not produce dryers domestically, but rather imports them pursuant to a *** contract manufacturing agreement that precludes outsized profits on sales of dryers.²⁷⁶ Nor does the record unambiguously support respondents' claim that Whirlpool and GE sell matching pairs of LRWs and dryers for the same net wholesale price, as both companies maintain that LRWs and matching dryers are seldom sold together at wholesale and never at the same net wholesale price.²⁷⁷

Furthermore, even if the domestic industry's sales of dryers were more profitable than its sales of LRWs, the greater profitability of dryers could not explain the domestic industry's *** worsening operating and net losses on sales of LRWs during the period of investigation, from negative *** percent as a ratio to net sales in 2012 to negative *** percent as a ratio to net sales in 2016.²⁷⁸ Respondents' "joint pricing" theory, if true, could at most explain profit margins on sales of LRWs that are consistently lower than profit margins on sales of matching

²⁷⁵ Hearing Tr. at 56-57 (Fettig).

²⁷⁶ GE's Posthearing Brief at 5. GE also stresses that ***. *Id.* at 6.

²⁷⁷ Whirlpool and GE officials testified at the hearing that few if any LRWs are sold to retailers with matching dryers at the same net wholesale price. Hearing Tr. at 157 (Tubman), 160-61 (Tubman), 162 (Pepe). Disputing this testimony, respondents highlight ***, and declarations from three current and former employees of appliance retailers, stating that, in their experience, all major manufacturers offered matching LRWs and dryers for the same wholesale prices. Samsung's Posthearing Brief at 13, Exhibits 10, 12, 21-22. We note that ***" document does not show "net wholesale pricing" for matching LRWs and dryers, as respondents claim, because the prices listed are not for actual sales, and the extent to which the wholesale prices listed in the document may be subject to further negotiation is unclear. *Id.* at 13, Exhibit 10. ***. CR at V-37; PR at V-23; CR/PR at Table V-11. Although ***, *id.*, Samsung's Exhibit 12 contains ***.

Responding domestic producers reported that few LRWs were sold "paired" with matching dryers. Among domestic producers, *** reported that it does not track the percentage of its LRWs sold with matching dryers, *** reported that sales of such pairs may have accounted for a small share, *** percent, of its 2016 sales, and *** reported that none of its LRW sales were bundled with dryers. CR at V-36-37 & n.52; PR at V-23 & n.52. By contrast, importers *** estimated that matching pairs of LRWs and dryers accounted for most, *** percent, of their LRW sales. CR at V-37; PR at V-23.

²⁷⁸ CR/PR at Table III-11. In addition, Whirlpool argues that Professor Ashenfelter's analysis of the joint pricing issue has little empirical support. Specifically, Whirlpool alleges that Ashenfelter's analysis is based on unreliable "internet scrapes" of retail prices; fails to define or provide evidence concerning the cross-price elasticities typical of LRWs and dryers, which are likely small given Whirlpool's *** percent rate of "bundled" sales; and mistakenly assumes that Whirlpool has the market power to dictate LRW and dryer prices at a profit maximizing level, contrary to evidence of import underselling, and the industry's declining market share and growing financial losses. Petitioner's Responses to Commissioner Questions at II-28-30.

dryers.²⁷⁹ Under respondents' theory, Whirlpool, the only major domestic producer of matching LRWs and dryers, should have been able to maintain at least a modest level of profitability on its sales of LRWs during the period of investigation, given its operating profit margin of *** percent in 2012, strong demand growth, and the competitiveness of its LRWs.²⁸⁰ Instead, Whirlpool suffered dramatically worsening operating losses, which widened as a share of net sales from negative *** percent in 2013 to negative *** percent in 2014, narrowed to negative *** percent in 2015, and then widened *** to negative *** percent in 2016, the largest loss of the period.²⁸¹ Respondents do not claim that Whirlpool compensated for these increasing losses with increasing profits on sales of matching dryers, nor explain how Whirlpool could have earned increasing profits on sales of dryers when dryer prices would have declined with matching LRW prices during the period of investigation under their "joint pricing" theory.²⁸² Regardless of the extent to which the domestic industry sold matching LRWs and dryers for the same net wholesale price, we find that the domestic industry's "joint pricing" of matching LRWs and dryers was not an important cause of injury to the domestic industry, much less a more important cause than imports.

We also reject respondents' claim that the alleged "deterioration" of U.S. brands in the eyes of consumers was a more important cause of injury to the domestic industry than imports. Relying on the report prepared by their economist, respondents argue that the domestic industry's declining market share during the period of investigation resulted not from import competition but from the 6.9 percentage point decline in the share of consumers who considered purchasing U.S. brands during the period, as measured by Traqline consumer survey data.²⁸³ Respondents attribute the declining rate at which consumers considered U.S. brands to Whirlpool's failure to differentiate Maytag-branded LRWs, the increasing popularity of LG and Samsung washers with younger consumers, the domestic industry's alleged focus on poorly-rated agitator-based TL LRWs, the declining reliability and quality of Maytag LRWs, and the lingering effects of mold issues with certain LRWs made by Whirlpool prior to the period of investigation.²⁸⁴

²⁷⁹ See Respondents' Joint Prehearing Brief, Appendix 1 at paras. 63 (concluding that "at least for Samsung and LG, ***"), 111 (concluding that "dryers are *** than washers").

²⁸⁰ CR/PR at Table E-2. GE does not produce dryers domestically, but sources them from abroad under a contract manufacturing agreement on a *** basis. GE's Posthearing Brief at 5.

²⁸¹ CR/PR at Table E-2. Whirlpool's operating loss as a share of net sales was negative *** percent in interim 2017, as compared to negative *** percent in interim 2016. *Id.* GE's operating loss also increased from negative *** percent of sales in 2012 to negative *** percent of net sales in 2016, and negative *** percent in interim 2017, as compared to negative *** percent in interim 2016. *Id.*

²⁸² Respondents also do not claim that Whirlpool adopted the joint pricing of matching LRWs and dryers during the period of investigation, alleging that Whirlpool implemented the practice around 2006. Respondents' Joint Prehearing Brief at 41.

²⁸³ Respondents' Joint Prehearing Brief at 97, Appendix 1.

²⁸⁴ Respondents' Joint Prehearing Brief at 101-03, Appendix 1 at paras. 84-97; Hearing Tr. at 220-22 (Ashenfelter).

Contrary to the premise of respondents' argument, however, the record shows that the domestic industry lost no market share during the period of investigation.²⁸⁵ Indeed, we have found that the serious injury experienced by the domestic industry resulted from the adverse impact of low-priced imports on the industry's sales prices. Respondents do not argue that the alleged deterioration of U.S. brands contributed to the domestic industry's declining sales prices during the period of investigation, but only that "the entire apparent decline in U.S. producers' market share is attributable to a deterioration in their brand consideration over this period."²⁸⁶ Accordingly, respondents' "brand deterioration" theory does not explain the domestic industry's declining sales prices during the period of investigation, or any of the resulting injury.

Nor does the record support respondents' contention that consumers, and by extension retailers, increasingly favored imported LRWs over domestically produced LRWs during the period of investigation for non-price reasons. On the contrary, we have found that imported LRWs are comparable to domestically produced LRWs in terms of non-price factors, as discussed in section IV.C.4 above, based on a wide range of evidence. In particular, responding purchasers reported that subject imports are either always (11 purchasers) or usually (eight purchasers) interchangeable with domestically produced LRWs.²⁸⁷ When asked to compare domestically produced LRWs to imported LRWs according to 23 factors, most responding purchasers reported that domestically produced LRWs are comparable or superior to imports in terms of most non-price factors.²⁸⁸ The record also indicates that domestically produced LRWs are comparable to imported LRWs in terms of innovation, with Whirlpool, GE, LG, and Samsung each reporting numerous innovative features either introduced during the period of investigation or exclusively available on their LRWs during the period.²⁸⁹

Furthermore, both domestically produced and imported LRWs were highly rated in publications and surveys during the period of investigation. Respondents highlight that J.D. Power has rated Samsung number one in customer satisfaction in the FL and TL LRW segment for the last six years; that Forbes ranked Samsung as the tenth most valuable brand in the world; that market research firm MBLM ranked Samsung fifth among brands that American baby boomers love and trust; and that millennials responding to a Moosylvania survey ranked Samsung as their third most preferred brand and LG as their 48th most preferred brand,

²⁸⁵ CR/PR at Table C-2.

²⁸⁶ Respondents' Joint Prehearing Brief at 105; *see also id.* at Appendix 1 at para. 81 (concluding that "all of U.S. producers' loss of market share during this period is attributable to the deterioration in their brand consideration shares."); Hearing Tr. at 219-20 (Ashenfelter) ("I have also examined the cause of any decline in the domestic industry's market share since 2012 . . . Since brand consideration is decreasing for the domestic industry, while the close-out rate has increased slightly, any decline in the domestic industry's market share can be explained by a decrease in a consumer's brand consideration.").

²⁸⁷ CR/PR at Table V-9.

²⁸⁸ CR/PR at Table V-8.

²⁸⁹ CR at V-2-3; PR at V-1-2. Whirlpool reported *** innovations, GE reported ***, LG reported ***, and Samsung reported ***. *Id.*

without naming Whirlpool or GE.²⁹⁰ Whirlpool highlights that in 2016, Consumer Reports ranked domestically produced LRWs among three of the top five and four of the top ten recommended FL LRW models and six of the top ten recommended impeller-based TL LRW models, while Reviewed.com ranked domestically produced LRWs among six of the top ten TL LRW models and among four of the top ten FL LRW models.²⁹¹ Whirlpool also highlights consumer survey data from ***, MillwardBrown, and *** indicating that consumers preferred Whirlpool and Maytag branded laundry products to LG and Samsung branded laundry products during the period of investigation.²⁹² Respondents' own Traqline consumer survey data show that a higher percentage of consumers identified Maytag and Whirlpool as "good brand names" for washers than LG and Samsung in 2016, and that a higher percentage of consumers also identified Amana and GE as "good brand names" for washers than LG that year.²⁹³

The evidence does not support respondents' arguments that there were significant non-price differences that favored the imported LRWs over the domestically produced LRWs during the period of investigation, as discussed in section IV.C.4 above. Although respondents point to Consumer Reports data showing that the percentage of Maytag FL and TL LRWs needing repair increased during the period of investigation, Consumer Reports also reported that the percentage of FL LRWs needing repair increased for all brands during the period, including LG and Samsung.²⁹⁴ Nor did the repair rates for U.S. brands prevent Consumer Reports from ranking domestically produced LRWs among four of the top ten recommended FL LRW models and six of the top ten recommended impeller-based TL LRW models in 2016.²⁹⁵ By contrast, Consumer Reports suspended its recommendations for Samsung's TL LRWs in September 2016, after Samsung announced a recall of all TL LRWs produced between March 2011 and April 2016, covering 2.8 million units, because "in rare cases, affected units may experience abnormal vibrations that could pose a risk of personal injury or property damage."²⁹⁶ Furthermore, all responding purchasers reported that domestically produced LRWs were either

²⁹⁰ Hearing Tr. at 195 (Baxter); Respondents' Joint Prehearing Brief at 37-38, Exhibits 22-23, 25. We note that the brand rankings by Forbes, MBLM, and Moosylvania were influenced by products other than LRWs, which accounted for most of LG's and Samsung's overall sales in the most recent year. CR at IV-20 nn. 29-30; PR at IV-11 nn.29-30.

²⁹¹ Domestic Producers' Questionnaire of Whirlpool at Attachments 3-4.

²⁹² Domestic Producers' Questionnaire of Whirlpool at Attachment 5; Hearing Tr. at 111-12 (Liotine); Petitioner's Hearing Exhibit 11. Specifically, ***; MillwardBrown consumer survey data ranked Whirlpool number one *** in terms of consumer unaided brand awareness, consideration, and preference ***; and Traqline consumer survey data showed ***. *Id.*

²⁹³ Respondents' Joint Prehearing Brief at 101.

²⁹⁴ Respondents' Joint Prehearing Brief, Appendix 1 at Tables 49-50. Respondents did not submit repair rates for TL LRWs.

²⁹⁵ Domestic Producers' Questionnaire Response of Whirlpool at Attachment 3.

²⁹⁶ Domestic Producers' Questionnaire Response of Whirlpool at Attachment 3; CR at V-8; PR at V-5.

comparable or superior to imported LRWs in terms of frequency of returns/product reliability and quality exceeds industry standards.²⁹⁷

Contrary to respondents' suggestion that mold issues were unique to certain FL LRWs produced by Whirlpool and Maytag prior to the period of investigation, mold issues also afflicted FL LRWs produced by LG and Samsung, and LRWs produced under all four brands and Kenmore were subject to class action lawsuits relating to mold.²⁹⁸ Respondents' assertion that this litigation continued to have "negative brand perception effects after 2012" because Whirlpool only settled certain claims in September 2016 would apply equally to LG, which settled the claims against its LRWs in June 2016.²⁹⁹

Nor does the record support respondents' claim that U.S. brands suffered in the eyes of consumers from Whirlpool's alleged failure to adequately differentiate Maytag LRWs from Whirlpool LRWs or from domestic producers' alleged reliance on sales of agitator-based TL LRWs. The brand studies submitted by Whirlpool, as well as the Traqline consumer survey data submitted by respondents, generally show that more consumers preferred the Maytag washer brand than the LG and Samsung washer brands during the period of investigation.³⁰⁰ All responding purchasers reported that domestically produced LRWs were comparable or superior to imported LRWs in terms of consumer preferences for particular brands resulting in high store turnover.³⁰¹ Furthermore, the domestic industry's production of agitator-based TL LRWs in no way prevented the industry from also offering a full range of FL and impeller-based TL LRWs, which were highly rated by consumer publications.³⁰² Indeed, the domestic industry invested a major proportion of its substantial capital expenditures and R&D expenses during the period of investigation in commencing and expanding the domestic production of FL LRWs and the development and production of more energy-efficient and fully featured TL LRWs.³⁰³ The record also shows that the popularity of agitator-based TL LRWs rebounded after 2015, with the percentage of apparent U.S. consumption consisting of agitator-based TL LRWs in interim 2017 (***) percent) approaching 2012 levels (***) percent).³⁰⁴

We have also found that respondents' analysis of Traqline consumer survey data does not establish that non-price factors accounted for the apparent increase in the share of

²⁹⁷ CR/PR at Table V-8.

²⁹⁸ CR at I-21 n.50; PR at I-15 n.50.

²⁹⁹ CR at I-21 n.50; PR at I-15 n.50. Other claims against Whirlpool were dismissed, as were the claims against Samsung. *Id.*

³⁰⁰ Domestic Producers' Questionnaire of Whirlpool at Attachment 5; Hearing Tr. at 111-12 (Liotine); Petitioner's Hearing Exhibit 11; Respondents' Joint Prehearing Brief at 101.

³⁰¹ CR/PR at Table V-8.

³⁰² Domestic Producers' Questionnaire Response of Whirlpool at Attachment 3.

³⁰³ See CR at III-28 n.30, III-29 n. 31; PR at III-12 nn.30-31; CR/PR at Tables III-3, D-1; Hearing Tr. at 178-79 (Tubman), 179 (Pepe).

³⁰⁴ CR/PR at Tables II-3, III-7, C-2; Domestic Producers' Questionnaire of Alliance at Question II-10. Agitator-based TL LRWs as a share of apparent U.S. consumption declined from *** percent in 2012 to *** percent in 2013, *** percent in 2014, and *** percent in 2015, before increasing to *** percent in 2016 and *** percent in interim 2017, as compared to *** percent in interim 2016. *Id.*

consumers considering LG and Samsung LRWs, or the apparent decline in the share of consumers considering Whirlpool and Maytag LRWs, during the period of investigation.³⁰⁵ Given that Traqline collected these data post-purchase, the brands that consumers reported considering would have been influenced to some extent by retail prices and the particular LRW models flooded and advertised by retailers.³⁰⁶ Retailer pricing and flooring decisions, in turn, are influenced by price competition at the wholesale level.³⁰⁷ Consequently, we cannot assume that trends in brand consideration as measured by Traqline resulted from non-price factors, as respondents contend, instead of from low-priced import competition at the wholesale level, particularly in light of our findings that domestic and imported LRWs are comparable in terms of non-price factors and that imported LRWs pervasively undercut the prices of domestically produced LRWs.³⁰⁸

We therefore reject respondents' claim that the deterioration of U.S. brands in the eyes of consumers was a more important cause of injury than imports. The record does not support respondents' claim that any such deterioration occurred for non-price reasons, and even if it had occurred, the deterioration, by respondents' own admission, could explain only a decline in the domestic industry's market share. Because the domestic industry's injury resulted from declining prices, not declining market share, respondents' brand deterioration theory could explain none of the injury sustained by the industry.

In sum, we have found that neither the alleged "joint pricing" of matching LRWs and dryers, nor the alleged deterioration of U.S. brands in the eyes of consumers, were important causes of serious injury to the domestic industry. Indeed, respondents' "joint pricing" theory cannot explain the domestic industry's dramatically worsening operating and net losses during the period of investigation. Respondents' argument concerning the alleged deterioration of U.S. brands purports to explain only an injury that did not occur, a loss of market share by the domestic industry, when the domestic industry's serious injury resulted from declining sales prices. Neither of respondents' alleged alternative causes of injury is supported by the record evidence. In light of our finding that imports were a substantial cause of serious injury to the domestic industry, we conclude that imports are an important cause of serious injury not less than any other cause.

³⁰⁵ Respondents' Joint Prehearing Brief, Appendix 1 at Table 27.

³⁰⁶ Hearing Tr. at 112 (Liotine); Petitioner's Responses to Staff Questions at III-3.

³⁰⁷ CR at V-19-20, 35-36; PR at V-12-13, 22.

³⁰⁸ Whirlpool challenges the reliability of the Traqline consumer survey data. Specifically, Whirlpool observes that these data show much higher import market shares than the Commission's data, suggesting a sample biased in favor of consumers who purchased imports. Petitioner's Responses to Staff Questions at III-3; *compare* Respondents' Joint Prehearing Brief, Appendix 1 at Table 37 *with* CR/PR at Table C-2. It also claims that the LRW sales covered by the Traqline consumer survey data accounted for less than *** percent of apparent U.S. consumption. *Id.*

V. Findings Regarding Possible Exclusion of Certain Imports

If the Commission makes an affirmative determination of serious injury or threat thereof (or is equally divided on the issue), the statute requires the Commission to make a number of additional findings. The requirement for many of these findings originates in the implementing statutes for various free trade agreements that the United States has negotiated in the last two decades or under statutory provisions related to certain preferential trade programs.³⁰⁹

A. Findings Regarding NAFTA Imports

Under section 311(a) of the NAFTA Implementation Act which implements article 802 of the NAFTA, if the Commission makes an affirmative determination or is equally divided on the question of injury, the Commission also must find whether

- (i) imports of the article from a NAFTA country, considered individually, account for a substantial share of total imports; and
- (ii) imports of the article from a NAFTA country, considered individually or, in exceptional circumstances, imports from NAFTA countries considered collectively, contribute importantly to the serious injury, or threat thereof, caused by imports.³¹⁰

With respect to the first prong, the statute states that imports from a NAFTA country “normally shall not be considered to account for a substantial share of total imports if that country is not among the top 5 suppliers of the article subject to the investigation, measured in terms of import share during the most recent three-year period.”³¹¹

With respect to the second prong (whether imports from NAFTA countries individually or in exceptional circumstances, collectively, contribute importantly to the serious injury or threat of serious injury), the statute defines “contribute importantly” as an important cause,

³⁰⁹ Specifically, the Commission is required to make certain additional findings under the implementing statutes for NAFTA (Canada and Mexico), CAFTA-DR (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic), the U.S.-Australia Free Trade Agreement, KORUS, the U.S.-Colombia Trade Promotion Agreement, the Agreement between the United States of America and the Hashemite Kingdom of Jordan on the Establishment of a Free Trade Area, the U.S.-Panama Trade Promotion Agreement, the U.S.-Peru Free Trade Agreement, the U.S.-Singapore Free Trade Agreement, and the U.S./Israel Free Trade Agreement or under statutory provisions related to preferential trade programs (CBERA and GSP). See 19 U.S.C. § 2112 note (Jordan, Israel); 19 U.S.C. § 2253(e)(6) (GSP); 19 U.S.C. § 2703(e) (CBERA); 19 U.S.C. § 3371 (NAFTA); 19 U.S.C. § 3805 note (Australia, Colombia, KORUS, Panama, Peru, Singapore); 19 U.S.C. § 4101 (CAFTA-DR).

³¹⁰ 19 U.S.C. § 3371(a); NAFTA Implementation Act § 311.

³¹¹ 19 U.S.C. § 3371(b)(1).

but not necessarily the most important cause.³¹² In determining whether imports have contributed importantly to the serious injury or threat thereof caused by imports, the Commission is directed to

consider such factors as the change in the import share of the NAFTA country or countries, and the level and change in the level of imports from such country or countries. Imports from a NAFTA country or countries normally shall not be considered to contribute importantly to serious injury, or the threat thereof, if the growth rate of imports from such country or countries during the period in which an injurious increase in imports occurred is appreciably lower than the growth rate of total imports from all sources over the same period.³¹³

In exceptional circumstances, imports from Canada and Mexico may be considered collectively in determining whether NAFTA imports have contributed importantly to the serious injury or threat. According to the Statement of Administrative Action accompanying the NAFTA Implementation Act (“NAFTA SAA”), the Commission is likely to consider imports from NAFTA countries collectively when imports from individual NAFTA countries are each small in terms of import penetration, but collectively are found to contribute importantly to the serious injury or threat of serious injury.³¹⁴

1. Findings Regarding Imports from Canada

We find that imports of LRWs from Canada do not account for a substantial share of total imports and do not contribute importantly to the serious injury caused by the imports. Indeed, there were no imports of LRWs from Canada during the period of investigation, and there is no known production of LRWs in Canada.³¹⁵ Accordingly, we make a negative finding with respect to imports from Canada.

2. Findings Regarding Imports from Mexico

We also find that imports of LRWs from Mexico do not account for a substantial share of total imports and do not contribute importantly to the serious injury caused by the imports. Accordingly, we make a negative finding with respect to imports from Mexico.

Although the industry in Mexico was among the top five import suppliers of LRWs during the three most recent years, such imports accounted for a very small and declining

³¹² 19 U.S.C. § 3371(c).

³¹³ Section 311(b)(2) of the NAFTA Implementation Act, 19 U.S.C. § 3371(b)(2).

³¹⁴ NAFTA SAA, published in H. Doc. 103-159, 103rd Cong., 1st Sess. at 565 (1993).

³¹⁵ CR/PR at Table II-1; CR at IV-5; PR at IV-2.

volume of imports.³¹⁶ Specifically, imports from Mexico declined as a share of total imports from *** percent in 2014 to *** percent in 2015 and *** percent in 2016.³¹⁷ Consequently, we find that imports of LRWs from Mexico, considered individually, do not account for a substantial share of total imports.

We also examined whether imports of LRWs from Mexico considered individually contribute importantly to the serious injury caused by imports.³¹⁸ Imports of LRWs from Mexico declined sharply during the period of investigation, from *** units in 2012 to *** units in 2013, *** units in 2014, *** units in 2015, and *** units in 2016, a level *** percent lower than in 2012.³¹⁹ Imports of LRWs from Mexico were *** units in interim 2017, down *** percent from *** units in interim 2016.³²⁰ By contrast, global imports increased *** percent between 2012 and 2016, and remained at a high level in interim 2017, though down *** percent from interim 2016.³²¹ As a share of apparent U.S. consumption, imports from Mexico declined from *** percent in 2012 to *** percent in 2013, *** percent in 2014, *** percent in 2015, and *** in 2016 and over the interim periods.³²² By contrast, global imports increased their share of apparent U.S. consumption from *** percent in 2012 to *** percent in 2013, *** percent in 2014, *** percent in 2015, and *** percent in 2016.³²³ Global imports as a share of apparent U.S. consumption were *** percent in interim 2017, up from *** percent in interim 2016.³²⁴ Given that imports of LRWs from Mexico declined to negligible levels during the period of investigation, and represented an insignificant share of global imports throughout the period, we find that imports from Mexico, considered individually, did not contribute importantly to the serious injury caused by imports.³²⁵

³¹⁶ CR/PR at Table II-2. Imports of LRWs from Mexico have been subject to an antidumping duty order since February 13, 2013. CR at I-6; PR at I-4.

³¹⁷ CR/PR at Table II-1.

³¹⁸ We do not find exceptional circumstances that warrant considering whether imports from Canada and Mexico collectively contribute importantly to the serious injury caused by imports.

³¹⁹ CR/PR at Table II-1.

³²⁰ CR/PR at Table II-1.

³²¹ CR/PR at Table II-1.

³²² CR/PR at Table C-2.

³²³ CR/PR at Table C-2.

³²⁴ CR/PR at Table C-2.

³²⁵ Based on the low and declining volume of imports from Mexico during the period of investigation, and the absence of any evidence of price undercutting by imports from Mexico, we find that imports from Mexico did not contribute to the depression and suppression of domestic like product prices caused by imports of LRWs from elsewhere. Reported U.S. commercial shipments of pricing products imported from Mexico totaled only *** units, consisting entirely of sales of product *** in ***, when there were no reported domestic industry sales of the product. See CR/PR at Table G-1.

B. Findings Regarding to Imports from Australia, CAFTA-DR countries, Colombia, Jordan, Korea, Panama, Peru, and Singapore

Several of the United States' FTAs contain similar language providing the President with discretion to exclude imports from FTA partners from any global safeguard measure. Despite the permissive nature of the exclusions in the FTAs, the corresponding U.S. implementing statutes mandate that the Commission make a finding whether imports of the article from the FTA partner are a substantial cause of serious injury or threat thereof and report its finding to the President at the same time that it submits its report.³²⁶ For imports from each of these countries, we thus consider whether LRWs are being imported in increased quantities (either actual or relative to production); whether the domestic industry producing an article that is like or directly competitive with the imported article is seriously injured or threatened with serious injury; and whether the article is being imported in such increased quantities as to be a substantial cause of serious injury or threat of serious injury to the domestic industry.³²⁷

1. Findings Regarding Imports from Korea

We find that imports of LRWs from Korea are not a substantial cause of serious injury or threat thereof.³²⁸ Accordingly, we make a negative finding with respect to imports from Korea.

We first note that imports of LRWs from Korea did not increase over the period of investigation. On the contrary, imports of LRWs from Korea peaked at *** in 2012, declined sharply to *** units in 2013, *** units in 2014, and *** units in 2015, and then increased to *** units in 2016, a level still *** percent lower than in 2012.³²⁹ Although imports of LRWs from Korea were higher in interim 2017, at *** units, then in interim 2016, at *** units, they remained well below 2012 levels.³³⁰ As a share of domestic production, imports of LRWs from Korea declined from *** percent in 2012 to *** percent in 2013, *** percent in 2014, and *** percent in 2015, before increasing to *** percent in 2016, a level still *** percentage points

³²⁶ See, e.g., CAFTA-DR Article 8.6(2) (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic); the U.S.-Australia Free Trade Agreement Article 9.5; KORUS Article 10.5(1); the U.S.-Colombia Trade Promotion Agreement Article 8.6(2); U.S./Jordan Agreement on the Establishment of a Free Trade Area Article 10.8; U.S./Panama Trade Promotion Agreement Article 8.2(2); the U.S.-Peru Free Trade Agreement Article 8.6(2); and the U.S./Singapore Free Trade Agreement Article 7.5. See 19 U.S.C. § 2112 note (Jordan); 19 U.S.C. § 3371 (NAFTA); 19 U.S.C. § 3805 note (Australia, Colombia, KORUS, Panama, Peru, Singapore); 19 U.S.C. § 4101 (CAFTA-DR).

³²⁷ See 19 U.S.C. § 2252(b)(1)(A).

³²⁸ We recall that the statute defines "substantial cause" as a cause "which is important and not less than any other cause." 19 U.S.C. § 2252(b)(1)(B). As discussed in section IV.D above, we have found that the domestic industry is seriously injured, based on the industry's dramatically worsening operating and net losses during the period of investigation, and the cuts in capital investment and R&D spending that the losses necessitated in 2016.

³²⁹ CR/PR at Table II-1.

³³⁰ CR/PR at Table II-1.

lower than in 2012.³³¹ Although the ratio of imports from Korea to domestic production was higher in interim 2017, at *** percent, than in interim 2016, at *** percent, the ratio remained far lower than in 2012.³³²

The declining volume of LRW imports from Korea after 2012 coincided with Commerce's imposition of antidumping and countervailing duty orders on imports from Korea in February 2013, and LG and Samsung's decision to shift the production of most LRWs destined for the U.S. market from Korea and Mexico to China.³³³ As imports from Korea declined irregularly by *** percent between 2012 and 2016, U.S. shipments of imports from Korea as a share of apparent U.S. consumption exhibited a similar trend, declining from *** percent in 2012 to *** percent in 2013, *** percent in 2014, and *** percent in 2015, before increasing slightly to *** percent in 2016, a level still *** percentage points lower than in 2012.³³⁴ Although the market share held by imports from Korea was higher in interim 2017, at *** percent, than in interim 2016, at *** percent, it remained far lower than in 2012.³³⁵ Unlike imports from other sources, imports from Korea had a declining presence in the U.S. market during the period of investigation.

Imports from Korea were also priced lower than the domestic like product to a lesser extent than was the case for imports from other sources. Imports of LRWs from Korea were priced lower than domestically produced LRWs in *** of *** quarterly comparisons, or *** percent of the time, and higher than domestically produced LRWs in *** of *** quarterly comparisons, or *** percent of the time.³³⁶ There were *** units of LRWs imported from Korea in quarterly comparisons in which they were priced lower than domestically produced LRWs, which exceeds the *** units of LRWs from Korea in quarterly comparisons in which they were priced higher.³³⁷

Notably, the extent to which imports from Korea were priced lower than the domestic like product declined after the imposition of antidumping and countervailing duty orders on LRWs from Korea in February 2013, with subsequent imports of LRWs from Korea priced higher than domestically produced LRWs in a majority of quarterly comparisons. Specifically, after the first quarter of 2013, imports of LRWs from Korea were priced higher than domestically produced LRWs in *** of *** quarterly comparisons, or *** percent of the time, and lower than domestically produced LRWs in *** of *** quarterly comparisons, or *** percent of the time.³³⁸ During the same period, the quantity of imports from Korea in quarterly comparisons in which they were priced lower than domestically produced LRWs was only slightly higher, at

³³¹ CR/PR at Tables II-1, C-2.

³³² CR/PR at Tables II-1, C-2.

³³³ CR at I-6,; PR at I-4; Confidential Views, *LRWs from China*, at 22-23 (EDIS Doc. No. 617959); *LRWs from China*, USITC Pub. 4666 at 17.

³³⁴ CR/PR at Tables II-1, C-2.

³³⁵ CR/PR at Table C-2.

³³⁶ CR/PR at Table G-6.

³³⁷ CR/PR at Table G-6.

³³⁸ CR/PR at Table G-6.

*** units, than the quantity of imports from Korea in quarterly comparisons in which they were priced higher, at *** units.³³⁹

We find that imports from Korea, alone, did not depress or suppress domestic like product prices during the period of investigation. After the imposition of antidumping and countervailing duty orders in February 2013, the volume and market share of imports from Korea declined to low levels in 2015 and 2016, and imports from Korea exhibited a mixed pattern of relative pricing, with roughly equal volumes of imports from Korea priced higher and lower than domestically produced LRWs. Given these factors, we find that imports from Korea could not have contributed meaningfully to declining domestic like product prices during the period of investigation and, by extension, to the domestic industry's financial losses. We therefore conclude that imports of LRWs from Korea were not a substantial cause of serious injury to the domestic industry.

Furthermore, we find that imports of LRWs from Korea were a less important cause of serious injury than imports of LRWs from other sources. Excluding imports from Korea, imports of LRWs quintupled from *** units in 2012 to *** units in 2016, and quadrupled as a share of domestic production from *** percent in 2012 to *** percent in 2016.³⁴⁰ During the same period, imports from sources other than Korea increased their penetration of the U.S. market by a factor of four, from *** percent in 2012 to *** percent in 2016.³⁴¹

These dramatically increasing volumes of imports from sources other than Korea were lower priced than the domestic like product in the vast majority of quarterly comparisons. Specifically, imports from sources other than Korea were priced lower than domestically produced LRWs in *** of *** quarterly comparisons, or *** percent of the time, and higher than domestically produced LRWs in *** of *** quarterly comparisons, or *** percent of the time.³⁴² The volume of such imports in quarterly comparisons showing import prices lower than domestic like product prices was *** units, which is over ten times the *** units in quarterly comparisons showing import prices higher than domestic like product prices.³⁴³

Given the moderately high degree of substitutability between imports from sources other than Korea and the domestic like product, and the importance of price to purchasers, we find that the significant increase in low-priced imports from sources other than Korea during the period of investigation, at prices that were pervasively lower than the domestic like product, depressed and suppressed domestic like product prices to a significant degree.³⁴⁴

³³⁹ CR/PR at Table G-6.

³⁴⁰ CR/PR at Tables II-1, C-2. Imports from sources other than Korea were *** units in interim 2017, equivalent to *** percent of domestic production, down from *** units in interim 2016, equivalent to *** percent of domestic production.

³⁴¹ CR/PR at Table C-2. The market share of imports from sources other than Korea was *** percent in interim 2017, down slightly from *** percent in interim 2016. *Id.*

³⁴² CR/PR at Tables V-13-18, G-1-6.

³⁴³ CR/PR at Tables V-13-18, G-1-6.

³⁴⁴ Our findings concerning the substitutability of imported LRWs and domestically produced LRWs, and the importance of price to purchasers, discussed above, apply equally to imports of LRWs from sources other than Korea. Because LG and Samsung accounted for the vast majority of LRW (Continued...)

Factors other than imports, including the *** percent increase in apparent U.S. consumption between 2012 and 2016, the domestic industry's generally increasing cost of production, and the competitiveness of the industry's LRWs, should have led to stable or increasing domestic like product prices.³⁴⁵ By depressing and suppressing domestic like product prices, placing the domestic industry in a price-cost squeeze, imports from sources other than Korea caused the domestic industry's increasing operating and net losses during the period of investigation.³⁴⁶ Consequently, we find that imports from sources other than Korea were a substantial cause of serious injury to the domestic industry, unlike imports from Korea considered alone.

We further find that imports from Korea, considered alone, are not a substantial cause of threat of serious injury to the domestic industry.³⁴⁷ We recognize that producers in Korea may be capable of increasing their exports to the United States by filling their unused capacity, redirecting exports to third country markets to the United States, and shifting production for the U.S. market from third countries to Korea.³⁴⁸ The record also indicates that LG and Samsung are capable of rapidly shifting production from third countries to Korea in order to increase

(...Continued)

imports during the period of investigation, imports from Korea and imports from sources other than Korea would have consisted of similar LRWs. CR at II-4; PR at II-2.

³⁴⁵ See sections IV.C.1-2, D above.

³⁴⁶ CR/PR at Table III-11.

³⁴⁷ In considering threat of serious injury, we have taken into account the economic factors enumerated under 19 U.S.C. § 2252(c)(1)(B). The domestic industry did not experience a decline in sales or market share, a higher and growing inventory (whether maintained by domestic producers, importers, wholesalers, or retailers), or a downward trend in production, wages, productivity, or employment (or increasing underemployment) during the period of investigation. See CR/PR at Tables III-11, C-2. As discussed above, however, the domestic industry experienced dramatically worsening operating and net losses during the period, with operating losses as a share of net sales increasing from negative *** percent in 2012 to negative *** percent in 2016 and net losses as a share of net sales increasing from negative *** percent in 2012 to negative *** percent in 2016. CR/PR at Table III-11. As a result of these financial losses, the domestic industry reduced capital investment and R&D spending by *** percent in 2016 relative to 2015 levels, and by *** percent relative to 2012 levels. Hearing Tr. at 141 (Liotine); Petitioner's Prehearing Brief at 44; CR/PR at Table III-14. We therefore find that firms in the domestic industry are unable to generate adequate capital to finance the modernization of their domestic plants and equipment, and unable to maintain existing levels of expenditures for research and development.

³⁴⁸ In 2016, responding Korean producers reported a capacity utilization rate of *** percent, yielding excess capacity of *** units, equivalent to *** percent of apparent U.S. consumption that year. CR/PR at Table IV-12. Responding Korean producers reported exports to third country markets of *** units in 2016, equivalent to *** percent of apparent U.S. consumption that year. *Id.* Responding Korean producers project similar levels of excess capacity and exports to third country markets in 2017 and 2018. *Id.*

We note that the United States is not the focal point for the diversion of exports of LRWs by reason of restraints on exports of LRWs to, or on imports of LRWs into, third country markets. There are no known trade remedy actions in third country markets covering LRWs. CR at I-45; PR at I-32.

exports of LRWs to the United States.³⁴⁹ Responding Korean producers also increased their exports to the U.S. market toward the end of the period of investigation.³⁵⁰

We nevertheless find that imports from Korea are not a substantial cause of threat of serious injury to the domestic industry for two reasons. First, we find that the disciplining effect of the antidumping and countervailing duty orders will likely prevent imports from Korea from increasing significantly at prices that could prove injurious. LG was able to increase its exports of LRWs to the United States without incurring substantial antidumping or countervailing duty liability by adjusting its prices, as reflected in the reduced incidence of price undercutting by imports from Korea.³⁵¹ Any effort by either LG or Samsung to increase exports from Korea to the United States using low prices reflective of unfair trade would expose that company to the risk of increased antidumping and countervailing duty liability through the administrative review process.

Second, both LG and Samsung are in the initial stages of constructing LRW production facilities in the United States that will likely reduce the need for both companies to import LRWs. Specifically, in February 2017, LG announced plans to open a \$250 million LRW production facility in Clarksville, Tennessee, in 2019.³⁵² In June 2017, Samsung announced plans to open a \$380 million LRW production facility in Newberry, South Carolina, in early 2018.³⁵³

³⁴⁹ During the period of investigation, LG and Samsung shifted their production of LRWs for the U.S. market from Korea and Mexico to China around the time that Commerce imposed antidumping and countervailing duty orders on LRWs from Korea and Mexico, and from China to Thailand and Vietnam around the time that Commerce imposed an antidumping duty order on LRWs from China. CR at II-1-2; PR at II-1. At the hearing, LG and Samsung officials stated that LRW production can be moved from one country to another more rapidly when production is transferred to an existing LRW production facility in the destination country, and both companies reported LRW production facilities in Korea. Hearing Tr. at 247-48 (Baxter), 305-6 (Riddle); CR at IV-20; PR at IV-11. Given their track record of “country hopping” and existing LRW production facilities in Korea, LG and Samsung are capable of rapidly shifting production of LRWs from third countries to Korea to increase exports of LRWs from Korea to the U.S. market.

³⁵⁰ Responding Korean producers reported that their exports to the U.S. market declined from *** units in 2012 to *** units in 2013, *** units in 2014, and *** units in 2015, before rebounding to *** units in 2016 and *** units in interim 2017, up from *** units in interim 2016. CR/PR at Table IV-12. Responding Korean producers reported that exports to the United States as a share of their shipments declined from *** percent in 2012 to *** percent in 2013, *** percent in 2014, and *** percent in 2015, before increasing to *** percent in 2016 and *** percent in interim 2017, up from *** percent in interim 2016. *Id.* The decline in Korean exports to the United States between 2012 and 2015 occurred while imports from Korea were subject to the AD/CVD orders. The responding Korean producers’ increased exports to the United States after 2015 coincided with a decline in the antidumping and countervailing duty rates applicable to LG through successive administrative reviews to 0.00 and 0.01 percent, respectively. CR/PR at Table I-1. The antidumping and countervailing duty rates applicable to Samsung remain high, at 82.35 and 34.77 percent, respectively. *Id.*

³⁵¹ See CR/PR at Tables G-1-6.

³⁵² CR at I-42; PR at I-30.

³⁵³ CR at I-43-44; PR at I-30-31.

Both LG and Samsung claim that their U.S. production facilities, once fully operational, will be capable of satisfying most U.S. demand for their LRWs.³⁵⁴ Accordingly, assuming LG's and Samsung's plans come to fruition, neither company will have an incentive to increase imports from Korea significantly in the imminent future.

2. Findings Regarding to Imports from Australia, CAFTA-DR countries, Colombia, Jordan, Panama, Peru, and Singapore

We find that imports of LRWs from Australia, CAFTA-DR countries, Colombia, Jordan, Panama, Peru, and Singapore, individually, are not a substantial cause of serious injury or threat thereof. Accordingly, we make a negative finding with respect to imports from each of these free trade agreement partners.

The Commission's questionnaires in this investigation requested separate U.S. import data on imports from Australia, CAFTA-DR countries, Colombia, Jordan, Panama, Peru, and Singapore, but no importer reported any imports from any of these sources during the period of investigation.³⁵⁵ There is no known production of LRWs in any of these countries, with the exception of one known producer of LRWs in Colombia.³⁵⁶ Based on this information, particularly the absence of any reported imports from any of these free trade partners, we find that imports of LRWs from Australia, CAFTA-DR countries, Colombia, Jordan, Panama, Peru, and Singapore, individually, are not a substantial cause of serious injury or threat thereof.

3. Findings Regarding Other Imports

In certain circumstances, the statute provides the President with discretion to suspend the reduction or elimination of duties on certain imports of articles subject to an affirmative safeguard action. The President, however, can only suspend the reduction or elimination of the duties if the Commission finds that the serious injury (or threat thereof) substantially caused by imports results from the reduction or elimination of any duty provided under that provision. Thus, these sorts of exclusion provisions involve two components: (1) serious injury or threat thereof by the imports and (2) a linkage between the serious injury or threat thereof and the reduction or elimination of any duty provided to those imports.

For imports from Israel, the implementing statute for the U.S./Israel FTA permits the President to suspend the reduction or elimination of any duty provided under any trade agreement provision entered into with Israel under section 102(b)(1) of the Trade Act with respect to any article and permits the President to proclaim a duty rate for such article if such

³⁵⁴ Remedy Hearing Tr. at 166 (Herrington), 170 (Toohey).

³⁵⁵ CR at IV-38; PR at IV-20.

³⁵⁶ CR at IV-38-42; PR at IV-21-24.

safeguard action is proclaimed,³⁵⁷ but it precludes the President from suspending the reduction or elimination of any duty provided for under any trade agreement with Israel –

unless the Commission in addition to making an affirmative determination with respect to such article ... determines in the course of its investigation ... that the serious injury (or threat thereof) substantially caused by imports to the domestic industry producing a like or directly competitive article results from the reduction or elimination of any duty provided under any trade agreement provision entered into with Israel under section 102(b)(1) of the Trade Act of 1974³⁵⁸

In order to provide information necessary for the President to make this determination, the statute requires the Commission, in the event of an affirmative determination of serious injury or threat thereof (or an equally divided Commission), to state in its report to the President “whether and to what extent its findings and recommendations apply to such an article when imported from Israel.”³⁵⁹

Legislation authorizing certain U.S. preferential trade programs for developing countries also requires the Commission to address the extent to which its findings and recommendations apply to beneficiary countries under those programs. The CBERA provisions of the Caribbean Basin Initiative trade program³⁶⁰ provide that “in any report by {the Commission} to the President under section 202(f) of the {the Trade Act} regarding any article for which duty-free treatment has been proclaimed by the President pursuant to this chapter, the Commission shall state whether and to what extent its findings and recommendations apply to such article when

³⁵⁷ The U.S./Israel FTA provides the President with discretion to exclude imports from Israel from any global safeguard measure. Under the U.S./Israel FTA, “When, in the view of the importing Party, the importation of a product from the other Party is not a substantial cause of the serious injury or threat thereof referred to in paragraph 1, the importing party may except the product of the other Party from any import relief that may be imposed with respect to imports of that product from third countries, taking into account the objective of achieving bilateral free trade as embodied in the Agreement, the domestic laws and international obligations of the Parties.” Agreement on the Establishment of a Free Trade Area between the Government of Israel and the Government of the United States of America, Article 5(3).

³⁵⁸ 19 U.S.C. § 2112 note U.S./Israel FTA Implementing Act § 403(d).

³⁵⁹ 19 U.S.C. § 2112 note U.S./Israel FTA Implementing Act § 403(b).

³⁶⁰ The list of CBERA beneficiary countries has declined over time as some individual countries have entered into bilateral free trade agreements with the United States and are no longer eligible for CBERA benefits. Current beneficiaries include Antigua and Barbuda, Aruba, The Bahamas, Barbados, Belize, Curaçao, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and the British Virgin Islands. 19 U.S.C. § 2702; <https://ustr.gov/issue-areas/trade-development/preference-programs/caribbean-basin-initiative-cbi>.

imported from beneficiary countries.”³⁶¹ In order to assist the President’s decision whether to suspend duty-free treatment for CBERA imports, in cases where the Commission makes an affirmative determination in a global safeguard investigation under section 202(b) of the Trade Act, the Commission determines whether “the serious injury (or threat thereof) substantially caused by imports to the domestic industry producing a like or directly competitive article results from the duty-free treatment provided by this chapter.”³⁶²

In this investigation, the evidence indicates that there has been a reduction or elimination of duties on eligible imports. Finished LRWs classifiable under subheading 8450.20.00 of the HTSUS have a general tariff duty rate of 1 percent ad valorem, but are duty free under the U.S.-Israel FTA and the CBERA.³⁶³ Nevertheless, although the Commission’s questionnaires in this investigation sought separate data on imports and foreign production for LRWs in Israel and CBERA beneficiaries, we note that no U.S. importer submitted any data on imports of LRWs products from these sources, and no corresponding foreign producers submitted any data on production operations in these locations.³⁶⁴ Consequently, we determine that the serious injury substantially caused by imports to the domestic industry producing a like or directly competitive article does not result from the reduction or elimination of any duty provided for under the U.S.-Israel Free Trade Agreement or from duty-free treatment provided for under the CBERA provisions of the Caribbean Basin Initiative Trade Program.³⁶⁵

³⁶¹ 19 U.S.C. § 2703(e)(2). A similar provision required the Commission to report whether the serious injury (or threat thereof) substantially caused by imports to the domestic industry producing a like or directly competitive article resulted from the duty-free treatment provided by the Andean Trade Preference Act. 19 U.S.C. § 3203(c)(4). In the absence of any preferences due to the expiration of the President’s authority to provide such duty-free treatment to eligible goods under the Andean Trade Preference Act program, the Commission is not making any such determination in this investigation.

³⁶² 19 U.S.C. § 2703(e)(4). The statute also requires the Commission to find whether, as a result of the designation of certain articles as eligible for duty-free treatment under the GSP program, the domestic industry is injured or threatened with serious injury as a result of increases in such imports. Section 203(e)(6)(B) of the Trade Act; 19 U.S.C. § 2253(e)(6)(B) (“No proclamation providing for a suspension {of duty-free treatment under the GSP program} may be made by the President, nor may any such suspension be recommended by the Commission under section 2252(e) of this title, unless the Commission, in addition to making an affirmative determination under section 2252(b)(1) of this title, determines in the course of its investigation under section 2252(b) of this title that the serious injury, or threat thereof, substantially caused by imports to the domestic industry producing a like or directly competitive article results from, as the case may be – (i) the application of subheading 9802.00.60 or subheading 9802.00.80 of the Harmonized Tariff Schedule of the United States; or (ii) the designation of the article as an eligible article for the purposes of subchapter V of this chapter.”)

³⁶³ CR at I-32 n.64; PR at I-24 n.64.

³⁶⁴ CR at IV-38; PR at IV-20.

³⁶⁵ For the same reasons, the serious injury substantially caused by imports to the domestic industry producing a like or directly competitive article does not result from any reduction or elimination of any duty under the GSP program.

VI. Conclusion

For the foregoing reasons, we determine that LRWs are being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing an article like or directly competitive with the imported article. We find that imports of LRWs from neither Canada nor Mexico account for a substantial share of total imports or contribute importantly to the serious injury caused by imports. We also find that imports of LRWs from Australia, CAFTA-DR countries, Colombia, Jordan, Korea, Panama, Peru, and Singapore, individually, are not a substantial cause of serious injury or threat thereof, under the relevant FTA implementing legislation.³⁶⁶

³⁶⁶ We also determine that the serious injury substantially caused by imports to the domestic industry producing a like or directly competitive article does not result from the reduction or elimination of any duty provided for under the U.S.-Israel Free Trade Agreement or from duty-free treatment provided for under the CBERA provisions of the Caribbean Basin Initiative Trade Program or any reduction or elimination of any duty under the GSP program.

Commissioners' Views on Remedy

I. Findings and Recommendations

For the reasons set forth below, we recommend the following actions, which we find will address the serious injury to the domestic industry producing large residential washers ("LRWs") and be most effective in facilitating the efforts of the domestic industry to make a positive adjustment to import competition:

- (1) That the President impose a tariff-rate quota ("TRQ"), allocated on a global basis, on imports of LRWs for a duration of three years. U.S. imports of LRWs that exceed 1.2 million units in the first year of relief would be subject to an additional tariff of 50 percent *ad valorem*. While the in-quota volume remains constant for each of the three years, the above-quota additional tariff would decrease to 45 percent *ad valorem* in the second year of relief and 40 percent *ad valorem* in the third year of relief.
- (2) Chairman Schmidlein and Commissioner Williamson recommend an additional in-quota tariff on imports of LRWs of 20 percent *ad valorem*, which would decrease to 18 percent in the second year of relief and 15 percent in the third year of relief. Vice Chairman Johanson and Commissioner Broadbent do not recommend an in-quota tariff on imports of large residential washers.
- (3) That the President impose a separate TRQ, allocated on a global basis, on imports of covered parts of large residential washers for a duration of three years.¹ U.S. imports of covered parts that exceed 50,000 units in the first year of relief would be subject to an additional tariff of 50 percent *ad valorem*. The in-quota volume would increase to 70,000 units in the second year of relief and to 90,000 units in the third year of relief, while the above-quota additional tariff would decline to 45 percent in the second year of relief and to 40 percent in the third year of relief.
- (4) Having made negative findings with respect to imports from Canada and Mexico under section 311(a) of the North American Free Trade Agreement Implementation Act, that imports from Canada and Mexico be excluded from the above TRQs and increased rates of duty.
- (5) Having made negative findings under the relevant free trade agreement implementing legislation, that the above TRQs and increased rates of duty not apply to imports from Australia, Colombia, Costa Rica, the Dominican Republic, El

¹ The LRW parts covered by the scope of the investigation include cabinets, tubs, and baskets. See *Large Residential Washers; Institution and Scheduling of Safeguard Investigations and Determinations That the Investigation is Extraordinarily Complicated*, 82 Fed. Reg. 27075 (June 13, 2017).

Salvador, Guatemala, Honduras, Israel, Jordan, Korea, Nicaragua, Panama, Peru, and Singapore; or to imports from the beneficiary countries under the Caribbean Basin Economic Recovery Act.

The following table summarizes the Commissioners' remedy recommendations:

Summary of Commissioners' Recommended Actions			
Large Residential Washers			
	Year 1	Year 2	Year 3
Large Residential Washers: TRQ			
In-Quota Volume Level	1.2 million units	1.2 million units	1.2 million units
Above-Quota Tariff Rate	50%	45%	40%
In-Quota Tariff Rate (<i>Schmidtlein & Williamson</i>)	20%	18%	15%
In-Quota Tariff Rate (<i>Johanson & Broadbent</i>)	0%	0%	0%
Covered Parts: TRQ			
In-Quota Volume Level	50,000 units	70,000 units	90,000 units
Above-Quota Tariff Rate	50%	45%	40%
In-Quota Tariff Rate	0%	0%	0%

II. Introduction

Having found that increased imports are a substantial cause of serious injury to the domestic industry, we must now recommend to the President the actions that will address the serious injury and be most effective in facilitating the efforts of the domestic industry to make a positive adjustment to import competition. In deciding what relief to recommend, we have taken into account: the considerations set forth in section 202(e)(5)(B) of the Trade Act of 1974 (the "Trade Act"),² including the form and amount of action that will, in our view, remedy the serious injury we have found to exist; adjustment plans submitted by firms in the domestic industry during the course of the investigation; alleged commitments regarding actions other persons and entities intend to take to facilitate positive adjustment to import competition; information available to the Commission concerning the conditions of competition in domestic and world markets; and likely developments affecting such conditions during the period for which action is being recommended.

III. Conditions of Competition

We have taken into account the conditions of competition in domestic and world markets and likely developments affecting such conditions during the next three years. We

² 19 U.S.C. § 2252(e)(5)(B).

found the following conditions of competition particularly relevant to our consideration of the appropriate actions to recommend in this investigation.

A. Demand Conditions

Approximately two-thirds of demand for LRWs is driven by replacement demand (*i.e.*, the need of consumers to replace existing washers at the end of their functional lives) with the balance of demand driven by home sales, renovations, and new construction.³ Because the U.S. market for LRWs is largely a replacement market, in modeling the likely effects of potential remedy recommendations on the U.S. market, we have assumed that changes in prices would have a relatively small impact on demand and used an elasticity of demand on the low end of the range recommended by Commission staff.⁴

Most responding domestic producers, importers, and purchasers reported that U.S. demand for LRWs increased during the period of investigation due to improved U.S. economic performance, increased activity in the housing market, and the satisfaction of built-up replacement demand from the last recession.⁵ Apparent U.S. consumption of LRWs increased 27.7 percent between 2012 and 2016, and was 9.0 percent higher in interim 2017 than in interim 2016.⁶

All parties agree that demand for LRWs will likely continue to grow through 2020. Whirlpool projects demand growth of three to five percent between 2017 and 2018 at a minimum.⁷ Citing a demand forecast issued by Whirlpool in May 2017, respondents project that demand for LRWs will increase four to six percent in 2017 and three percent annually during the 2018-20 period.⁸

B. Supply Conditions

The U.S. market is currently served by the following sources of LRWs: four domestic producers, which accounted for *** percent of apparent U.S. consumption in 2016; in-scope imports, which accounted for *** percent of apparent U.S. consumption in 2016; and out-of-scope imports (PSC/belt drive top load (“TL”) washers and CIM/belt drive front load (“FL”) washers), which accounted for *** percent of apparent U.S. consumption in 2016.⁹ The domestic industry consists of Whirlpool, GE, Alliance, and Staber with Whirlpool alone accounting for *** percent of domestic LRW production in 2016.¹⁰ LG and Samsung accounted for virtually all in-scope imports during the period of investigation.¹¹

³ CR at V-9; PR at V-5.

⁴ See CR at V-30; PR at V-19.

⁵ CR at V-13-14; PR at V-8; CR/PR at Table V-3.

⁶ CR/PR at Table C-2.

⁷ Remedy Hearing Tr. at 143 (Liotine).

⁸ Remedy Hearing Tr. at 187 (Klett), Capital Trade Hearing Exhibit 8.

⁹ CR/PR at Table C-2.

¹⁰ CR/PR at Tables I-6, III-4, C-2.

¹¹ CR at II-4; PR at II-2; CR/PR at Table II-2.

During the period of investigation, LG and Samsung shifted their production of LRWs for the U.S. market among several countries.¹² Coinciding with the Department of Commerce (“Commerce”) imposing antidumping and countervailing duty orders on LRWs from Korea and Mexico in 2013, LG and Samsung shifted production of LRWs for the U.S. market from Korea and Mexico to China.¹³ In 2017, coinciding with Commerce’s imposition of an antidumping duty order on LRWs from China, LG and Samsung shifted production of LRWs for the U.S. market from China to Thailand and Vietnam.¹⁴ In light of the apparent disciplining effect of the existing orders on imports of LRWs from Korea and Mexico, in modeling the likely effect of our recommended remedy on imports from countries excluded from the remedy (which would primarily consist of imports from Korea and Mexico), we have assumed that changes in prices would have a relatively small impact on the supply of such LRWs and used an elasticity of foreign supply on the low end of the range recommended by Commission staff.¹⁵

In 2017, LG announced plans to open a LRW production facility in Clarksville, Tennessee, aiming to commence production in 2019.¹⁶ The same year, Samsung announced plans to open a LRW production facility in Newberry, South Carolina, aiming to commence production in early 2018.¹⁷ Both LG and Samsung claim that their U.S. production facilities, once fully operational, will be capable of satisfying most of the U.S. demand for their LRWs.¹⁸

As discussed in section IV.C.4 of our views on injury, we have found that there is a moderate to high degree of substitutability between imports and domestically produced LRWs.¹⁹ We have also found that price is an important factor in purchasing decisions for LRWs although non-price factors are also important.²⁰

IV. Adjustment Plans and Commitments

We have carefully examined the adjustment plans submitted by Whirlpool and GE. In its plan, Whirlpool states that “appropriate safeguard relief” would enable Whirlpool to “promptly activate its unused production capacity to meet increased sales volumes” by adding a third shift to its LRW production facility in Clyde, Ohio.²¹ According to Whirlpool, a third shift would: generate at least 1,300 additional jobs; enable the facility to operate continuously as intended; reduce Whirlpool’s unit fixed costs by up to \$*** per unit; and possibly permit ***.²² With

¹² See Views on Injury, section IV.C.2; CR at II-1-2; PR at II-1.

¹³ CR at I-6, 42-43, II-1, IV-13; PR at I-4, 30-31, II-1, IV-7.

¹⁴ CR at I-6, II-1-2, IV-28, 34; PR at I-4, II-1, IV-15, 18.

¹⁵ CR at V-30; PR at V-18. There is no known production of LRWs in any other country excluded from our recommended remedy, with the exception of one known LRW producer in Colombia. CR at IV-38-42; PR at IV-20-22. There were no imports from Colombia over the period of investigation. CR/PR at Table II-1.

¹⁶ CR at I-42; PR at I-23.

¹⁷ CR at I-43-44; PR at I-22.

¹⁸ Remedy Hearing Tr. at 166 (Herrington), 170 (Toohey).

¹⁹ CR at V-15; PR at V-9.

²⁰ See CR at V-17-18; PR at V-10-11; CR/PR at Table V-4.

²¹ Whirlpool’s Adjustment Plan at 1 (citing Hearing Tr. at 55 (Fettig)).

²² Whirlpool’s Adjustment Plan at 1-2 & n.3 (citing Hearing Tr. at 123-24 (Fettig)).

these “efficiency improvements and improved economics,” Whirlpool claims that it would be in a financial position “to revisit the business case for all projects that were canceled, curtailed, or rejected during the 2016-2017 timeframe,” valued at \$*** million, and to “evaluate significant new projects” valued at \$*** million.²³

Whirlpool emphasizes that it “remains committed to revisiting all” cancelled, curtailed, or rejected investment opportunities upon the issuance of safeguard relief.²⁴ Specifically, Whirlpool indicates that it will revisit its plan to produce “jumbo” capacity front load LRWs, known as the “AMAX Project,” with an estimated investment of \$*** million and *** additional jobs.²⁵ Whirlpool also indicates its intent to revisit its plan to invest \$*** million in ***, known as the “ATLANTIS 2.0 Project,”²⁶ and to revisit the opportunity to complete the launch of its “jumbo” capacity top load LRWs, known as the ADVANTAGE Project, with an incremental investment of approximately \$*** million.²⁷

Whirlpool also states that it “stands ready to evaluate new product platform investments” with “appropriate safeguard relief.”²⁸ Specifically, Whirlpool will consider investing in the domestic production of LRWs that ***, similar to ***, including *** LRWs with an investment of \$*** and *** LRWs with an investment of \$***.²⁹ Whirlpool will “revisit the business case” for producing *** washers, ***, with an investment of \$***.³⁰ Whirlpool also expects that safeguard relief will allow it to ***, supporting an investment of up to \$*** and the addition of up to *** direct jobs.³¹ Finally, Whirlpool plans to “review” a \$*** investment in ***.³²

In addition to investments in new products, Whirlpool plans to “***,” including ***.³³ According to Whirlpool, these “opportunities for incremental improvements in its manufacturing and logistics” ***.³⁴ Whirlpool will also “evaluate” a ***.³⁵

In its adjustment plan, GE states that if the “country-specific TRQ” requested in the petition is imposed, it intends to invest *** in updated offerings, human capital investment, and business process innovation.³⁶ In terms of updated offerings, GE “would plan to invest ***” to expand its range of LRW platforms and ***.³⁷ GE would also invest in training both hourly workers and managerial, supervisory, and design staff to increase their skills and

²³ Whirlpool’s Adjustment Plan at 2.

²⁴ Whirlpool’s Adjustment Plan at 3.

²⁵ Whirlpool’s Adjustment Plan at 3.

²⁶ Whirlpool’s Adjustment Plan at 3.

²⁷ Whirlpool’s Adjustment Plan at 3-4.

²⁸ Whirlpool’s Adjustment Plan at 4.

²⁹ Whirlpool’s Adjustment Plan at 4.

³⁰ Whirlpool’s Adjustment Plan at 5.

³¹ Whirlpool’s Adjustment Plan at 5.

³² Whirlpool’s Adjustment Plan at 5.

³³ Whirlpool’s Adjustment Plan at 6.

³⁴ Whirlpool’s Adjustment Plan at 6.

³⁵ Whirlpool’s Adjustment Plan at 7.

³⁶ GE’s Adjustment Plan at 1-2.

³⁷ GE’s Adjustment Plan at 2.

efficiency, and, ***.³⁸ Finally, GE would invest in business process innovation, combining increased “product design and feature innovation” and reduced costs.³⁹

We have also taken into account LG’s and Samsung’s plans to construct new LRW production facilities in the United States, which they characterize as commitments regarding actions they intend to take to facilitate positive adjustment to import competition.⁴⁰ Specifically, LG plans to open a \$250 million LRW production facility in Clarksville, Tennessee, in 2019,⁴¹ and Samsung plans to open a \$380 million LRW production facility in Newberry, South Carolina, in early 2018.⁴² LG and Samsung claim that their planned U.S. production facilities, once fully operational, will *** for their domestic production of LRWs, which in combination with assembly and other domestic parts would yield a domestic content of *** percent for LG’s domestically produced LRWs and *** percent for Samsung’s domestically produced LRWs.⁴³ LG and Samsung also claim that their planned U.S. production facilities will ultimately satisfy the vast majority of U.S. demand for their LRWs. Specifically, LG projects that the share of its U.S. sales of LRWs produced domestically will be *** percent in 2019 and *** percent in 2020 while Samsung projects that the share of its U.S. sales produced domestically will be *** percent in 2018 and *** percent in 2019 and 2020.⁴⁴ In LG’s and Samsung’s views, these commitments will facilitate the positive adjustment of the domestic industry to import competition by replacing most imports of LRWs, which the Commission has found to be injurious, with domestically produced LRWs over the next three years.⁴⁵

V. Recommended Relief

The statute authorizes the Commission to recommend several forms of action, including tariffs, tariff-rate quotas, quantitative restrictions, appropriate adjustment measures as well as a combination of those remedies. In determining which of these forms would be most effective in remedying the serious injury and facilitating positive adjustment to import competition, we have examined closely the costs and benefits of each. We have determined that separate TRQs on imports of finished LRWs and covered parts would be the most appropriate forms of relief.

A. Nature and Duration of Remedies

Whirlpool and GE jointly urged the Commission to recommend a three-year remedy consisting of a 50 percent *ad valorem* tariff on LRW imports in the first year, declining to 49

³⁸ GE’s Adjustment Plan at 3.

³⁹ GE’s Adjustment Plan at 3.

⁴⁰ LG’s Responses to Commissioner Remedy Questions at 18-19; Samsung’s Responses to Commissioner Remedy Questions at 11-12.

⁴¹ CR at I-42; PR at I-30.

⁴² CR at I-43-44; PR at I-31.

⁴³ LG’s Responses to Commissioner Remedy Questions at 13, 24; Samsung’s Responses to Commissioner Remedy Questions at 1-2.

⁴⁴ LG’s Responses to Commissioner Remedy Questions at 23; Samsung’s Responses to Commissioner Remedy Questions at 1.

⁴⁵ See LG’s Posthearing Remedy Brief at 1-5; Samsung’s Posthearing Remedy Brief at 3-4.

percent in the second year and 48 percent in the third year.⁴⁶ To prevent circumvention, they request the imposition of a quota on covered parts equal to the average quantity of imports of such parts during the 2014-16 period, which would, in their view, limit such parts to the service and repair of existing LRWs and preclude their use in “kitting” operations in the United States.⁴⁷ Citing the results of their economic model, Whirlpool and GE maintain that only a 50 percent tariff would enable them to generate operating income sufficient to justify implementation of their respective adjustment plans.⁴⁸

LG and Samsung argue that the Commission should recommend no import restrictions because their planned new LRW production facilities in the United States, alone, will allegedly enable the domestic industry to make a full positive adjustment to import competition by the end of the remedy period by replacing most imports of LRWs with domestically produced LRWs.⁴⁹ In their view, import restrictions would only impede the domestic industry’s positive adjustment to import competition by constraining the supply of imported LRWs and preventing LG and Samsung from offering a complete range of LRW models as their U.S. plants ramp up.⁵⁰ If LG and Samsung were unable to supply an adequate quantity or range of LRWs to retailers, they argue, retailers would have no choice but to remove LG and Samsung models from their sales floors, which would reduce their market share and, by extension, production and employment at their new U.S. plants.⁵¹ In the event that the Commission deems import restrictions appropriate, LG and Samsung propose a global TRQ of 1.45 million units, with an above-quota tariff rate of 50 percent, which they believe would strike the best balance between addressing the serious injury allegedly suffered by Whirlpool and GE and minimizing the harm to consumers and retailers.⁵² In addition, LG and Samsung argue that the Commission

⁴⁶ Whirlpool and GE’s Prehearing Remedy Brief at 3.

⁴⁷ Whirlpool and GE’s Prehearing Remedy Brief at 4; Whirlpool and GE’s Responses to Commissioner Remedy Questions at II-8. Whirlpool and GE argued that absent a quota on covered parts, LG and Samsung would have an incentive to establish “kitting” operations in the United States, which would assemble LRWs from imported “kits,” including imported tubs, drums, and cabinets, as a means of circumventing any safeguard measure. *See id.*; Remedy Hearing Tr. at 61-62 (Liotine).

⁴⁸ Whirlpool and GE’s Posthearing Remedy Brief at I-8-9 (citing Remedy Hearing Tr. at 95-96 (Liotine)).

⁴⁹ LG’s Prehearing Remedy Brief at 8-12; Samsung’s Prehearing Remedy Brief at 3-10; LG’s Posthearing Remedy Brief at 1-5; Samsung’s Posthearing Remedy Brief at 3-4.

⁵⁰ *See* LG’s Prehearing Remedy Brief at 30-35; Samsung’s Prehearing Remedy Brief at 11. For example, Samsung argues that it would lose floor spots at retailers if imports of its LRWs are subject to Whirlpool’s and GE’s proposed tariff. Samsung’s Prehearing Remedy Brief at 11.

⁵¹ *See* LG’s Prehearing Remedy Brief at 30-31; Remedy Hearing Tr. at 173-77 (Riddle).

⁵² LG’s Posthearing Remedy Brief at 6; Samsung’s Posthearing Remedy Brief at 4. In their prehearing briefs, LG and Samsung proposed a TRQ equal to the level of imports from the second quarter of 2016 through the first quarter of 2017 with an above-quota tariff equal to the weighted average margin of underselling during the period of investigation, or *** percent according to their calculations. *See* LG’s Prehearing Remedy Brief at 39-40; Samsung’s Prehearing Remedy Brief at 25-26. LG reaffirmed its preference for this proposed remedy in its posthearing brief. LG’s Posthearing Remedy Brief at 10. We view the TRQ that respondents initially proposed as little different from no import restrictions because the in quota volume would be set at the peak volume level of the import surge during the period of investigation.

should exclude covered parts from any import restrictions because imports of such parts are required for the service and repair of existing LRWs and may also be needed to address any unforeseen disruptions to the domestic production of covered parts at their new U.S. plants.⁵³

We do not adopt Whirlpool and GE's proposed remedy because the impact of an unconditional 50 percent *ad valorem* tariff on imports of all LRWs would exceed the amount necessary to prevent or remedy the serious injury, and would unduly restrict competition in the U.S. market. Given the limited number of U.S. producers, such a broad tariff would impose an undue burden on consumers and retailers.

Nor do we adopt LG and Samsung's preferred proposal that no import restraints be imposed. We have found increased imports to be a substantial cause of serious injury to the domestic industry. Consequently, under the statute, we must recommend a remedy that addresses the serious injury suffered by the domestic industry subject to our injury determination, consisting of Whirlpool, GE, Staber, and Alliance.⁵⁴ The future domestic production planned by LG and Samsung would not address the serious injury suffered by the domestic industry during the period of investigation.

Instead, we find LG's and Samsung's alternative proposal, for a TRQ on imports of LRWs, with an over-quota tariff of 50 percent, to be the appropriate form of relief, but with a different level of in-quota volume than that proposed by respondents. The in-quota volume level proposed by LG and Samsung, 1.45 million units, is around half the peak level of import volume in 2016 when the domestic industry's operating losses also peaked.⁵⁵ We therefore do not find 2016 to be the appropriate basis for calculating the in-quota volume level.

Rather, we based our first-year in-quota volume level of 1.2 million units on the average level of imports of LRWs during the 2012-14 period, before most of the import surge, and adjusted that quantity to account for the increase in apparent U.S. consumption from that period through the end of the period of investigation.⁵⁶ On this basis, we recommend that the President impose an additional tariff of 50 percent *ad valorem* on imports of LRWs in excess of 1.2 million units in the first year of relief, declining to 45 percent in the second year of relief,

⁵³ See LG's Prehearing Remedy Brief at 41-42; Samsung's Prehearing Remedy Brief at 14-18. The government of Korea also argues that the Commission should exclude covered parts from its recommended remedy because imports of such parts are needed to repair existing LRWs and to ramp up LG's and Samsung's new U.S. plants. See Government of Korea's Remedy Brief at 10-12.

⁵⁴ See Views on Injury, section II.B. Under the statute, 19 U.S.C. § 2252(c)(6)(A)(i), the definition of "domestic industry" applicable to the Commission's analysis of serious injury, "the producers as a whole of the like or directly competitive article," also applies to the Commission's remedy recommendations. Thus, once the Commission has defined the domestic industry for purposes of its serious injury determination, it must use the same definition for purposes of recommending "the action that would address the serious injury . . . to the domestic industry and be most effective in facilitating the efforts of the domestic industry to make a positive adjustment to import competition" under 19 U.S.C. § 2252(e)(1). Indeed, the Commission could only recommend "the action that would address the serious injury, or threat thereof, to the domestic industry" with reference to the same domestic industry found to have suffered the serious injury or threat thereof.

⁵⁵ See CR/PR at Tables II-1, III-11.

⁵⁶ See CR/PR at Tables II-1, C-2.

and to 40 percent in the third year of relief.⁵⁷ We find that a 50 percent above-quota tariff, as proposed by LG and Samsung, would sufficiently constrain imports of LRWs above 1.2 million units, and boost the domestic industry's prices and profits. Therefore, these actions would address the serious injury to the domestic industry and facilitate the domestic industry's positive adjustment to import competition.⁵⁸ At the same time, the TRQ that we recommend on imports of LRWs would permit LG and Samsung to maintain a presence in the U.S. market sufficient to facilitate their transition from importers to domestic producers over the course of the remedy period.

We find additional support for our remedy recommendation in economic modeling, which indicates that a TRQ with an in-quota volume level of 1.2 million units and an above-quota tariff of 50 percent would address the serious injury suffered by the domestic industry. We used an industry-specific partial equilibrium model to estimate changes in prices and quantities of imports and domestic products that compete with them in the U.S. market for large residential washers, changes in the revenues and operating income of U.S. producers from their domestic shipments, and changes in U.S. tariff revenues that would result in different remedy scenarios. The model simulations isolated the effect of *ad valorem* tariffs and tariff-rate quotas, assuming that other supply and demand fundamentals did not change.

Under our recommended remedy of a 50 percent tariff *ad valorem* on imports over 1.2 million units, the economic model predicts that import volume would decline by over half and import prices would increase by almost a third relative to 2016 levels.⁵⁹ The model also predicts a substantial increase in the domestic industry's U.S. shipments, nearly equal to the decline in import volume, and a modest increase in both the domestic industry's prices and overall market prices.⁶⁰ According to the model, the domestic industry's increased sales and prices would drive a large increase in the domestic industry's sales revenues and an increase in the industry's operating income that slightly exceeds the industry's operating loss in 2016.⁶¹

⁵⁷ We recommend that the President administer the TRQ on imports of LRWs on a global basis. As discussed in section III.B above, LG and Samsung shifted LRW production for the U.S. market between several countries during the period of investigation, and three countries are subject to U.S. trade remedies. Therefore, administering the quota on a country-specific basis based on historic import volumes would allocate a relatively large share of the quota to countries that currently export few if any LRWs to the United States, such as China, and a relatively small share of the quota to the two countries currently responsible for most imports of LRWs, namely Thailand and Vietnam. See CR/PR at Table II-1.

⁵⁸ As explained below in Section V.B., Chairman Schmidlein and Commissioner Williamson find that an in-quota tariff is also needed in order to fully address the serious injury to the domestic industry.

⁵⁹ See Remedy Modeling Attachment. LG and Samsung claim that the TRQ they propose would also reduce imports to around half of their level in 2016. See LG's Posthearing Brief, Exhibit 2 at 14; Samsung's Posthearing Brief, Exhibit 1 at 14. Samsung agrees that imports at this level would be sufficient to avoid unnecessary harm to consumers, retailers, and its planned U.S. plant. Samsung's Posthearing Remedy Brief at 2-3.

⁶⁰ See Remedy Modeling Attachment. The model predicts that non-covered import volume would also increase but to a lesser extent than domestic producers' shipments. *Id.*

⁶¹ See Remedy Modeling Attachment.

These modeling results indicate that our recommended action would address the serious injury suffered by the domestic industry.⁶²

With respect to covered parts, we adopt a remedy different from that proposed by either domestic producers or respondents. Whirlpool and GE's proposal that the Commission impose a quota equivalent to the quantity of covered parts necessary for the service and repair of existing LRWs would prevent LG and Samsung from importing the covered parts necessary to address unforeseen disruptions to the domestic production of covered parts at their planned U.S. plants.⁶³ On the other hand, LG and Samsung's proposal that the Commission impose no import restrictions on imports of covered parts would make it possible for LG and Samsung partially to circumvent the safeguard remedy by importing covered parts for simple assembly into finished LRWs at their new U.S. plants and could alter their business decision regarding the specific operations to conduct at those plants.⁶⁴

We recommend that the President impose (a) in the first year of relief, an additional 50 percent tariff on imports of covered parts over 50,000 units, (b) in the second year of relief, an additional 45 percent tariff on imports of covered parts over 70,000 units, and (c) in the third year of relief, an additional 40 percent tariff on imports of covered parts over 90,000 units.⁶⁵ Our in-quota volume level of 50,000 units in the first year of relief takes into account the average annual volume of covered parts imported towards the end of the period of investigation for the service and repair of existing LRWs, (*i.e.*, 16,000 units), and the additional annual volume of covered parts requested by Samsung, 40,000 units, as a hedge against possible disruptions to its domestic production of covered parts at its planned U.S. plant.⁶⁶ We recommend a 20,000 unit increase in the in-quota volume of covered parts in each successive year of relief to provide similar accommodation for LG's planned U.S. plant, which is slated to commence production in 2019.⁶⁷ The 50 percent above-quota tariff will deter the establishment of "kitting" operations in the United States without precluding LG and Samsung

⁶² As discussed in section V.B. below, Chairman Schmidlein and Commissioner Williamson also find that an in-quota tariff is appropriate to fully address the serious injury, and that the cumulative impact of such a remedy and the TRQ would not exceed the amount necessary to address that injury. Vice Chairman Johanson and Commissioner Broadbent find that an in-quota tariff is not necessary to address the serious injury, and that the impact of such a remedy would exceed the amount necessary to address that injury.

⁶³ Whirlpool and GE's Prehearing Remedy Brief at 4; Whirlpool and GE's Responses to Commissioner Remedy Questions at II-8.

⁶⁴ LG's Prehearing Remedy Brief at 41-42; Samsung's Prehearing Remedy Brief at 14-18.

⁶⁵ We recommend that the President administer the TRQ on imports of covered parts on a global basis.

⁶⁶ CR/PR at Table C-5; Samsung's Responses to Commissioner Remedy Questions at 7.

⁶⁷ Unlike Samsung, LG did not provide the Commission with an estimate of the imports of covered parts it may require to ramp up its new U.S. plant. We do not rely on LG's estimate of "parts needed for old models" in 2018, 2019, and 2020 because, while LG claims to have based these estimates on "in scope parts exports" during the period of investigation, the reported export volumes far exceed actual imports of covered parts from all sources during the period. *Compare* LG's Responses to Commissioner Questions at 26 *with* CR/PR at Table C-5.

from importing additional volumes of covered parts that may become necessary as their U.S. plants ramp up.

B. The Imposition of an In-Quota Tariff

Chairman Schmidlein and Commissioner Williamson find that an in-quota tariff is also appropriate in order to sufficiently address the serious injury to the domestic industry producing LRWs. This injury stems from an increasing volume of low-priced imported LRWs that put downward pressure on the domestic industry's prices, and in turn resulted in significant declines in the domestic producers' financial performance. In light of this injury, and the importance of price to purchasers in this market, we find that an additional 20 percent *ad valorem* tariff on the in-quota volume of imports is appropriate as it will likely lead to increased import prices and thereby create additional benefits for the domestic industry. We recommend that this in-quota tariff be reduced to 18 percent in the second year of the remedy period and 15 percent in the third year. We note that our economic model suggests that the in-quota tariff will have an effect on tariff revenues but not on prices or volumes. However, the model is based on a number of assumptions and simplifications regarding market structure in the United States and abroad, and is not expected to capture the full range of effects from an in-quota tariff. Thus, the model is only one component of the analysis that we used in determining an appropriate remedy. In light of the structure of competition in this market and in particular its price-sensitivity, we would expect an in-quota tariff to have some effect on prices. Given this, as well as the price-based nature of the serious injury to the domestic industry and its level of cumulated operating losses over the POI, we find that the additional price effect of an in-quota tariff is also necessary to address the industry's serious injury and would not exceed the amount of relief necessary to address that injury.

Vice Chairman Johanson and Commissioner Broadbent do not recommend the imposition of an in-quota tariff on imports of LRWs. The model results indicate that the recommended in-quota volume of 1.2 million units and an above-quota 50 percent tariff will reduce the volume of imported LRWs by more than half and cause market prices to increase. As a result, the domestic industry's U.S. shipments and prices will increase such that the industry will experience profitability as opposed to the losses suffered over the period of investigation.⁶⁸ Therefore, the Commission's recommended action, without additional in-quota tariffs, would address the serious injury suffered by the domestic industry. The cumulative impact of such action would not exceed the amount necessary to address the serious injury as required by section 203(e)(2) of the Trade Act.⁶⁹ To the extent that an in-quota tariff would further reduce import volumes and cause an additional increase in the domestic industry's shipments and profits, the impact of such a remedy would exceed the amount necessary to address the serious injury. Such an action would also impede competition in the U.S. market, which is comprised of only four suppliers, and impose an undue burden on consumers and retailers.

⁶⁸ See Remedy Modeling Attachment.

⁶⁹ 19 U.S.C. § 2253(e)(2).

No Commissioner recommends the imposition of an in-quota tariff on imports of covered parts. Such a tariff would needlessly increase the cost of repairing and servicing existing LRWs with no benefit to the domestic industry, which does not compete with such parts.

C. Country Exclusions

Having made negative findings with respect to imports of LRWs from Canada and Mexico under section 311(a) of the NAFTA Implementation Act for the reasons set out in the Commission's views on injury, we recommend that the President not include imports from Canada and Mexico in any safeguard measure. Further, we recommend that the President not impose the TRQs described above on imports from the following countries with which the United States has free trade agreements: Australia, Colombia, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, Korea, Nicaragua, Panama, Peru, and Singapore. We also recommend that the President not impose the TRQs or additional duties described above on imports from the beneficiary countries under the Caribbean Basin Economic Recovery Act.

D. Requests for Product Exclusions

Samsung and the government of Korea have requested that the Commission exclude from any recommended import restrictions certain imported LRW models that, in their view, do not compete with domestically produced LRWs. Specifically, Samsung argues that the Commission should exclude FlexWash LRWs from any import restrictions because there is no domestic production of LRWs possessing two independent wash chambers.⁷⁰ The government of Korea argues that the Commission should exclude FlexWash, TwinWash, and Sidekick LRWs from its remedy recommendation alleging that there are no domestically produced LRWs like or directly competitive with imports of such LRWs.⁷¹ Whirlpool and GE argue that the Commission should not exclude FlexWash and Sidekick LRWs from its recommended action because doing so would undermine the effectiveness of the safeguard relief and ***.⁷²

We do not exclude any LRW products from our recommended action. As explained in section II.A.3.c of our views on injury, we have found domestically produced LRWs to be like in-scope imports of Samsung's FlexWash LRWs and LG's Sidekick LRWs. FlexWash and Sidekick LRWs share the same general physical properties and uses as other LRWs as well as the same customs treatment, manufacturing processes, and marketing channels. Although FlexWash and Sidekick LRWs possess certain exclusive features found on no other current LRW models, the same can be said of other LRW models possessing innovative features that are exclusive to the model's manufacturer; Whirlpool, GE, Samsung, and LG all reported producing LRWs with their

⁷⁰ Samsung's Prehearing Remedy Brief at 18-21; Samsung's Posthearing Remedy Brief at 13-14; Remedy Hearing Tr. at 167-8 (Herrington).

⁷¹ See Government of Korea's Remedy Brief at 13-14.

⁷² Whirlpool and GE's Prehearing Remedy Brief at 17-18; Whirlpool and GE's Posthearing Remedy Brief at I-10; Whirlpool and GE's Responses to Commissioner Questions at II-22-23.

own respective exclusive innovations.⁷³ Indeed, all producers of LRWs seek to differentiate their LRWs in the marketplace through exclusive features and innovations, and FlexWash and Sidekick are merely examples of such product differentiation. Given this, and the moderate to high degree of substitutability we have found between imports and domestically produced LRWs, we find that excluding imported LRW models possessing exclusive innovations from the actions that we recommend would likely result in significantly increased imports of such models at low prices, which would undermine the effectiveness of the actions.

E. Other Steps to Facilitate the Industry's Positive Adjustment to Import Competition

To prevent the circumvention of any safeguard measure, Whirlpool and GE urge the Commission to recommend that the President instruct U.S. Customs and Border Protection to conduct biannual audits of Samsung's and LG's declared customs values and to monitor imports from excluded countries for illegal transshipments.⁷⁴ We make no recommendation with respect to these additional proposals. Nevertheless, given LG's and Samsung's history of transferring LRW production between countries to avoid antidumping and countervailing duty orders, the President may wish to consider the proposals to the extent that they are consistent with U.S. law and would facilitate the domestic industry's positive adjustment to import competition.

VI. Short- and Long-Term Effects of Our Recommended Remedy

The separate TRQs on finished LRWs and covered parts that we are recommending will address the serious injury to the domestic industry and be most effective in facilitating the efforts of the domestic industry to make a positive adjustment to import competition. Moreover, the cumulative effect of our recommended action does not exceed the amount necessary to remedy the serious injury.

In the short term, our recommended action will result in a modest increase in the domestic industry's prices and a substantial increase in the industry's sales volume, revenues, and operating income over 2016 levels as import volumes are cut in half.⁷⁵ With increased market share and positive operating income, Whirlpool and GE should be in a position to implement their respective adjustment plans. Specifically, Whirlpool should be able to add a third shift to its LRW production facility in Clyde, Ohio, generating 1,300 additional jobs, and to invest in incremental improvements to the facility, such as the implementation of ***⁷⁶ Whirlpool should also be in a position to revive the investment opportunities that had to be cancelled or deferred in 2016 in the face of a growing volume of imports, including investments in "AMAX" jumbo-capacity FL LRWs and "ATLANTIS 2.0" ***, and to pursue new investment

⁷³ CR at V-2-3; PR at V-1-2.

⁷⁴ Whirlpool and GE's Prehearing Remedy Brief at 4; Whirlpool and GE's Posthearing Remedy Brief at I-12.

⁷⁵ See Remedy Modeling Attachment.

⁷⁶ See Whirlpool's Adjustment Plan at 1-2, 6.

opportunities, such as the domestic production of *** and ***.⁷⁷ Similarly, GE should be in a position to invest in the updated LRW offerings, human capital investment, and business process innovation outlined in its adjustment plan.⁷⁸ As Whirlpool and GE increase their production of LRWs, their domestic suppliers of raw materials and LRW components also will benefit from increased sales to this supply chain.⁷⁹

At the same time, our recommended action would do little to hinder LG's and Samsung's plans to construct new LRW production facilities in the United States in the short term. As already discussed, our recommended TRQ on imports of LRWs will permit LG and Samsung to maintain a presence in the U.S. market sufficient to support the ramping up of their planned U.S. plants. Our recommended TRQ on imports of covered parts will enable LG and Samsung to import the covered parts necessary for the service and repair of existing LRWs and for addressing unanticipated disruptions in the domestic production of covered parts at their new U.S. plants. By following through on their commitments to commence production of LRWs at new U.S. plants, LG and Samsung will further increase the U.S. domestic industry's capacity, production, sales, market share, and employment over the course of the remedy period.

Our recommended action would have few adverse effects on retailers and consumers in the short term. Retailers will continue to have access to substantial volumes of LRWs from LG and Samsung, both domestic and imported, and appliance repair businesses will have access to the covered parts necessary to service existing LRWs from LG and Samsung. Consumers will continue to have access to a broad range of LRW options, and our economic model predicts only a modest increase in overall market prices.⁸⁰ Although our economic model also predicts a substantial increase in the domestic industry's market share, an increasing portion of this market share will go to LG and Samsung, as they ramp up their new U.S. plants. Indeed, any adverse effects of our recommended action on retailers and consumers will lessen during the remedy period as LG and Samsung replace most of their imports of LRWs with domestically produced LRWs.

Over the long term, our recommended action will likely strengthen competition and innovation in the U.S. market for LRWs. Through implementation of their respective adjustment plans, Whirlpool and GE will be able to maintain the competitiveness of their LRWs in the U.S. market and enhance the productivity of their domestic LRW production facilities, securing the long-term viability of the facilities. The renewed competitiveness of Whirlpool and GE will heighten their competition with LG and Samsung in the U.S. market, spurring innovation and greater consumer selection. At the same time, Whirlpool predicts that LG's and Samsung's shift of production to their new U.S. plants will create a level playing field for such competition.⁸¹

⁷⁷ See Whirlpool's Adjustment Plan at 2-5.

⁷⁸ See GE's Adjustment Plan at 1-3.

⁷⁹ See Remedy Hearing Tr. at 75-76 (Fish); Revere Plastics Systems, LLC, Statement of Information (Oct. 17, 2017); Letter from United States Steel Corporation to Secretary Lisa R. Barton (Oct. 17, 2017); Green Bay Packaging, Statement of Interest (Oct. 13, 2017); TH Plastics, Inc., Statement of Interest (Oct. 12, 2017); Mansfield Engineered Components, Statement of Information.

⁸⁰ See Remedy Modeling Attachment.

⁸¹ See Remedy Hearing Tr. at 45 (Levy), 98 (Getlin).

VII. Short- and Long-Term Effects of Not Taking the Recommended Action

In the absence of safeguard relief, Whirlpool and GE will not be in a position to restore their capital investment and research and development spending to the level necessary for their domestic production facilities to remain competitive in the short term, much less over the long term. As a result of surging imports at low prices, domestic producers reduced capital investment and R&D spending by *** percent in 2016 relative to 2015 levels, and by *** percent relative to 2012 levels,⁸² cancelling critical investments in new and improved LRW products.⁸³ The domestic industry's large operating losses, which are likely to continue in the absence of safeguard relief, would deter any recovery in capital investment and R&D spending from these reduced levels. Given the extent to which LRW sales are driven by innovation and features in addition to price, the domestic industry's reduced level of capital investment and R&D spending would inevitably result in LRW products that are increasingly uncompetitive in terms of features and innovations with LRWs from LG and Samsung, resulting in a loss of sales and market share. The domestic industry's reduced sales and market share would translate directly into reduced production and employment, a reduced rate of capacity utilization, higher unit fixed costs, and larger operating losses, likely necessitating further reductions in capital investment and R&D spending. It is questionable whether Whirlpool's and GE's domestic LRW production facilities could remain viable over the long term if they are unable to maintain the competitiveness of their LRW products in the U.S. market and continue to sustain large operating losses on their sales of LRWs.

Reduced employment by Whirlpool and GE would have adverse short and long term effects on the workers and communities supported by their LRW production facilities. Whirlpool's LRW production facility in Clyde, Ohio, employs over 3,000 workers and has been described as the "backbone" and "lifeblood" of the community.⁸⁴ GE's LRW production facility in Louisville, Kentucky, employed *** production related workers in 2016.⁸⁵ We also note that Whirlpool's LRW operations alone support approximately 800 U.S. suppliers and their employees.⁸⁶ As such, absent relief, upstream domestic suppliers of raw materials and components would also suffer reduced production and employment that would adversely impact the surrounding communities. The overall short and long-term job losses that are likely in the absence of safeguard relief would have a substantial negative effect on these communities.

We recognize that the communities where LG and Samsung are planning to operate new U.S. plants could eventually benefit from a shift in market share from Whirlpool and GE to

⁸² Hearing Tr. at 141 (Liotine); Petitioner's Prehearing Brief at 44; CR/PR at Table III-14.

⁸³ Petitioner's Prehearing Brief at 44-45; Petitioner's Posthearing Brief at I-5; Hearing Tr. at 66 (Liotine); CR at Tables III-13, E-1.

⁸⁴ Hearing Tr. at 52 (Fettig), 71 (Brown), 83 (Tiberi), 152 (Portman).

⁸⁵ Domestic Producers' Questionnaire Response of GE at Question II-12.

⁸⁶ Hearing Tr. at 52 (Fettig). We did not rely on the effects on upstream production in crafting our remedy.

LG and Samsung.⁸⁷ In the absence of safeguard relief, however, LG and Samsung would have less of an economic incentive to follow through fully on their planned investments, particularly in light of their substantial recent investments in LRW production for the U.S. market in Thailand and Vietnam.

We also recognize that consumers and retailers might benefit in the short term from the continuing decline in LRW prices that is likely to occur in the absence of safeguard relief. Over the long term, however, consumers and retailers would suffer from reduced competition and innovation in the U.S. LRW market as Whirlpool and GE would likely forego the investments enumerated in their respective adjustment plans. As Whirlpool's and GE's LRW operations weaken and contract, retailers would become more dependent on LG and Samsung, and consumers would face a narrower selection of LRWs, a slower pace of innovation, and potentially higher prices.

⁸⁷ See Remedy Hearing Tr. at 20 (Norman), 25 (McMaster), 32-33 (Rolfe).

Remedy Modeling Attachment

I. Overview of the Economic Model

Staff used an industry-specific partial equilibrium (PE) model to estimate changes in prices and quantities of imported and domestically produced large residential washers, changes in the revenues and operating income of U.S. producers from their domestic shipments, and changes in U.S. tariff revenues that would result in different remedy scenarios. The model simulations isolate the effect of the tariff-rate quotas (TRQs), assuming that other supply and demand fundamentals do not change.

The estimates assume that U.S. imports from countries that are FTA partners of the United States are not covered by the remedy. The remedy estimates use data and elasticity estimates from the final staff report in the injury phase as inputs.

The model includes several simplifying assumptions that are standard in this type of PE model:

- Consumers view imports and the domestic product as imperfect substitutes. The model incorporates this view by assuming constant elasticity of substitution (CES) demands.
- The supply curves for imports and domestic products are upward-sloping with constant price elasticities.
- Prices adjust to the remedy to ensure that the market for the products from each source country clears before and after the change in trade policy.

The effects of the remedies are calculated as the differences between the model's estimated effects for market prices and quantities after the policy change and the baseline values of market prices and quantities before the policy changes. The baseline of the model is calibrated to 2016 market prices and quantities based on data provided in the staff report. Staff estimated the effect on consumer prices as an expenditure share-weighted average of the percentage changes in the prices of the imported and domestic products.

Staff also estimated the financial impact of each remedy on the U.S. industry using a pro forma financial analysis of income statements and information on the fixed and variable shares of the industry's cost of goods sold (COGS) and selling, general, and administrative expenses (SG&A). Specifically, the estimated change in the dollar value of operating income is the change in revenue minus the change in the variable part of COGS minus the change in the variable part of SG&A. The pro forma analysis takes the changes in the volume and revenues of U.S. producers from the PE model simulations as inputs.

II. Data

The PE model incorporates the following data on volumes and values in 2016 from table C-2 in the final staff report:

Attachment Table 1. Data Inputs of the Remedy Model

Data Input	2016 Value
Value of Domestic Shipments	***
Quantity of Domestic Shipments	***
Value of U.S. Imports ¹	***
Quantity of U.S. Imports	***

¹ U.S. imports used in the model do not include controlled induction motor/belt washers.

Source: Table C-2 in the final staff report in the injury phase

Note: Domestic shipments do not include the exports of domestic producers.

The remedy estimates also incorporate the following data that distinguish between covered and non-covered countries:

Attachment Table 2. Data Inputs for all Covered and Non-Covered Countries

Data Input	Quantity in 2016	Dollar Value in 2016
Covered Imports (includes China, Vietnam, and All Other Foreign Sources)	***	***
Non-Covered Imports (includes Korea, Mexico, Canada, and Other FTA Partners)	***	***

Source: Table C-2 in the final staff report in the injury phase

The financial impact calculations incorporate the following data on the COGS and SG&A from table C-2:

Attachment Table 3. Data Inputs of the Financial Impact Calculations

Data Input	2016 Value
Unit COGS	***
Unit SG&A Expenses	***
Share of COGS that are Variable	***
Share of SG&A Expense that are Variable	***

Source: Table C-2 in the final staff report in the injury phase

The PE model incorporates estimates for the U.S. supply elasticity, the import supply elasticity, the price elasticity of total industry demand in the U.S. market, and the elasticity of substitution between imports and the domestic like product.

III. Estimated Economic Effects

Attachment Table 4 reports the estimated economics effects of the TRQ on large residential washers recommended by Chairman Schmidlein and Commissioner Williamson. The estimates do not include the effects of the recommended TRQ on parts.

**Attachment Table 4:
Tariff-Rate Quota on Washers at 1.2 Million Units with In-Quota Rate**

Tariff Rates	Year 1: 50% out-of- quota, 20% in quota	Year 2: 45% out-of-quota, 18% in quota	Year 3: 40% out-of-quota, 15% in quota
Domestic Supply Elasticity	6	6	6
Covered Imports Supply Elasticity	6	6	6
Non-Covered Imports Supply Elasticity	3	3	3
Demand Elasticity	-0.3	-0.3	-0.3
Substitution Elasticity	4	4	4
% Change in Covered Imports Quantity	***	***	***
% Change in Non-Covered Import Quantity	***	***	***
% Change in U.S. Quantity	***	***	***
% Change in Covered Import Prices	***	***	***
% Change in Non-Covered Import Prices	***	***	***
% Change in U.S. Prices	***	***	***
% Change in Market Price Index	***	***	***
Change in Industry Revenue (million \$)	***	***	***
Change in Operating Income (million \$)	***	***	***
Tariff Revenue (million \$)	***	***	***

Attachment Table 5 reports the estimated economics effects of the TRQ recommended by Vice Chairman Johanson and Commissioner Broadbent. The estimates do not include the effects of the recommended TRQ on imports of parts.

**Attachment Table 5:
Tariff-Rate Quota on Washers at 1.2 Million Units without In-Quota Rate**

Tariff Rates	Year 1: 50% out-of- quota, 0% in quota	Year 2: 45% out-of-quota, 0% in quota	Year 3: 40% out-of-quota, 0% in quota
Domestic Supply Elasticity	6	6	6
Covered Imports Supply Elasticity	6	6	6
Non-Covered Imports Supply Elasticity	3	3	3
Demand Elasticity	-0.3	-0.3	-0.3
Substitution Elasticity	4	4	4
% Change in Covered Imports Quantity	***	***	***
% Change in Non-Covered Import Quantity	***	***	***
% Change in U.S. Quantity	***	***	***
% Change in Covered Import Prices	***	***	***
% Change in Non-Covered Import Prices	***	***	***
% Change in U.S. Prices	***	***	***
% Change in Industry Price Index	***	***	***
Change in Industry Revenue (million \$)	***	***	***
Change in Operating Income (million \$)	***	***	***
Tariff Revenue (million \$)	***	***	***

PART I: INTRODUCTION

BACKGROUND

This safeguard investigation results from a petition, as amended and properly filed on June 5, 2017, under section 202(a) of the Trade Act of 1974 (“The Trade Act”) (19 U.S.C. § 2552(a)) by Whirlpool Corporation (“Whirlpool”). The petition alleges that large residential washers (“LRWs”)¹ are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.²

The following tabulation presents information relating to the background and schedule of this proceeding:³

Effective date	Action
June 5, 2017	Petition properly filed with the Commission; institution and scheduling of Inv. No. TA-201-76 (82 FR 27075, June 13, 2017)
September 7, 2017	Commission’s hearing on injury
October 5, 2017	Scheduled date for the Commission’s vote on injury
October 19, 2017	Scheduled date for the Commission’s hearing on remedy (if needed)
November 21, 2017	Scheduled date for the Commission’s vote on remedy (suggested date) (if needed)
December 4, 2017	Commission’s findings and recommendations due to the President

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

Under the statute, the Commission considers whether “an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive

¹ See the section entitled “The Imported Articles Described in this Investigation” in *Part I* of this report for a complete description of the merchandise subject to this investigation. As noted in the aforementioned section, the scope of this investigation includes LRWs and certain parts (“covered parts”).

² Whirlpool initially submitted a petition to the Commission on May 31, 2017. In a June 2, 2017 letter, the Commission requested that Whirlpool provide missing information about the percentage of domestic production of the like or directly competitive domestic article accounted for by Whirlpool, total U.S. production of the domestic article, and market shares. In an amended petition submitted on June 5, 2017, Whirlpool provided additional information addressing these missing items. The Commission determined that the petition, as amended, was properly filed as of June 5, 2017.

³ The Commission’s notice of institution and scheduling are referenced in appendix A and may also be found at the Commission’s web site (internet address www.usitc.gov). Appendix B is reserved for the witnesses appearing at the Commission’s hearing(s).

with the imported article.”⁴ Under section 202 of the Trade Act, imports have increased when the increase is “either actual or relative to domestic production.”⁵ This information is addressed in *Part II* of this report.

Section 202(c)(1)(A) of the Act provides that in making its determination with respect to serious injury the Commission shall take into account all economic factors which it considers relevant, including (but not limited to) “(i) the significant idling of productive facilities in the domestic industry, (ii) the inability of a significant number of firms to carry out domestic production operations at a reasonable level of profit, and (iii) significant unemployment or underemployment with the domestic industry.”⁶ Section 202(c)(1)(B) of the Act provides that in making its determination with respect to threat of serious injury the Commission shall take into account all economic factors which it considers relevant, including (but not limited to) “(i) a decline in sales or market share, a higher and growing inventory (whether maintained by domestic producers, importers, wholesalers, or retailers), and a downward trend in production, profits, wages, productivity, or employment (or increasing underemployment) in the domestic industry, (ii) the extent to which firms in the domestic industry are unable to generate adequate capital to finance the modernization of their domestic plants and equipment, or are unable to maintain existing levels of expenditures for research and development, {and} (iii) the extent to which the United States market is the focal point for the diversion of exports of the article concerned by reason of restraints on exports of such article to, or on imports of such article into, third country markets.”⁷ These factors are addressed in *Part III* of this report, except for restraints on imports in third-country markets, which are addressed in *Part I* of the report and information on market share declines, if any, which are addressed in *Part IV* of the report.

With respect to substantial cause, the Commission shall take into account all economic factors which it considers relevant, including (but not limited to) an increase in imports (either actual or relative to domestic production) and a decline in the proportion of the domestic market supplied by domestic producers.⁸ The presence or absence of any factor that the Commission is required to consider is “not necessarily dispositive.”⁹ The statute also directs the Commission to consider “the condition of the domestic industry over the course of the relevant business cycle ...” and to examine “factors other than imports which may be a cause of serious injury, or threat of serious injury, to the domestic industry.”¹⁰ *Part IV* of this report provides information on apparent U.S. consumption and respective market shares and available information on foreign industries and their participation, if any, in the U.S. market during the

⁴ Section 202(b)(1)(A) of the Trade Act; 19 U.S.C. § 2252(b)(1)(A).

⁵ 19 U.S.C. § 2252(c)(1)(C).

⁶ 19 U.S.C. § 2252(c)(1)(A).

⁷ 19 U.S.C. § 2252(c)(1)(B).

⁸ Section 202(c)(1)(C); 19 U.S.C. § 2252(c)(1)(C).

⁹ Section 202(c)(3); 19 U.S.C. § 2252(c)(3).

¹⁰ Section 202(c)(2); 19 U.S.C. § 2252(c)(2).

period of investigation. Information on other competitive dynamics in the U.S. market, including information on any relevant business cycle, is provided in *Part V* of this report.

SUMMARY DATA

Information obtained during the course of this safeguard investigation that relates to the applicable statutory criteria is presented throughout this report. Unless otherwise noted, data concerning the U.S. industry are based on the questionnaire responses of three firms that are estimated to have accounted for all known U.S. production of LRWs in 2016. U.S. import data are based on the questionnaire responses of five firms that are estimated to have accounted for virtually all U.S. imports of LRWs in 2016.¹¹

Foreign industry data are based on the questionnaire responses of 16 producers/exporters of LRWs. Responding firms are believed to have supplied all U.S. imports of LRWs from China, Korea, Mexico, Thailand, and Vietnam in 2016. Firms located in Brazil and Colombia also provided questionnaire responses, but reported no exports of LRWs to the United States during January 2012-March 2017, and there were no known U.S. imports from these sources either.

A summary of data collected on LRWs in this investigation is presented in appendix C.¹² Responses by firms to a series of questions concerning competitive efforts and proposed adjustments are presented in appendix D. Responses by firms to a series of questions concerning the effects of imports on U.S. producers' existing development and production efforts, growth, investment, and ability to raise capital are presented in appendix E. Responses by firms to a series of questions concerning the significance of existing antidumping and countervailing duty orders are presented in appendix F. Price data by country source is presented in appendix G and U.S. importers' shipments of LRWs by product type, from country source, is provided in appendix H.

PREVIOUS AND RELATED INVESTIGATIONS

Large Residential Washers from Korea and Mexico (Investigation Nos. 701-TA-488 and 731-TA-1199-1200) (February 2012)

In February 2013, the Commission determined that an industry in the United States was materially injured by reason of imports of LRWs from Korea that the U.S. Department of Commerce ("Commerce") had determined were subsidized by the government of Korea and sold in the United States at less than fair value ("LTFV"). The Commission further determined that an industry in the United States was materially injured by reasons of imports from Mexico

¹¹ Unless otherwise noted, data concerning U.S. industry and U.S. imports include data on both LRWs and covered parts.

¹² Tables presented in appendix C include summary data concerning the U.S. market for (1) LWRs and covered parts; (2) LRWs, covered parts, and selected out-of-scope residential washers; (3) LRWs and selected out-of-scope residential washers; (4) LRWs only; and (5) covered parts only.

of LRWs that Commerce had determined were sold in the United States at LTFV.¹³ Those investigations resulted from antidumping and countervailing duty petitions filed by Whirlpool on December 30, 2011. Effective February 15, 2013, Commerce issued antidumping and countervailing duty orders on those imports.¹⁴

Large Residential Washers from China (Investigation No. 731-TA-1306) (January 2017)

In January 2017, the Commission determined that an industry in the United States was materially injured by reason of imports of LRWs from China that Commerce found were sold in the U.S. market at LTFV.¹⁵ This investigation resulted from an antidumping duty petition filed by Whirlpool on December 16, 2015. Effective February 6, 2017, Commerce issued an antidumping duty order on those imports from China.¹⁶

Administrative reviews

Commerce has completed one administrative review of the outstanding countervailing duty orders on LRWs from Korea. Commerce has completed three administrative reviews of the outstanding antidumping duty order on LRWs from Korea, three administrative reviews of the outstanding antidumping duty order on LRWs from Mexico, and no administrative reviews of the outstanding antidumping duty order on LRWs from China. The results of the administrative reviews are shown in tables I-1 through I-3.

¹³ *Large Residential Washers from Korea and Mexico; Determinations*, 78 FR 10636, February 14, 2013.

¹⁴ *Large Residential Washers From Mexico and the Republic of Korea: Antidumping Duty Orders*, 78 FR 11148, February 15, 2013 and *Large Residential Washers From the Republic of Korea: Countervailing Duty Order*, 78 FR 11154, February 15, 2013.

¹⁵ *Large Residential Washers From China; Determination*, 82 FR 9223, February 3, 2017.

¹⁶ *Large Residential Washers From the People's Republic of China: Amended Final Affirmative Antidumping Duty Determination and Antidumping Duty Order*, 82 FR 9371, February 6, 2017.

Table I-1

LRWs: Administrative reviews of the antidumping and countervailing duty orders for Korea

Effective date	Period of review ¹	Manufacturer/Exporter			
		Daewoo Electronics Corporation	LG	Samsung	All others
		Margin (percent)			
LTFV final margins (percent)					
2/15/2013	Antidumping duty order	82.41	13.02	9.29	11.86
9/16/2015	8/2/2012–1/31/2014	79.11	1.52	82.35	--
11/5/2015	Amended final results of administrative review 8/2/2012–1/31/2014	--	1.38	--	--
9/12/2016	2/1/2014–1/31/2015	No review	1.62	No review	--
9/12/2017	2/1/2015–1/31/2016	No review	0.00	No review	--
Countervailing ad valorem net subsidy rate (percent)					
2/15/2013	Countervailing duty order	72.30	0.01	1.85	1.85
9/15/2015	6/5/2012—12/31/2013	81.91	No review	34.77	--

¹ Administrative reviews, excepted as noted.

Source: *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: Final Results of the Antidumping Duty Administrative Review; 2012–2014*, 80 FR 55595, September 16, 2015; *Large Residential Washers From the Republic of Korea: Amended Final Results of the Antidumping Duty Administrative Review; 2012–2014*, 80 FR 68508, November 5, 2015; *Large Residential Washers From the Republic of Korea: Final Results of the Antidumping Duty Administrative Review; 2014–2015*, 81 FR 62715, September 12, 2016; *Large Residential Washers From the Republic of Korea: Final Results of Antidumping Duty Administrative Review; 2015–2016*, 82 FR 42788, September 12, 2107; *Large Residential Washers From the Republic of Korea: Final Affirmative Countervailing Duty Determination*, 77 FR 75976, December 26, 2012; *Large Residential Washers From the Republic of Korea: Countervailing Duty Order*, 78 FR 11150, February 15, 2013; *Large Residential Washers From the Republic of Korea: Final Results of Countervailing Duty Administrative Review; 2012–2013*, 80 FR 55336, September 15, 2015.

Table I-2

LRWs: Administrative reviews of the antidumping duty orders for Mexico

Effective date	Period ¹	Manufacturer/Exporter			
		Electrolux	Samsung	Whirlpool	All others
		Margin (percent)			
2/15/2013	Antidumping duty order	36.52	72.41	72.41	36.52
9/15/2015	8/3/2012–1/31/2014	6.45	No shipments	No review	--
11/5/2015	8/3/2012–1/31/2014, amended final results	6.22	--	--	--
9/12/2015	2/1/2014–1/31/2015	2.47	No review	No review	--
7/12/2017	2/1/2015–1/31/2016	3.67	No review	No review	--

¹ Administrative reviews, excepted as noted.

Source: *Large Residential Washers From Mexico and the Republic of Korea: Antidumping Duty Orders*, 78 FR 11148, February 15, 2013; *Large Residential Washers From Mexico: Final Results of the Antidumping Duty Administrative Review, 2012–2014*, 80 FR 55335, September 15, 2015; *Large Residential Washers From Mexico: Partial Rescission of Antidumping Duty Administrative Review, 2014–2015*, 80 FR 61792, October 14, 2015; *Large Residential Washers From Mexico: Amended Final Results of the Antidumping Duty Administrative Review, 2012–2014*, 80 FR 68510, November 5, 2015; *Large Residential Washers From Mexico: Final Results of the Antidumping Duty Administrative Review, 2014–2015*, 81 FR 62714, September 12, 2016; *Large Residential Washers From Mexico: Final Results of Antidumping Duty Administrative Review, 2015–2016*, 82 FR 32169, July 12, 2017.

Table I-3

LRWs: Administrative reviews of the antidumping duty orders for China

Effective date	Period ¹	Manufacturer/Exporter		
		LG Electronics/Nanjing LG-Panda Appliances	Samsung Electronics /Suzhou Samsung Electronics	All others
		Margin (percent)		
2/17/2017	Amended Final Determination and antidumping duty order	38.43	57.37	49.72

¹ Administrative reviews, excepted as noted.

Source: *Large Residential Washers From the People’s Republic of China: Amended Final Affirmative Antidumping Duty Determination and Antidumping Duty Order*, 82 FR 9371, February 6, 2017.

THE PRODUCT

The imported articles described in this investigation

The imported articles covered by this investigation are large residential washers and certain parts thereof. The articles are described as follows:¹⁷

The articles covered by this investigation are all LRWs and certain parts thereof. For purposes of this petition, the term LRWs 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 LRWs, namely: (1) All cabinets, or portions thereof, designed for use in LRWs; (2) all assembled tubs¹⁸ designed for use in LRWs which incorporate, at a minimum: (a) A tub; and (b) a seal; (3) all assembled baskets¹⁹ designed for use in LRWs which incorporate, at a minimum: (a) A side wrapper;²⁰ (b) a base; and (c) a drive hub;²¹ 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;²² (b) it is configured with an

¹⁷ *Large Residential Washers; Institution and Scheduling of Safeguard Investigation and Determination That the Investigation Is Extraordinarily Complicated*, 82 FR 27075, June 13, 2017.

¹⁸ A “tub” is the part of the washer designed to hold water.

¹⁹ A “basket” (sometimes referred to as a “drum”) is the part of the washer designed to hold clothing or other fabrics.

²⁰ A “side wrapper” is the cylindrical part of the basket that actually holds the clothing or other fabrics.

²¹ A “drive hub” is the hub at the center of the base that bears the load from the motor.

²² “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.

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;²³ 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,²⁴ 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;²⁵ (3) have a drive train consisting, inter alia, of (a) a permanent split capacitor (PSC) motor,²⁶ (b) a belt drive,²⁷ and (c) a flat wrap spring clutch.²⁸

Also excluded from the scope are automatic clothes washing machines that meet all of the following conditions: (1) Have a horizontal rotational

²³ A “security fastener” is a screw with a nonstandard 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.

²⁴ “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).

²⁵ “Top loading” means that access to the basket is from the top of the washer.

²⁶ A “PSC motor” is an asynchronous, alternating current (AC), single phase induction motor that employs split phase capacitor technology.

²⁷ A “belt drive” refers to a drive system that includes a belt and pulleys.

²⁸ 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.

axis; (2) are front loading;²⁹ and (3) have a drive train consisting, *inter alia*, of (a) a controlled induction motor (CIM),³⁰ 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 above product coverage in the Commission's current safeguard investigation is the same as the scope in the most recent antidumping duty investigation and subsequent antidumping order in *LRWs from China*.³¹

The product coverage in the current safeguard investigation is also similar to the Commission's definition of the domestic like product in the antidumping and countervailing duty investigations of LRWs from Korea and Mexico, which included products excluded from the scope of those investigations by Commerce.³² Specifically, at the petitioner's request, Commerce amended the scope of those investigations to exclude "automatic clothes washing machines with a vertical rotational axis and a rated capacity of less than 3.7 cubic feet."³³ The reason for the request was that the petitioner had no interest in seeking import injury relief on such washers.³⁴

There are also several minor differences between the coverage of the current safeguard investigation and the scope of the antidumping and countervailing duty investigations of LRWs from Korea and Mexico. In the current safeguard investigation, within the parts category, cabinets and portions thereof are provided for, whereas the scope of the investigations on imports from Korea and Mexico included assembled cabinets incorporating at least three of six cabinet surfaces and a bracket. Also, in the current safeguard investigation, there are five exclusions to large residential washers (i.e. the imported article): stacked washers and dryers;

²⁹ "Front loading" means that access to the basket is from the front of the washer.

³⁰ A "controlled induction motor" is an asynchronous, alternating current (AC), polyphaser induction motor.

³¹ Petition, pp. 5-6; *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. 5-6.

³² *Certain Large Residential Washers from Korea and Mexico, Investigation Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, USITC Publication 4378, February 2013, p. 11; See section in this report entitled "Like or directly competitive articles."

³³ *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, USITC Publication 4378, February 2013, pp. I-16-I-17; *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. I-8; *Large Residential Washers From the Republic of Korea: Amendment to the Scope of the Countervailing Duty Investigation*, 77 FR 46715, August 6, 2012; *Large Residential Washers From Mexico and the Republic of Korea: Antidumping Duty Orders*, 78 FR 11148, February 15, 2013.

³⁴ U.S. Department of Commerce, International Trade Administration, "Preliminary Exclusion of Top Load Washing Machines with a Rated Capacity Less than 3.70 Cubic Feet from the Scope of the Investigations," July 27, 2017, pp. 2 and 9.

washers containing payment system electronics; top load residential washer with permanent split capacitor motor, belt drive, and flat wrap spring clutch; front load residential washers with a controlled induction motor and a belt drive; and extra-wide residential washers. Only the first two types of washers were excluded from the investigations of LRWs from Korea and Mexico.³⁵

Like or directly competitive articles

To determine whether an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury or the threat thereof, the Commission first defines “the domestic industry producing an article like or directly competitive with the imported article.”³⁶ When assessing what constitutes the product(s) that is/are like or directly competitive with the imported article(s), the Commission takes into account such factors as (1) the physical properties of the article, (2) its customs treatment, (3) its manufacturing process (i.e., where and how it is made), (4) its uses, and (5) the marketing channels through which the product is sold. Information on these factors is discussed in the sections that follow.

In *LRWs from Korea and Mexico*,³⁷ the Commission addressed two issues with regard to the definition of the domestic like product.³⁸ The first issue, raised by respondents in the preliminary phase, was whether conventional top load (“CTL”) LRWs, high efficiency front load (“HEFL”) LRWs, and high efficiency top load (“HETL”) LRWs should be considered three separate domestic like products. In both the preliminary and final phase of the investigations, the Commission found “no clear dividing line separating CTL, HETL, and HEFL washers,” and included them within a single domestic like product.³⁹

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. The Commission found no clear dividing line separating top

³⁵ *Certain Large Residential Washers from Korea and Mexico, Investigation Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, USITC Publication 4378, February 2013, pp. 5-6.

³⁶ 19 U.S.C. § 2252(b)(1)(A).

³⁷ In defining domestic like products for the purposes of antidumping and countervailing duty investigations, the Commission traditionally considers six factors including (1) physical characteristics and uses, (2) interchangeability, (3) channels of distribution, (4) customer and producer perceptions, (5) manufacturing facilities, processes, and employees, and where appropriate, (6) price. *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 n.4 (1995).

³⁸ In the preliminary phase of this investigation, the Commission did not revisit other domestic like product issues presented in the prior LRW investigations. *Large Residential Washers from China, Inv. No. 731-TA-1306 (Preliminary)*, USITC Publication 4591, February 2016, pp. 4-10.

³⁹ *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Preliminary)*, USITC Publication 4306, February 2012, p. 9; *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, USITC Publication 4378, February 2013, p. 8.

load washers with a capacity of less than 3.7 cubic feet from those with a larger capacity, and therefore defined the domestic like product to include such washers.⁴⁰

In *LRWs from China*, the Commission addressed two domestic like product issues: whether “low tech” and front load extra wide washers should be included in the domestic like product and whether LRW parts within the scope should be a separate like product.

The Commission included “low tech” front load residential washers with CIM/Belt in the definition of the domestic like product, but not top load residential washers with PCS/Belt/Clutch, or front load extra-wide washers, which were not produced domestically.⁴¹ The Commission also determined that an analysis of its semi-finished product factors “supports the inclusion of LRW parts and finished washers with the same domestic like product.”⁴² The Commission viewed the majority of LRW parts as being dedicated to the production of LRWs with no separate market for LRW parts.⁴³

In the current safeguard investigation, Whirlpool contends that “there is a single domestic like product comprising all residential washers, with LRWs accounting for virtually all residential washers. Any out-of-scope residential washers that are produced in the United States are also included in the domestic like product.”⁴⁴ No party requested that the Commission collect data concerning other possible alternative domestic like products in their comments on the Commission’s draft questionnaires.⁴⁵

⁴⁰ *Certain Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, USITC Publication 4378, February 2013, p. 11.

⁴¹ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Preliminary)*, USITC Publication 4591, February 2016, p. 10; *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. 7 and 9.

⁴² *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666 January 2017, p. 9.

⁴³ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666 January 2017, p. 9.

⁴⁴ Petition, p. 10.

⁴⁵ Comments on the draft questionnaires were submitted on behalf of the following: (1) Whirlpool; (2) GE Appliances; (3) LG Electronics USA, Inc. and LG Electronics, Inc.; (4) Samsung Electronics America, Inc., and Samsung Electronics Co., Ltd.; and (5) Sears Holdings Management Corporation.

Physical properties⁴⁶

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); 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.

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. 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.

⁴⁶ Unless otherwise noted, this section is from *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, Publication 4666, January 2017, I-19—I-23.

Figure I-1
LRWs: 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. Figure I-2 presents an example of an agitator and an impeller.

Figure I-2:
LRWs: 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. In anticipation of the more stringent energy efficiency standards that took effect on March 7, 2015, discussed below, 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. The percentage of U.S. shipments of top load LRWs with an agitator that were Energy Star rated declined from *** percent in 2012 to *** percent in 2016.⁴⁷

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

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, many 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. In 2016, *** percent of top load LRWs without an agitator qualified for Energy Star ratings, down from *** percent in 2012.⁴⁸

⁴⁷ Calculated from combined data in Tables II-3 and III-6.

⁴⁸ Calculated from combined data in tables II-3 and III-6.

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. 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 before and after March 7, 2015. During 2012–2016, *** of U.S. producers’ and importers’ shipments of front load LRWs were Energy Star rated machines.⁴⁹ 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. Although front load LRWs were known to develop mold and odors, causing some consumers to prefer top load washing machines, such problems have now been largely addressed by the industry.⁵⁰

⁴⁹ Calculated from combined data in tables II-3 and III-6.

⁵⁰ Kimberly Janeway, “Preventing Funky Front-Loader Mold,” Consumer Reports, March 8, 2016, <https://www.consumerreports.org/front-load-washers/preventing-that-funky-front-loader-mold/>, retrieved August 11, 2016. See also Kimberly Janeway, “Settlement in Front-Loader Mold Case to Benefit Owners,” Consumer Reports, June 24, 2016, <https://www.consumerreports.org/washing-machines/settlement-in-front-loader-mold-case/>, retrieved August 17, 2017.

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 April 2014, the lawsuit against Samsung was dismissed. Class Action News, “Samsung Front Load Washing Machine Class Action,” undated, <http://www.classactionsnews.com/consumer/samsung-front-load-washing-machine-class-action>, with “Court dismissed Samsung Lawsuit,” April 2, 2014, at <http://www.classactionsnews.com/sites/default/files/Samsung%20-%20Court%20order%20re%20Motion%20to%20Dismiss.pdf>, retrieved August 11, 2017. 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.washersttlement.com/>, retrieved August 17, 2017. In June 2016, LG also reached a settlement in its class action for washers sold during 2002–2006. <http://www.lgwashersttlement.com/>, retrieved August 17, 2017.

Figure I-3
LRWs: Front load washer



Source: Whirlpool.

Product features⁵¹

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.

Energy efficiency standards for LRWs are promulgated by three entities: (1) the Consortium for Energy Efficiency (“CEE”),⁵² (2) the U.S. Environmental Protection Agency

⁵¹ Unless otherwise noted, this section is from *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. I-19-I-23.

⁵² 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
(continued...)

("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 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.⁵³ The lower the IWF number, the less water is used to clean each cubic foot of laundry, and 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,⁵⁴ technological advances which generate greater energy efficiencies, and product availability.⁵⁵ 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.⁵⁶ The most recent change

(...continued)

Energy and the Environmental Protection Agency. <http://www.cee1.org/content/about>, retrieved August 17, 2017.

⁵³ 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. Consortium for Energy Efficiency, Inc., "Super Efficient Home Appliance Initiative - January 2017," January 2017, <https://library.cee1.org/content/cee-super-efficient-home-appliance-initiative-january-2017/>, retrieved August 17, 2017.

⁵⁴ 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. <https://energy.gov/eere/buildings/appliance-and-equipment-standards-program>, retrieved August 17, 2017. See U.S. Department of Energy, Energy Efficiency & Renewable Energy, *Saving Energy and Money with Appliance and Equipment Standards in the United States*, fact sheet, January 2017, <https://energy.gov/eere/buildings/downloads/appliance-and-equipment-standards-fact-sheet> for fact sheet at

https://energy.gov/sites/prod/files/2017/01/f34/Appliance%20and%20Equipment%20Standards%20Fact%20Sheet-011917_0.pdf, retrieved August 17, 2017.

⁵⁵ <https://energy.gov/eere/buildings/energy-star>, retrieved August 17, 2017.

⁵⁶ Ibid.

to the Energy Star energy efficiency standards occurred during the period of investigation and became effective March 7, 2015.⁵⁷

U.S. energy standards have not changed since March 2015. Table I-4 presents current (as of August 2017), and 2011 federal minimum, CEE and Energy Star energy efficiency standards. As shown in table I-4, the new efficiency standards that went into effect on March 7, 2015 required a large 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.

Table I-4
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, 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 currently has the largest capacity LRW on the market at 6.2 cf.⁵⁸

⁵⁷ Prior to March 7, 2015, Energy Star standards were last revised effective January 1, 2011.

⁵⁸ Lowes, “Top Load Washers,” August 14, 2017, <https://www.lowes.com/pl/Front-load-washers-Washers-Washers-dryers/4294857975?refinement=1028370171>, retrieved August 14, 2017.

Appearance

The appearance of LRWs can vary greatly. Color, cabinet finish, and decorative elements are examples of LRW features that may differ. LRWs are available in a variety of colors, but white appears on many models. For example, in August 2017, Lowe's online shopping Internet website that includes search filters listed 73 washers in white, 24 in a stainless look, 10 in black, with fewer washers available in red and blue.⁵⁹ The Home Depot's online shopping Internet website listed 89 residential washers (front load and top load) in white; 28 washers stainless finishes (including platinum, graphite steel, stainless steel, and black stainless); 9 washers in gray; 4 washers in chrome; and fewer than 3 washers each in black, blue purple, metallic carbon, rad/orange, and slate.⁶⁰

Manufacturing facilities and processes⁶¹

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. In *LRWs from China*, 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. 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.

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. A platform may be upgraded during its lifecycle, once every 2 to 3 years, and even 5 years. 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.

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. New platforms will overlap with the lifecycle of older platforms.

⁵⁹ Lowe's, "Washing Machines," August 18, 2017, <https://www.lowes.com/pl/Washing-machines-Washers-dryers-Appliances/4294857977>, retrieved August 18, 2017.

⁶⁰ The Home Depot, <http://www.homedepot.com/b/Appliances-Washers-Dryers-Washers-Top-Load-Washers/N-5yc1vZc3oc>, retrieved August 18, 2017; <http://www.homedepot.com/b/Appliances-Washers-Dryers-Washers-Front-Load-Washers/N-5yc1vZc3pj>, retrieved August 18, 2017.

⁶¹ Unless otherwise noted, this section is from *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. I-19—I-23.

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

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

Whirlpool, GE, LG, and Samsung also 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.

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, which covers 2.4 million square feet.

Whirlpool produces all LRWs using the same manufacturing technology and processes. 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 (figure I-4). Whirlpool listed nine separate modules or sub-assemblies in a LRW.⁶² 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.

⁶² See *The Product* section of this report and description of the product coverage of this safeguard investigation for examples of certain parts used in the manufacturing of LRWs.

Figure I-4
LRWs: 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: *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. I-21.

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.

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 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.

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.

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.

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.

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.

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.

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.

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 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.

Marketing channels

Channels of distribution

For U.S. producers and U.S. importers, the principal channel of distribution is to retailers, *** percent and *** percent, respectively in 2016 (table I-5). Included in that retail channel, U.S. producers and foreign producers/importers may bid for original equipment manufacturer (OEM) customers that resell LRWs under their own brand name (see *Part V*). U.S. producers ship more product to buying groups and home builders/contractors than do U.S. importers. A small percentage of LRWs are sold directly to end-users.

Table I-5

LRWs: U.S. producers' and importers' commercial U.S. shipments, by channels of distribution, 2012-16, January-March 2016, and January-March 2017

Item	Calendar year					January to March	
	2012	2013	2014	2015	2016	2016	2017
	Share of commercial U.S. shipments (percent)						
U.S. producers: to Distributors	***	***	***	***	***	***	***
to Retailers	***	***	***	***	***	***	***
to Buying groups	***	***	***	***	***	***	***
to Home builders / contractors	***	***	***	***	***	***	***
to End users / consumers	***	***	***	***	***	***	***
U.S. importers: to Distributors	***	***	***	***	***	***	***
to Retailers	***	***	***	***	***	***	***
to Buying groups	***	***	***	***	***	***	***
to Home builders / contractors	***	***	***	***	***	***	***
to End users / consumers	***	***	***	***	***	***	***

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

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

U.S. tariff treatment

Finished LRWs are classifiable in subheading 8450.20.00⁶³ of the Harmonized Tariff Schedule of the United States (“HTS”), which has a general tariff duty rate of 1 percent ad valorem.⁶⁴ Parts and subassemblies covered by the scope of the investigation are classified under HTS subheading 8450.90.20, which provides for tubs and tub assemblies, and HTS subheading 8450.90.60, which provides for other parts. These two subheadings have each have a general duty rate of 2.6 percent ad valorem.⁶⁵ Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

THE U.S. MARKET

U.S. producers

The Commission sent U.S. producers’ questionnaires to four firms identified by the Commission as possible U.S. producers or U.S. importers of LRWs. The Commission received responses from three firms reporting domestic production of LRWs since January 1, 2012. In addition, Alliance Laundry Systems (“Alliance”) reported no production of LRWs during January 2012-March 2017, but did produce top load residential washers with a permanent split capacitor (“PSC”) motor, a belt drive, and a flat wrap spring clutch and front load residential washers with a controlled induction motor (“CIM”) and a belt drive, both of which are excluded from the scope of this investigation (“selected out-of-scope residential washers”). Presented in table I-6 is a list of responding domestic producers and each company’s position on the petition, production locations, and share of reported production of LRWs and of finished residential washers (LRWs and selected out-of-scope residential washers) in 2016.

⁶³ *Large Residential Washers; Institution and Scheduling of Safeguard Investigation and Determination That The Investigation Is Extraordinarily Complicated*, 82 FR 27076 (June 13, 2017).

HTS subheading 8450.20.00 provides for household- or laundry-type washing machines, including machines which both wash and dry, each of a dry linen capacity exceeding 10 kg. Harmonized Tariff Schedule of the United States (2017).

In 2015, statistical reporting numbers HTS 8450.20.0040 (top loading) and 8450.20.0080 (other machines) were added to create a separate provision for large-capacity top loading washers (in addition to 8450.20.0010, which covers large-capacity coin operated machines). Prior to 2015, HTS statistical reporting number HTS 8450.20.0090 included both top and front loading non-coin-operated large-capacity washers. Harmonized Tariff Schedule of the United States (2017). The written description of the merchandise subject to this petition is dispositive.

⁶⁴ Under the U.S.-Israel FTA, the Caribbean Basin Economic Recovery Act (“CBERA”) or the Generalized System of Preferences (“GSP”) program, the rate of duty is 0 percent. LRWs may also be imported under HTS subheading 8450.11.00, which has a duty rate of 1.4 percent, as the written description of the merchandise subject to this petition is dispositive.

⁶⁵ Harmonized Tariff Schedule of the United States (2017). Under the U.S.-Israel FTA, the Caribbean Basin Economic Recovery Act (“CBERA”) or the Generalized System of Preferences (“GSP”) program, the rate of duty is 0 percent.

Table I-6

Residential washers: U.S. producers, their position on the petition, location of production, and share of reported production, 2016

Firm	Position on petition	Production location(s)	Share of LRW production (percent)	Share of finished residential washers ¹
Alliance	***	Ripon, WI	***	***
GE Appliances	***	Louisville, KY	***	***
Staber	***	Groveport, OH	***	***
Whirlpool	***	Clyde, Ohio	***	***
Total			***	***

¹ Includes LRWs and selected out-of-scope residential washers.

² Less than 0.05 percent.

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

Alliance⁶⁶

Alliance is a privately-held corporation which was founded in 1908 and headquartered in Ripon, Wisconsin. The company has manufacturing facilities in the United States, China, and the Czech Republic. The company is a leader in the global commercial laundry market and produces washers and dryers for coin-operated laundries, multi-housing laundries, but also residential washers. Alliance Laundry Systems manufactures products under the brands Speed Queen, Cissell, Huebsch, IPSO, and UniMac. Alliance produces and markets its residential washers under the Speed Queen brand name.⁶⁷ In 2014, Alliance reported total global revenues of \$726.3 million and net income of \$29.6 million.⁶⁸ Alliance reported that in 2016, *** percent of its total production were residential washers whereas *** percent were commercial washers and dryers.⁶⁹ Alliance reported *** during the period of investigation.⁷⁰ For example, 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.⁷¹ In June 2015, Alliance undertook a \$46 million expansion, including installation of a 1,500 ton transfer press for its

⁶⁶ Unless otherwise noted, information from *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. III-4 and III-5.

⁶⁷ Alliance Laundry Systems, "About Us," <http://www.alliancelaudry.com/about-us/> (accessed September 14, 2017).

⁶⁸ Alliance Laundry Holdings LLC, Annual Report, 2014. Alliance is not a publically traded company and therefore does not file annual Form 10-K reports.

⁶⁹ Alliance's producer questionnaire, response to question III-5.

⁷⁰ Ibid. at question II-2.

⁷¹ PRNewswire, "Alliance Laundry Completes New \$400 Million Asset-Backed Finance Facility," June 29, 2015. <http://www.prnewswire.com/news-releases/alliance-laundry-completes-new-400-million-asset-backed-finance-facility-300106401.html>.

Speed Queen residential washing machines.⁷² In May 2016, Alliance announced a \$62.6 million expansion of its 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.⁷³

General Electric⁷⁴

For most of the period of investigation, GE Appliances was a division of General Electric (“GE”). GE, 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 manufacturing operations occur in approximately 41 countries, over 500 manufacturing plants, and carry out eight business segments, which include (1) power; (2) renewable energy; (3) oil and gas; (4) aviation; (5) healthcare; (6) transportation; (7) energy connections and lighting; (8) and capital.⁷⁵ In 2016, GE reported \$123.7 billion in revenue and \$8.2 billion in earnings from continuing operations.⁷⁶ Globally, the firm employed approximately 295,000 employees in 2016, with 104,000 of those employed in the United States.⁷⁷

In 2010, GE Appliances 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 Appliances began producing a broader range of top load LRWs at Appliance Park. GE Appliances previously produced top load LRWs with a capacity of under 3.7 cubic feet at Appliance Park. In 2013, GE Appliances began production of front load LRWs at Appliance Park.

GE has been in the process of a multi-year restructuring where the company has sought 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, GE announced that it was selling its appliances division to AB Electrolux 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, GE announced that it had terminated its agreement to sell its appliances division to Electrolux and would now

⁷² Ibid.

⁷³ Alliance Laundry Systems LLC, “Largest Expansion In Alliance Laundry Systems History Approved,” press release, May 11, 2016. <http://www.alliancelaundry.com/news/largest-expansion-in-alliance-laundry-systems-history-approved>.

⁷⁴ Unless otherwise noted, information from *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication No. 4666, January 2017, p. III-3.

⁷⁵ General Electric Co. Form 10-K, 2016.

⁷⁶ General Electric Co. Form 10-K, 2016.

⁷⁷ General Electric Co. Form 10-K, 2016; General Electric, “About Us – Building,” <http://www.ge.com/about-us/building>, (accessed September 13, 2017).

pursue other options to sell the division.⁷⁸ On January 15, 2016, GE announced that it had entered into a definitive agreement to sell its appliances division to the Chinese company Qingdao Haier Co., Ltd. (“Haier”). On June 6, 2016, GE announced that it had completed the sale of its appliances division, GE Appliances, to Haier for \$5.6 billion.⁷⁹ 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.⁸⁰

Staber⁸¹

Staber Industries, Inc., (“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. Staber is also performs contract manufacturing and other products.⁸² 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.⁸³ Staber has produced residential washers in Groveport, Ohio since 1993 and most of its sales are shipped factory-direct to the end user.⁸⁴

Whirlpool

Whirlpool, founded in 1898 and headquartered in Benton Harbor, Michigan, is a manufacturer and marketer of home appliances with net sales totaling approximately \$20.7 billion for 2016 and net income of \$928 million as of December 31, 2016.⁸⁵ Globally, the firm

⁷⁸ General Electric, “GE Statement on Appliances Business,” Press Release, December 7, 2015, <http://www.genewsroom.com/press-releases/ge-statement-appliances-business-282453>.

⁷⁹ General Electric, “GE Completes Sale of Appliances Business to Haier,” Press Release, June 6, 2016, <http://pressroom.geappliances.com/news/ge-completes-sale-of-appliances-business-to-haier>.

⁸⁰ Haier, “Haier Group Profile,” http://www.haier.net/en/about_haier/, retrieved November 15, 2016.

⁸¹ Unless otherwise noted, information from *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication No. 4666, January 2017, p. III-4.

⁸² Staber, “Staber,” <http://www.staber.com/>, retrieved September 26, 2017. *** Staber’s producer questionnaire, response to III-5.

⁸³ 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.

⁸⁴ Staber Industries, “About Us,” <http://www.staber.com/aboutus>, (accessed September 14, 2017).

⁸⁵ Whirlpool SEC Form 10-K, issued February 13, 2017.

employed approximately 93,000 employees and 42 manufacturing facilities in 14 countries as of 2016.⁸⁶ 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 American 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*, *Gladiator*, *Inglis*, *Estate*, *Acros*, and *Supermatic*, and distributes primarily to retailers, distributors and builders.⁸⁷

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.⁸⁸ 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 antidumping and countervailing duty investigations of LRWs from Korea and Mexico.⁸⁹ However, effective July 16, 2012, Whirlpool Mexico ceased exports of LRWs 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") ceased LRW production at its German plant in the first quarter of 2013.⁹⁰

Whirlpool has LRW production in the United States, as well as Brazil, China, Colombia, and Mexico. The company maintains a large home appliance presence in Europe which includes residential washer production, but not LRW production.

U.S. importers

The Commission sent U.S. importers' questionnaires to five firms identified by the Commission as U.S. importers of LRWs that, combined, accounted for *** percent of U.S. imports of LRWs during January 2012-March 2017. Questionnaire responses containing usable data were received from all five firms and are believed to account for essentially all U.S. imports of LRWs from all sources during 2016. Importers reported importing LRWs from Korea and Mexico, countries with which the United States has free trade agreements ("FTAs"). Although separate U.S. import data were requested in the Commission's questionnaires for U.S. imports from other FTA partners, Australia, Canada, Israel, Jordan, Mexico, Panama, Peru, and the Dominican Republic-Central America Free Trade Agreement ("CAFTA-DR") countries (i.e., Costa

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication No. 4666, January 2017, pp. III-2–III-3.

⁸⁹ Ibid.

⁹⁰ Ibid., III-2, n. 5.

Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua),⁹¹ no U.S. import data were reported by U.S. importers in their questionnaire responses for these countries for the period of January 1, 2012-March 31, 2017.

The largest U.S. importers were affiliated with the largest foreign producers, namely Electrolux, LG Electronics, and Samsung.

Electrolux

Electrolux is a producer of home appliances and appliances for professional use, headquartered in Stockholm, Sweden. The company's products include refrigerators, ovens, cookers, hobs, dishwashers, washing machines, vacuum cleaners, air conditioners and small domestic appliances. Its most recognized brands include Electrolux, AEG, Zanussi, Frigidaire, and Electrolux Grand Cuisine.⁹² In 2016 Electrolux had sales of SEK 121 billion (\$14.5 billion) and 55,000 employees.⁹³ In 2016, laundry accounted for 16 percent of group sales, and professional laundry for another 2 percent.⁹⁴

Electrolux was a U.S. producer of LRWs and other residential washing machines until April 2011, when the company closed its washer manufacturing facility in Webster City, Iowa.⁹⁵ Electrolux subsequently produced and exported front load LRWs from its facility in Juarez, Mexico to the United States.⁹⁶

Electrolux maintains its Fabric Care R&D facility, its North American Global Technology Center, as well as its headquarters in Charlotte, North Carolina. The company manufactures other appliances in the United States, such as cooking appliances in Memphis, Tennessee, dishwashers in Kinston, North Carolina, freezers in St. Cloud, Minnesota, and refrigerators in Anderson, South Carolina.

Currently, Electrolux has LRW production in Mexico and Thailand. The company also has residential washer production in Brazil, Italy, and Poland.

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,

⁹¹ Data were requested separately for the listed countries consistent with statutory provisions regarding separate findings for imports from these countries.

⁹² Electrolux Group, *Electrolux Annual Report 2016*, February 28, 2017, p. 7, <http://www.electroluxgroup.com/en/electrolux-annual-report-2016-23326/>, retrieved September 15, 2017.

⁹³ *Ibid.*

⁹⁴ *Ibid.*, p. 20.

⁹⁵ *Certain Large Residential Washers from Korea and Mexico, Investigation Nos. 701-TA-488 and 731-TA-1199-1200 (Final)*, USITC Publication No. 4378, February 2013, III-2.

⁹⁶ *Ibid.*

mobile cellular devices, air conditioners, washing machines, and refrigerators. The firm employs 75,000 people worldwide and reported global sales of \$47.9 billion in 2016.⁹⁷

Since 2012, LG produced LRWs within its home appliances and air solutions business unit in Korea and at its affiliates in China, Thailand, and Vietnam. LG reported that it began production of LRWs in China for export to the U.S. market in *** and ceased ***.⁹⁸ The company began exports of LRWs from Thailand and Vietnam in ***.⁹⁹ In early 2017, LG announced that it would open a U.S. production plant for LRWs in Clarksville, Tennessee in 2019.¹⁰⁰

Samsung

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 \$174.2 billion in 2016.¹⁰¹ 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”), and in Thailand as well as and Vietnam. Production of LRWs in China began in ***¹⁰² and ***, while production of LRWs in Thailand and Vietnam commenced in

⁹⁷ LG, “Company Information,” undated, <http://www.lg.com/global/investor-relations/company-info>, retrieved September 15, 2017.

⁹⁸ *Investigation No. 731-TA-1306 (Final): Large Residential Washers From China—Staff Report*, INV-OO-123, December 23, 2016, p.VII-4. Foreign producer questionnaire of LG China, response to II-2 and II-4.

⁹⁹ Foreign producer questionnaires of LG for Thailand and Vietnam, response to II-17.

¹⁰⁰ LG, “LG Electronics To Build U.S. Factory For Home Appliances In Tennessee,” press release, February 28, 2017, <http://www.lg.com/us/press-release/lg-electronics-to-build-us-factory-for-home-appliances-in-tennessee>, retrieved September 19, 2017; Hearing transcript, p. 244 (Wingate); and LG’s prehearing brief, p. 41.

¹⁰¹ Samsung reported global revenue of \$201.9 trillion Korean won (Converted to using an exchange rate of 1,159.34 Korean won to the U.S. dollar for 2016). Samsung, “Financial Highlights,” undated, <http://www.samsung.com/global/ir/financial-information/financial-valuation-snapshot/>, retrieved September 21, 2017. Federal Reserve Board, “Foreign Exchange Rates – G.5A,” January 4, 2017, <https://www.federalreserve.gov/releases/g5a/current/>, retrieved September 21, 2016.

¹⁰² 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.

1995 and 2016, respectively.¹⁰³ Exports to the U.S. market from Thailand and Vietnam began in 2016.¹⁰⁴ In June 2017, Samsung announced that it would open a production site for home appliances, including LRWs in Newberry, South Carolina.¹⁰⁵ The factory is an old Caterpillar factory that is being rebuilt for home appliance production including LRWs, which is planned to begin in early 2018.¹⁰⁶

According to responding U.S. importers of LRWs, U.S. LRW import sources were China, Korea, Mexico, Thailand, and Vietnam. Responding importers, their U.S. locations, and their share of the quantity of total U.S. imports in 2016 are presented in tables I-7a and I-7b.

Table I-7a
LRWs: U.S. importers, their headquarters, and share of total U.S. imports from China, Korea, Mexico, Thailand, and Vietnam, 2016

Firm	Headquarters	Share of imports by source (percent)				
		China	Korea	Mexico	Thailand	Vietnam
Electrolux	Charlotte, NC	***	***	***	***	***
GE Appliances	Louisville, KY	***	***	***	***	***
LG	Englewood Cliffs, NJ	***	***	***	***	***
Samsung	Ridgefield Park, NJ	***	***	***	***	***
Whirlpool	Benton Harbor, MI	***	***	***	***	***
Total		***	***	***	***	***

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

Table I-7b
LRWs: U.S. importers, their headquarters, and share of total U.S. imports from Canada, all other FTA sources, all other sources, and all sources, 2016

Firm	Headquarters	Share of imports by source (percent)			
		Canada	All other FTA sources	All other sources	All source
Electrolux	Charlotte, NC	***	***	***	***
GE Appliances	Louisville, KY	***	***	***	***
LG	Englewood Cliffs, NJ	***	***	***	***
Samsung	Ridgefield Park, NJ	***	***	***	***
Whirlpool	Benton Harbor, MI	***	***	***	***
Total		***	***	***	***

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

¹⁰³ Respondent Samsung posthearing brief, Responses to Commission questions, p. 2.

¹⁰⁴ Samsung began production of washers in Thailand in 1995 and in Vietnam in July 2016

¹⁰⁵ Samsung, "Samsung to Expand U.S. Operations, Open \$380 Million Home Appliance Manufacturing Plant in South Carolina," press release, June 28, 2017, <https://news.samsung.com/us/samsung-south-carolina-home-appliance-manufacturing-plant-investment-newberry/>, retrieved August 16, 2017.

¹⁰⁶ Hearing transcript, p. 247 (Baxter). Posthearing brief of Samsung, Samsung Responses to Commission Questions, p. 1.

U.S. purchasers

The Commission received purchasers' questionnaires from 21 purchasers of LRWs. The largest purchasers were ***. See *Part V* (Lost sales and lost revenue) for more information on purchaser purchases.

Purchasers *** are 100 percent and 80 percent, respectively, owned by *** and purchaser *** is 100 percent owned by ***. No purchasers reported being related to U.S. producers, importers, or foreign producers.

Fifteen purchasers described themselves as retailers, two as contractors/builders, and four as distributors/wholesalers. Distributor/wholesaler purchasers typically sold to builders, contractors, commercial and multifamily property management companies, as well as independent retailers.

Eight distributor/wholesaler purchasers reported that they competed for sales to customers with the domestic producers or importers from which they purchased LRWs. Purchaser ***. Purchasers *** reported that some builder and distributor customers may also have direct relationships with LRW manufacturers.

THIRD-COUNTRY MARKET IMPORT RESTRAINTS

There are no known trade remedy actions in third-country markets covering LRWs.

PART II: INFORMATION RELATING TO INCREASED IMPORTS

U.S. IMPORTS

Total U.S. imports of LRWs¹ increased *** percent by volume and *** percent by value from 2012 to 2016 (table II-1). The greater rate of increase in import volume resulted in annual decreases in the average unit value of total imports, resulting in an overall decrease of *** percent from 2012 to 2016. The country source of U.S. imports changed over the period of investigation. U.S. imports from Korea and Mexico declined between 2012 and 2013, after antidumping duty orders were issued on U.S. imports of LRWs from Korea and Mexico and a countervailing duty order was issued on U.S. imports of LRWs from Korea in February 2013,² while U.S. imports from China nearly quadrupled during the period, and continued to increase through 2015. After an antidumping order was imposed on LRWs from China on February 6, 2017,³ U.S. imports from China rapidly declined and were *** percent lower in January-March 2017 than in January-March 2016. There were no reported U.S. imports from Thailand in 2012, and few such imports during 2013-15, but by 2016 they accounted for *** percent of total U.S. imports of LRWs and, in January-March 2017, *** percent. Likewise, there were no reported U.S. imports of LRWs from Vietnam during 2012-15, but in 2016 they accounted for *** percent, and in January-March 2017, *** percent of total U.S. LRW imports. U.S. imports of LRWs relative to U.S. production increased during 2012-16, rising from *** percent in 2012 to *** percent in 2016. In January-March 2017, however, the ratio of U.S. imports for LRWs to U.S. production was *** percent, down from *** percent in January-March 2016.

Table II-1

LRWs: U.S. imports, by source, 2012-16, January-March 2016, and January-March 2017

* * * * *

¹ See the section entitled “The Imported Articles Described in this Investigation” in *Part I* of this Report for a complete description of the merchandise subject to this investigation.

² In February 2013, Commerce issued countervailing duty orders on imports of LRWs from Korea and antidumping duty orders on imports of LRWs from Korea and Mexico. *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.

³ In February 2017, Commerce issued antidumping duty orders on LRWs from China. *Large Residential Washers from the People’s Republic of China: Amended Final Affirmative Antidumping Duty Determination and Antidumping Duty Order*, 82 FR 9371, February 6, 2017.

U.S. importers LG and Samsung accounted for the vast majority of U.S. imports of LRWs.⁴ Combined, these two firms accounted for no less than *** percent of U.S. imports of LRWs in any year or interim period for which data were collected (table II-2). Imports from each of these firms increased during 2012-16 by *** percent and *** percent, respectively. The quantity of imports reported by *** was *** in January-March 2017 compared to January-March 2016 whereas ***'s was ***. *** reported higher import average unit values than *** for which data were collected. Both firms reported *** import average unit values during 2012-16, and *** average unit values in January-March 2017 compared to January-March 2016.

Table II-2
LRWs: U.S. imports, by firm, 2012-16, January-March 2016, and January-March 2017

* * * * *

Shipments by product type

The Commission collected data on shipments of U.S. imports of LRWs by product type. Commercial U.S. shipments of imports of both front load and top load washers increased from 2012 to 2016. As a share of total commercial shipments of U.S. imports, top load washers increased from *** percent in 2012 to *** percent in 2016, whereas front load washers' share of total commercial U.S. shipments of imported LRWs decreased from *** percent in 2012 to *** percent in 2016. Energy Star rated LRWs accounted for no less than *** percent of commercial U.S. shipments of imported LRWs during the period of investigation. Virtually all commercial U.S. shipments of imported front load LRWs had the Energy Star rating. Energy Star rated top load washers without an agitator accounted for the bulk of commercial U.S. shipments of imported top load washers,⁵ whereas there were no import shipments of Energy Star rated top load washer with an agitator.⁶ Table II-3 presents data on commercial U.S. shipments of from all import sources combined. Additional detailed data on commercial U.S. shipments of imported LRWs by country source is available in Appendix H.

Table II-3
LRWs: U.S. importers' commercial U.S. shipments of imports by type and source, 2012-16, January to March 2016, and January to March 2017

* * * * *

⁴ *** Samsung imported covered parts during the period of investigation. Samsung reported that these parts were sold to non-related firms such as authorized service centers, retailers, and distributors, which in turn sold the parts to end users or used the parts for repairs of washer under warranty. Respondent Samsung posthearing brief, answers to Commission questions, p. 7.

⁵ Two firms imported Non-Energy Star top load LRWs without an agitator during the period of investigation. *** imported Non-Energy Star top load LRWs without an agitator from *** during 2012-13 and *** from *** after 2015 and from *** in 2016.

⁶ Only *** imported Non-Energy Star top load LRWs with an agitator from *** during the period of investigation.

U.S. IMPORTERS' IMPORTS SUBSEQUENT TO MARCH 31, 2017

The Commission requested importers to indicate whether they had imported or arranged for the importation of LRWs for delivery after March 31, 2017. The quarterly data reported by responding importers are presented in table II-4. The three sources of arranged imports are Korea, Thailand, and Vietnam. Thailand and Vietnam combined accounted for *** percent of the arranged imports. Arranged imports of LRWs for April-June 2017 are *** percent higher than total reported imports of LRWs in January-March 2017 (compare table II-1 and table II-4).

Table II-4
LRWs: Arranged U.S. imports, by source, April 2017 through March 2018

* * * * *

IMPORTS BY U.S. PRODUCERS AND RELATED FIRMS

One U.S. producer of LRWs, ***, reported direct imports of LRWs.⁷ In 2012, *** imported *** LRWs from Korea, but did not report having any LRW imports through the rest of the period of investigation. *** produced *** LRWs in 2012; the ratio of its imports of LRWs to production in 2012 is *** percent.

IMPORTS OF EXCLUDED PRODUCTS

U.S. imports of washers not covered by this investigation accounted for *** percent of all residential washer imports in 2016 and were equivalent to *** percent of U.S. production or LRWs in 2016.

Table II-5
LRWs: U.S. imports of excluded products 2, 3, and 4, 2012-16, January to March 2016, and January to March 2017

* * * * *

⁷ *** did not provide a reason for importing LRWs.

PART III: SERIOUS INJURY OR THREAT OF SERIOUS INJURY

OVERVIEW

The term “domestic industry” is defined in section 202(c)(6)(A)(i) of the Trade Act as “the domestic producers as a whole of the like or directly competitive article or those producers whose collective production of the like or directly competitive article constitutes a major proportion of the total domestic production of such article.”¹ The list of firms that responded to the Commission’s U.S. producer’s questionnaire in this proceeding to report domestic production of large residential washers (“LRWs”)² and each company’s position on the petition, production locations, and share of reported production of LRWs during 2016 is presented in *Part I* of this report at table I-3.

U.S. producers’ ownership and related or affiliated firms

The Commission asked U.S. producers to identify their owners and any related or affiliated firms involved in the production or U.S. imports of LRWs. Responses to the Commission’s request for information from U.S. producers are presented in table III-1.

Table III-1
LRWs: U.S. producers’ ownership, related and/or affiliated firms

* * * * *

Reported changes experienced and anticipated by the industry

Developments in the U.S. LRW industry from 2010–August 2017, as developed from public sources, are shown in table III-2. Developments that occurred in 2010 and 2011 are not covered by the period examined in this safeguard investigation. However, these developments influenced the U.S. industry in 2012 and beyond. For example, capital investments initiated in 2010 likely affected U.S. production for years later. Similarly, firms exiting the U.S. LRW market in 2011 and early 2012 allowed for other firms to fill those gaps.

¹ 19 U.S.C. § 2252(c)(6)(A)(i).

² See the section entitled “The Imported Articles Described in the Petition” in *Part I* of this report for a complete description of the merchandise subject to this investigation.

**Table III-2
LRWs: U.S. Industry developments, 2010–August 2017**

Year	Month	Company	Event
2010	July	Whirlpool	Whirlpool adds Alpha/front load production line in its Clyde, Ohio production facility.
2010	Unknown	Whirlpool	Whirlpool began production of front load LRWs after investing \$100 million at 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.
2010	June	Whirlpool	Whirlpool announced closing its Benton Harbor, Michigan facility that supplied machined parts and plating operations to Clyde, and shifted those operations to the Clyde, Ohio in late 2010 or early 2011.
2010	Unknown	GE Appliances	GE initiated a \$150 million investment in its Louisville, Kentucky facility to produce top load and front load LRWs. GE's production at that time was out-of-scope top load residential washers less than 3.7 cubic feet capacity.
2011	April	Electrolux	Electrolux closes its LRW production facility in Webster City, Iowa and transfers additional LRWs capacity to its facility in Juarez, Mexico. These were front load LRWs and out-of-scope residential washers less than 3.7 cubic feet capacity.
2011	May	Bosch (BSH)	BSH ceased U.S. production of front load LRWs and closed its sole U.S. production facility at New Bern, North Carolina. Bosch made the decision to close production in 2010.
2011	December	Whirlpool	Petitions filed with Commerce and the Commission alleging that an industry in the United States was materially injured and threatened with material injury by reason of imports from Korea and Mexico of LRWs that were sold in the United States at LTFV and subsidized by the Government of Korea.
2012	May	Miele & Cie	Miele announced to dealers that it was quitting the U.S. market and would no longer export its 27-inch LRWs to the United States.
2012	July	Whirlpool	Ceased production of LRWs in Mexico for the U.S. market effective July 12, 2012.
2012	July	Whirlpool	Applied for Foreign Trade Zone subzone for its entire Clyde, Ohio manufacturing facility.
2012	November	GE Appliances	Began production of top load LRWs at Appliance Park, Louisville, Kentucky, creating 150 new jobs for this product.
2012	November	Whirlpool	Received approval by the Foreign-Trade Zones Board for FTZ operations.
2013	First quarter	Whirlpool	Ceased production of LRWs in Germany.
2013	April	GE Appliances	Began production of front load LRWs at Appliance Park, Louisville, Kentucky. The assembly lines for the front load LRWs and dryers cost over \$100 million and added 200 new jobs.
2014	September	GE Appliances	Parent company announced its intent to sell GE's appliances division to AB Electrolux, Sweden.

Table continued on next page.

Table III-2--Continued
LRWs: U.S. Industry developments, 2010–August 2017

2015	August	GE Appliances	Announced \$100 million investment in a new top load washer design and expanded manufacturing capability at its laundry plant in Louisville, Kentucky.
2015	December	Whirlpool	Petitions filed with Commerce and the Commission alleging that an industry in the United States was materially injured and threatened with material injury by reason of imports from China of LRWs that were sold in the United States at LTFV.
2015	December	GE Appliances	Parent company announced that it terminated its agreement to sell its appliances division to Electrolux and would pursue other options.
2016	January	GE Appliances	Announced its intent to sell its GE Appliances division to Haier of China.
2016	June	GE Appliances	Announced the completion of the sale of its appliance division to Haier for \$5.6 billion.
2016	November	GE Appliances	Union members vote down new labor contract proposed by Haier-owned GE Appliances.
2017	January	GE Appliances	GE Appliances reached tentative agreement with the union for a new contract; the union subsequently approved the four-year contract.
2017	February	LG	Announced it would build a \$250 million home appliance production facility near Clarksville, Tennessee, including for washing machines, opening in 2019.
2017	June	Samsung	Announced it would invest \$380 million in an appliance production facility, including washing machines, in Newberry, South Carolina, with LRW production possible in 2018.

Source: Compiled from various news articles.

Domestic producers were asked to indicate whether their firm had experienced any plant openings, relocations, expansions, acquisitions, consolidations, closures, or prolonged shutdowns because of strikes or equipment failure; curtailment of production because of shortages of materials or other reasons, including revision of labor agreements; or any other change in the character of their operations or organization relating to the production of LRWs products since January 1, 2012. Three domestic producers providing responses in this proceeding indicated that they had experienced such changes; their responses are presented in table III-3.

Table III-3
LRWs: Changes in the character of U.S. operations since January 1, 2012

* * * * *

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

U.S. producers' production of LRWs increased from 2012 to 2016 by *** percent (table III-4 and figure III-1). The largest annual increase, in absolute and relative terms, was from 2012 to 2013, when production increased by *** units (*** percent). From 2012 to 2016, U.S. producers' capacity to produce LRWs increased by *** percent from *** units to *** units. Capacity changed unevenly during this period, as it increased from 2012 to 2013 by ***

percent, then decreased from 2013 to 2014 by *** percent, but then increased thereafter by *** percent, resulting in an overall increase of *** percent from 2012 to 2016. Average capacity utilization of domestic LRW producers fluctuated within a narrow band throughout 2012-16, with its lowest rate, *** percent, in 2012 and its highest rate, *** percent, in 2014. In January-March 2017, U.S. producers reported lower capacity compared to January-March 2016, but higher production, resulting in their highest reported capacity utilization rate, *** percent, during the period of investigation.

Table III-4
LRWs: U.S. producers' production, capacity, and capacity utilization, 2012-16, January-March 2016, and January-March 2017

* * * * *

Figure III-1
LRWs: U.S. producers' production, capacity, and capacity utilization, 2012-16, January-March 2016, and January-March 2017

* * * * *

Foreign-trade zone production activities

In 2012, Whirlpool applied to the Foreign-Trade Zone Board to create a foreign trade subzone that would encompass its entire Clyde, Ohio, manufacturing facility.³ Whirlpool reported that, commencing in 2013, it admitted into the foreign-trade zone (“FTZ”) duty free various non-covered LRW parts from various countries of origin, for use in the production of LRWs at the Clyde, Ohio, manufacturing facility.⁴ Doing so allowed Whirlpool to minimize tariff liability.⁵ Pursuant to FTZ regulations, production activities⁶ must be approved by the FTZ

³ 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.

⁴ Non-covered other parts reported by Whirlpool include: ***.

⁵ Whirlpool reported that tariff savings occur 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.

⁶ 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
(continued...)

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 foreign component, regardless of the number of foreign components or the share of U.S. content.⁷

GE Appliances established its FTZ at its Louisville, Kentucky manufacturing facility in ***. During the period of investigation, GE Appliances admitted into the FTZ ***. Doing so enables ***.⁸

Table III-5 presents data on GE Appliances' and Whirlpool's admissions into their respective FTZs for use in the production of LRWs. *** imports for consumption withdrawn from the FTZ are actually the LRWs produced in the FTZ, manufactured using imports of non-covered LRW parts. At no point during the period of investigation did *** enter *** into the FTZ. Due to the nature of these shipments, throughout this report, U.S. shipments of LRWs exiting Whirlpool's or GE Appliances' FTZs have not been deemed U.S. imports and have not been included in U.S. import data.

Table III-5
LRWs: U.S. producers' admissions into FTZs of parts, 2012-16, January to March 2016, and January to March 2017¹

* * * * *

U.S. PRODUCERS' SHIPMENTS

The quantity and value of U.S. producers' total shipments of LRWs increased from 2012 to 2016, by *** and *** percent, respectively (table III-6).⁹ The increase is due to an increase in U.S. producers' U.S. shipments of *** units, as their export shipments decreased by approximately *** units during this period.¹⁰ Accordingly, U.S. shipments as a share of total shipments increased from *** percent in 2012 to *** percent in 2016. The average unit value of U.S. producers' U.S. shipments varied slightly during 2012-15 and decreased by *** percent from 2015 to 2016. Likewise, the average unit values of U.S.

(...continued)

consumption. *Foreign-Trade Zones Manual*, U.S. Customs and Border Protection, Publication no. 0000-0559A (2011), p. 102.

⁷ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Preliminary)*, USITC Publication 4591, February 2016, p. III-7.

⁸ Email from ***, September 13, 2017 and September 15, 2017 and GE Appliances' U.S. producer questionnaire, section II-15.

⁹ Total shipments include LRWs and covered parts. Only *** had shipments of covered parts. ***. ***. Email from ***, September 15, 2017 and email from ***, September 12, 2017.

¹⁰ ***.

producers' export changed slightly during 2012-15 and decreased by *** percent from 2015 to 2016.

Table III-6

LRWs: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2012-16, January-March 2016, January-March 2017

* * * * *

Shipments by product type

U.S. producers were asked to provide data on commercial U.S. shipments of LRWs by product type. As discussed in *Part I*, LRWs can be configured as either top loading or front loading machines and may be Energy Star compliant. Top load LRWs can incorporate either an agitator, an impeller, or an agi-peller.

Top load LRWs accounted for the vast majority of U.S. producers' commercial U.S. shipments of LRWs (table III-7). Nevertheless, while the quantity of U.S. producers' commercial U.S. shipments of top load LRWs increased by *** percent during 2012-16, their share of total commercial U.S. shipments decreased from *** percent in 2012 to *** in 2016. The quantity of U.S. producers' commercial U.S. shipments of front load LRWs increased both absolutely and relatively from 2012 to 2016, as such shipments increased by *** percent and came to account for *** percent of total U.S. commercial shipments in 2016, up from to *** percent in 2012.

Table III-7

LRWs: U.S. producers' U.S. commercial shipments, by product type, 2012-16, January-March 2016, and January-March 2017

* * * * *

U.S. producers' commercial U.S. shipments of top load LRWs with an agitator but without Energy Star certification increased steadily during 2012-16 whereas their commercial U.S. shipments of top load LRWs with an agitator and Energy Star certification decreased. From 2012 to 2014, the large majority of U.S. producers' commercial U.S. shipments of top load LRWs without an agitator were Energy Star certified. U.S. producers' commercial U.S. shipments of these types of LRWs were relatively stable from 2012 to 2014, but experienced a decrease between 2014 and 2015, when stricter Energy Star efficiency standards became effective, accompanied by an increase in shipments of non-Energy Star certified top load LRWs without an agitator.¹¹

As noted above, commercial U.S. shipments of front load LRWs increased by *** percent from 2012 to 2016. All U.S. producers' commercial U.S. shipments of front load LRWs were Energy Star certified. These shipments were largely by ***, as *** percent of commercial U.S. shipments of this product in any year during 2012-16.

¹¹ Energy Star standards were revised on March 7, 2015 (see *Part I*, Energy Efficiency).

Energy Star certified LRWs accounted for approximately *** of total U.S. producers' commercial U.S. shipments during 2012-14, but this proportion declined to *** percent in 2015 and to *** percent in 2016.

INVENTORIES MAINTAINED BY U.S. PRODUCERS AND U.S. IMPORTERS

U.S. producers' inventories

U.S. producers' end-of-period inventories fluctuated during 2012-16, and were at their lowest level of the period in 2016 at *** units. In January-March 2017, inventories were *** percent lower compared to the same period in 2016 (table III-8).

Table III-8
LRWs: U.S. producers' inventories, 2012-16, January-March 2016, and January-March 2017

* * * * * * *

U.S. importers' inventories

U.S. importers *** reported maintaining inventories, although *** (table III-9). *** held more inventories in 2016 than in 2012; *** accounted for *** percent of U.S. importers' inventories in 2016 and *** percent in January-March 2017.

Table III-9
LRWs: U.S. importers' inventories, 2012-16, January-March 2016, and January-March 2017

* * * * * * *

U.S. EMPLOYMENT, HOURS, AND WAGES

U.S. producers' production and related workers ("PRWs") increased by *** percent from 2012 to 2016 (table III-10). Total hours worked by such employees and wages paid also increased during this period. Productivity, measured by units produced per hour worked, was greatest in 2016, while unit labor cost, measured by wages paid per unit produced, was at its second-lowest level in 2016. Fewer PRWs were reported in January-March 2017 compared to January-March 2016, though total hours worked, wages paid, and productivity were all higher.

Table III-10
LRWs: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2012-16, January-March 2016, and January-March 2017

* * * * * * *

FINANCIAL CONDITION OF THE U.S. INDUSTRY

Background

Three U.S. producers reported usable financial results on their LRWs operations: GE Appliances, Staber, and Whirlpool.¹² *** of the period's total LRW sales quantity (**% percent), followed by *** (**% percent), and *** (**% percent).

The operations of U.S. producers reflect the update of existing platforms, as well as the development of new platforms, including repatriation and/or establishment of U.S. LRWs production previously conducted abroad by related firms or third parties.¹³

Operations on LRWs

Tables III-11 and III-12 present the aggregate income-and-loss data for the LRW operations of U.S. producers and corresponding changes in average unit values, respectively. Table III-13 presents a variance analysis of LRWs financial results.¹⁴ Appendix E presents company-specific LRW financial results.

¹² 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 GE Appliances' U.S. producer questionnaire on August 10-11, 2017. Data changes pursuant to verification are reflected in this and other relevant sections of the staff report. Verification report (GE Appliances), p. 3.

***. USITC auditor notes.

Whirlpool organizes its reportable segments by geographic region with U.S.-produced LRW operations included in its North American segment. North American segment operations include the manufacture and sale of major home appliances and related products with principal products identified as laundry appliances, refrigerators and freezers, cooking appliances, dishwashers, mixers, and other small domestic appliances. Whirlpool 2016 10-K, p. 4. ***. USITC auditor notes.

Haier US Appliance Solutions, Inc., d/b/a GE Appliances (GE Appliances) is a consolidated subsidiary of Qindao Haier, which is traded on the Shanghai Stock Exchange. *Announcement of completion of acquisition of GE Appliances by Qindao Haier*, <http://www.geappliances.com/our-company/company-faqs.htm>, retrieved July 21, 2017. *Reuters description of Qindao Haier*, <http://www.reuters.com/finance/stocks/companyProfile?symbol=600690.SS>, retrieved on July 21, 2017. ***. July 28, 2017 e-mail with attachment from counsel on behalf of GE Appliances to USITC auditor.

¹³ As a result of these initiatives, top load and front load product mix, as well as intra-category product mix, changed to some extent during the period. ***. July 27, 2017 e-mail with attachment from counsel on behalf of Whirlpool to USITC auditor.

¹⁴ 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
(continued...)

Table III-11

LRWs: Results of operations of U.S. producers, 2012-16, January-March 2016, and January-March 2017

* * * * *

Table III-12

LRWs: Changes in average per unit values, 2012-16, January-March 2016, and January-March 2017

* * * * *

Table III-13

LRWs: Variance analysis on the operations of U.S. producers, 2012-16, January-March 2016, and January-March 2017

* * * * *

Sales volume and value

The majority of the period's LRW revenue represents commercial sales (***) percent) with transfer sales accounting for the remainder (***) percent).¹⁵ No internal consumption of LRWs was reported.

Total LRW revenue increased from 2012-14, declined in 2015 and 2016, and was somewhat higher in interim 2017 compared to interim 2016. During 2012-14, the increase in LRW revenue was principally due to positive volume variances (see revenue section of table III-13). In 2015, lower LRW revenue reflects negative volume and price variances, while lower revenue in 2016 reflects a negative price variance which was only partially offset by a positive volume variance.

Throughout most of the period, *** reported period-to-period increases in LRW sales volume (see table E-2). Each company also reported a decline in LRW sales volume in one year: ***.^{16 17} Average unit LRW sales values were in the same general range for both companies with *** average unit sales value somewhat lower than *** throughout the period. As

(...continued)

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 above, LRW product mix was not static and changed somewhat during the period.

¹⁵ ***. Whirlpool U.S. producer questionnaires, response to II-7 (note 3).

¹⁶ ***. July 28, 2017 e-mail with attachment from counsel on behalf of GE Appliances to USITC auditor. ***. Ibid.

¹⁷ ***. July 27, 2017 e-mail with attachment from counsel on behalf of Whirlpool to USITC auditor.

described by U.S. producers, period-to-period changes in average unit sales values reflect changes in pricing levels and product mix.^{18 19}

Cost of goods sold and gross profit or loss

During the full-year period of investigation, raw material costs ranged from *** percent of total LRW COGS in 2012 to *** percent in 2013 and was at its lowest level in interim 2016 (*** percent) (see table III-11). *** identified the following primary material inputs and corresponding cost shares: ***.²⁰ Similarly and with respect to a representative LRW model, *** stated that its three largest LRW material inputs are ***.²¹ *** reported that there were no substantial changes in the cost share of these or other inputs during the period examined.²²

On an overall basis, other factory costs (i.e., the category where fixed manufacturing costs are usually reported (see footnote 25)) accounted for the second largest share of COGS ranging from *** percent of total COGS (2013) to *** percent (interim 2017). Direct labor cost, representing the smallest share of COGS, ranged from *** percent of total COGS (2014) to *** percent (2013 and 2015).

*** full-year average unit conversion cost (total direct labor and other factory costs divided by total sales volume) ranged from *** per unit (2013) to *** per unit (2012).²⁴ *** average unit conversion cost ranged from *** per unit (2012) to *** per unit (2015) and was *** in interim 2017 (*** per unit) compared to interim 2016 (*** per unit) (see table E-2).²⁵

On an absolute basis and as ratio to sales, the U.S. industry's LRW gross profit was at its highest level in 2012, declined during the full-year period, and was lower in interim 2017 compared to interim 2016. To the extent that the U.S. industry's sales volume variances were positive throughout most of the period (see revenue section of table III-13), declines in total gross profit primarily reflect lower gross profit ratios. In 2012-13, 2013-14, and interim 2016-17, the decline in gross profit ratios was generally due to increases in average unit COGS which more than offset corresponding increases in average unit sales value (see table III-12). In

¹⁸ ***. July 28, 2017 e-mail with attachment from counsel on behalf of GE Appliances to USITC auditor.

¹⁹ ***. July 27, 2017 e-mail with attachment from counsel on behalf of Whirlpool to USITC auditor.

²⁰ July 28, 2017 e-mail with attachment from counsel on behalf of GE Appliances to USITC auditor.

²¹ July 27, 2017 e-mail with attachment from counsel on behalf of Whirlpool to USITC auditor. Based on supplemental information, the three largest material input categories identified by Whirlpool account for around *** percent of raw material costs in 2016.

²² ***. July 28, 2017 e-mail with attachment from counsel on behalf of GE Appliances to USITC auditor. ***. Ibid.

²³ ***. July 27, 2017 e-mail with attachment from counsel on behalf of Whirlpool to USITC auditor. ***.

²⁴ ***. July 27, 2017 e-mail with attachment from counsel on behalf of Whirlpool to USITC auditor. ***. Ibid.

²⁵ ***. July 28, 2017 e-mail with attachment from counsel on behalf of GE Appliances to USITC auditor. ***.

contrast, lower gross profit ratios in 2014-15 and 2015-16 reflect declines in average unit sales value which were only partially offset by corresponding declines in average unit COGS.

In addition to reporting different directional patterns of gross profit for most of the period, *** levels of gross profit, on an absolute basis and as a ratio to sales, compared to *** (see E-2). *** was also the *** company to report a gross loss during the period.²⁶

SG&A expenses and operating income or loss

The U.S. industry's total SG&A expenses and corresponding SG&A expense ratios (total SG&A expenses divided by total revenue) increased throughout most of the full-year period, reaching their highest levels in 2016. On a company-specific basis, *** SG&A expense ratios increased during the full-year period, but remained within a relatively narrow range.²⁷ With the exception of interim 2017 (see footnote 25), *** reported higher SG&A expense ratios compared to *** throughout the period.²⁸ Each company's SG&A expenses include *** (see table III-14).

In 2012, the U.S. industry reported its smallest full-year operating loss, generally reflecting gross profit and SG&A expenses which were at their highest and lowest levels, respectively. In that year, *** LRW operating income of the period (see table E-2). As the full-year period progressed, overall operating losses expanded as gross profit ratios contracted and SG&A expense ratios generally increased. With the exception of *** operating income in 2012, *** reported operating losses throughout the period of investigation.

Interest expense, other expenses, and net income or loss

The U.S. industry reported net losses of varying magnitudes throughout the period (see table III-11). While sharing the same directional trend, annual and interim-period net losses exceeded corresponding operating losses due to the inclusion of interest expense and other expenses.²⁹

Capital expenditures, research and development expenses, and investment in productive facilities

Table III-14 presents firm-specific capital expenditures and research and development (R&D) expenses, and total investment in productive facilities related to U.S. LRW operations.

²⁶ ***.

²⁷ ***. USITC auditor notes. ***. August 3, 2017 e-mail from counsel on behalf of Whirlpool to USITC auditor. ***. Petitioner's posthearing brief, Part III at p. III-8. ***. USITC auditor notes.

²⁸ ***. Verification report (GE Appliances), p 5.

²⁹ ***. Verification report (GE Appliances), pp. 4-5.

Table III-14
LRWs: Capital expenditures, research and development (R&D) expenses, and investment in productive assets, by firm, 2012-16, January-March 2016, January-March 2017

* * * * *

Capital expenditures

Primarily reflecting investment in new and/or updated LRW platforms, full-year capital expenditures increased irregularly from 2012-15, but declined in 2016.^{30 31} Interim 2017 capital expenditures were somewhat lower compared to interim 2016. While alternating in terms of which company’s capital expenditures predominated, *** contributed to the pattern of higher full-year capital expenditures through 2015. On an overall basis, *** accounted for a marginally lower share of the U.S. industry’s total capital expenditures (**% percent) compared to *** (**% percent). ***.

R&D expenses

The level of the U.S. industry’s full-year R&D expenses increased during 2012-15 and then declined in 2016. In general, this pattern is consistent with R&D expenses that are related to and/or support capital expenditure activity.³² Interim 2017 R&D expenses were somewhat higher compared to interim 2016. *** accounted for a somewhat higher share of total R&D expenses (**%) compared to ***. ***.

Investment in productive facilities

Total assets increased during most of the full-year period, reaching its highest level in 2015, and then declined somewhat in 2016. *** accounted for the largest share of total assets (ranging from **% percent in 2016 to **% percent in 2012), followed by *** (ranging from **% percent in 2012 to **% percent in 2016), and *** (ranging from **% percent (2014-15) to **% percent (2012-13, 2016)). While generally consistent with the directional pattern of capital expenditures, the value of total net assets reflects changes (positive and negative) in a number of underlying current and non-current asset balances.³³

³⁰ ***. GE Appliances U.S. producer questionnaire, response to III-13 (note 2).

³¹ ***. Whirlpool U.S. producer questionnaire, response to III-13 (note 1).

³² ***. GE Appliances U.S. producer questionnaire, response to III-10 and III-13. ***. Whirlpool U.S. producer questionnaire, response to III-13 (note 2).

³³ Changes in relevant non-current asset balances include depreciation of capitalized expenditures. Additionally and with respect to a company’s overall operations, staff notes that a total asset value (i.e., the bottom line value on the asset side of a company’s balance sheet) reflects an aggregation of a number of assets which, in some instances, are not product specific. With respect to U.S. producers that have multiple operations, allocation would generally be necessary in order to report a total asset amount specific to LRWs.

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. Table III-15 tabulates the responses on actual negative effects on investment, growth and development, as well as anticipated negative effects. Narrative responses regarding actual and anticipated negative effects on investment, growth and development are presented in Appendix E.

Table III-15

LRWs: Negative effects of imports on investment, growth, and development since January 1, 2012

* * * * *

PART IV: U.S. MARKET AND FOREIGN INDUSTRIES

This section of the report provides information from questionnaire responses and public sources on the U.S. market and foreign industries for LRWs.

APPARENT U.S. CONSUMPTION AND MARKET SHARES

Apparent U.S. consumption of LRWs¹ increased from 2012- 2016 by *** percent, by quantity, and *** percent, by value (table IV-1 and figure IV-1). In January-March 2017, apparent U.S. consumption was *** percent higher, by quantity, and *** percent higher, by value, compared to January-March 2016. By quantity, U.S. producers' U.S. shipments increased annually during 2012-16, experiencing an overall increase of *** percent during this period, and were *** percent higher in January-March 2017 compared to January-March 2016. By value, U.S. producers' U.S. shipments increased by *** percent from 2012 to 2016 and were *** percent higher in January-March 2017 compared to January-March 2016.

The total quantity and value of importers' U.S. shipments also increased annually, though the country sources of imports changed. In 2012, Korea was the single largest source of U.S. imports of LRWs, followed by China and then Mexico.² China then became the single largest foreign source of LRWs in the United States during 2013-16. In 2015, at its zenith – and when imports had their largest share of the U.S. market - U.S. shipments of imports from China accounted for *** percent of apparent U.S. consumption (table IV-2). But in January-March 2017, China was the fourth largest supplier of U.S. imports of LRWs,³ accounting for *** percent of apparent U.S. consumption. Vietnam (*** percent), which did not supply LRWs to the United States during 2012-15, was the largest source of imported LRWs in January-March 2017, followed by Thailand (*** percent) and Korea (*** percent).

Table IV-1

LRWs: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, 2012-16, January-March 2016, and January-March 2017

* * * * *

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

² In February 2013, Commerce issued countervailing duty orders on imports of LRWs from Korea and antidumping duty orders on imports of LRWs from Korea and Mexico. *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. As noted in table III-2, ***.

³ In February 2017, Commerce issued antidumping duty orders on LRWs from China. *Large Residential Washers From the People’s Republic of China: Amended Final Affirmative Antidumping Duty Determination and Antidumping Duty Order*, 82 FR 9371, February 6, 2017.

Figure IV-1

LRWs: Apparent U.S. consumption, 2012-16, January-March 2016, and January-March 2017

* * * * *

Table IV-2

LRWs: U.S. market shares, 2012-16, January-March 2016, and January-March 2017

* * * * *

THE LRW INDUSTRIES IN NORTH AMERICA

The industry in Canada

The Commission did not receive any questionnaire responses from producers'/exporters' of LRWs in Canada. There is no known production of LRWs in Canada.

The industry in Mexico

The Commission issued foreign producers'/exporters' questionnaires to four firms believed to produce and/or export LRWs from Mexico.⁴ Usable responses to the Commission's questionnaire were received from three firms: Electrolux Home Products de Mexico, SA de CV ("Electrolux Mexico"),⁵ Samsung Electronics Digital Appliances Mexico S.A. DE D.V. ("Samsung Mexico"),⁶ and Whirlpool International S. de R.L. de C.V. ("Whirlpool Mexico").⁷ These firms' exports to the United States accounted for *** U.S. imports of LRWs from Mexico in 2016, but ***. None of these firms provided data on each firms' share of total production of LRWs in Mexico. Table IV-3 presents information on the LRWs operations of the responding producers and exporters in Mexico.

Table IV-3

LRWs: Summary data for producers in Mexico, 2016

* * * * *

Changes in operations

*** reported changes in its operations since January 1, 2012. In 2014, ***.⁸ *** reported that, at the beginning of the period of investigation, ***.⁹ *** reported that its anticipated changes in operations include ***. ***.

⁴ These firms were identified through a review of information contained in *** records. ***. ***.

⁵ Electrolux Mexico reported that *** percent of its total sales in its most recent year was represented by sales of LRWs. Questionnaire response of ***, II-9.

⁶ Samsung Mexico reported that *** percent of its total sales in its most recent year was represented by sales of LRWs. Questionnaire response of ***, II-9.

⁷ Whirlpool Mexico reported that *** percent of its total sales in its most recent year was represented by sales of LRWs. Questionnaire response of ***, II-9.

⁸ Ibid.

Electrolux moved its LRW manufacturing from the United States to Mexico in 2011 and 2012, but retained some research and development jobs in the United States.¹⁰

Operations on LRWs

LRW capacity in Mexico increased by *** percent from 2012 to 2016. Capacity in Mexico was roughly the same with only a difference of *** in January-March 2017 compared to January-March 2016, and is projected to increase by *** percent from 2017 to 2018 (table IV-4). Production in Mexico increased *** percent from 2012 to 2016. Production in Mexico was *** percent lower in January-March 2017 compared to January-March 2016, and is projected to increase by *** percent from 2017 to 2018. Capacity utilization increased *** percentage points from 2012 to 2016. Capacity utilization decreased from *** percent in January-March 2016 to *** percent in January-March 2017. Capacity utilization is projected to increase from *** percent in 2017 to *** percent in 2018.

Reported exports of LRWs from Mexico to the United States decreased in each year during the 2012-16, from *** units in 2012 to *** units in 2016. In 2016, reported LRW exports from Mexico to markets other than the United States accounted for *** percent of total shipments.

Table IV-4
LRWs: Data for producers in Mexico, 2012-16, January to March 2016, and January to March 2017 and projections for calendar years 2017 and 2018

* * * * *

Alternative products

***. In 2016, products other than LRWs accounted for *** percent of overall capacity and production on the same equipment and machinery used to produce LRWs (table IV-5).
 ***.¹¹ ***.¹²

Table IV-5
LRWs: Mexico producers' overall capacity and production on the same equipment as LRWs production, 2012-16, January to March 2016, and January to March 2017

* * * * *

(...continued)

⁹ Questionnaire response of ***, II-2.

¹⁰ *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.

¹¹ Questionnaire response of ***, II-8i.

¹² Questionnaire response of ***, II-8i and II-8ii.

Exports

Mexican exports of washers are primarily concentrated in the United States and Latin America. According to Global Trade Atlas (“GTA”), the leading export markets for washers from Mexico are the U.S., Colombia, and Chile (table IV-6).¹³ In 2016, the United States was the top export market for washers from Mexico, accounting for 43.3 percent of total washers’ exports (including out-of-scope washers), followed by Colombia, accounting for 14.4 percent.

Table IV-6
Washers: Exports from Mexico, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Quantity (units)				
Mexico exports to the United States	640,895	528,134	523,937	468,311	488,753
Mexico exports to other major destination markets.--					
Colombia	208,975	206,576	286,372	249,532	162,951
Chile	73,544	81,045	122,438	119,341	110,709
Peru	41,913	91,529	160,477	116,628	107,630
Canada	16,785	5,474	51,100	50,794	61,556
Ecuador	36,396	34,330	51,897	33,004	27,204
Guatemala	15,889	16,780	23,638	33,530	24,758
Costa Rica	15,791	21,930	16,615	27,168	22,652
Jamaica	6,329	9,698	9,159	19,682	17,455
All other destination markets	118,991	112,531	102,807	117,782	104,857
Total Mexico exports	1,175,508	1,108,027	1,348,440	1,235,772	1,128,525
	Value (1,000 dollars)				
Mexico exports to the United States	327,919	264,446	259,590	247,631	240,877
Mexico exports to other major destination markets.--					
Colombia	55,408	55,128	75,931	60,279	35,139
Chile	19,745	21,625	30,651	26,915	22,215
Peru	11,189	26,390	40,885	26,571	21,390
Canada	6,113	2,831	22,749	24,723	20,994
Ecuador	9,398	9,829	13,531	8,244	5,657
Guatemala	4,115	4,258	5,908	7,567	5,292
Costa Rica	4,429	6,150	4,624	6,696	5,240
Jamaica	1,428	2,311	2,130	4,650	4,090
All other destination markets	35,789	56,477	29,006	37,672	47,147
Total Mexico exports	475,534	449,446	485,006	450,949	408,041

Table continued on next page.

¹³ HS 8450.20 covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Table IV-6--Continued
Washers: Exports from Mexico, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Unit value (dollars per unit)				
Mexico exports to the United States	512	501	495	529	493
Mexico exports to other major destination markets.--					
Colombia	265	267	265	242	216
Chile	268	267	250	226	201
Peru	267	288	255	228	199
Canada	364	517	445	487	341
Ecuador	258	286	261	250	208
Guatemala	259	254	250	226	214
Costa Rica	281	280	278	246	231
Jamaica	226	238	233	236	234
All other destination markets	301	502	282	320	450
Total Mexico exports	405	406	360	365	362
	Share of quantity (percent)				
Mexico exports to the United States	54.5	47.7	38.9	37.9	43.3
Mexico exports to other major destination markets.--					
Colombia	17.8	18.6	21.2	20.2	14.4
Chile	6.3	7.3	9.1	9.7	9.8
Peru	3.6	8.3	11.9	9.4	9.5
Canada	1.4	0.5	3.8	4.1	5.5
Ecuador	3.1	3.1	3.8	2.7	2.4
Guatemala	1.4	1.5	1.8	2.7	2.2
Costa Rica	1.3	2.0	1.2	2.2	2.0
Jamaica	0.5	0.9	0.7	1.6	1.5
All other destination markets	10.1	10.2	7.6	9.5	9.3
Total Mexico exports	100.0	100.0	100.0	100.0	100.0

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

Source: Official exports statistics under HS subheading 8450.20 as reported by INEGI in the IHS/GTA database, accessed August 1, 2017.

THE LRW INDUSTRIES IN ASIA

The Commission received foreign producers'/exporters' responses from LRW producers in China, Korea, Thailand, and Vietnam. There is no known production of LRWs in Asia outside of these countries.

The industry in China

The Commission issued foreign producers' or exporters' questionnaires to five firms believed to produce and/or export LRWs from China.¹⁴ Usable responses to the Commission's questionnaire were received from four firms: Nanjing LG PANDA Appliances Col., Ltd. ("LG China"),¹⁵ Whirlpool (China) Co., Ltd., ("Whirlpool China"),¹⁶ Suzhou Samsung Electronics Co., Ltd., ("Samsung China"),¹⁷ and Suzhou Samsung Electronics Co., Ltd.-Export ("Samsung-Export China").¹⁸ Samsung China and Samsung-Export China, though sharing the same parent company, are two separate firms. Based on the responses provided, these four firms' exports to the United States accounted for approximately *** percent of U.S. imports of LRWs from China in 2016.

Table IV-7 presents summary information on the LRWs operations of the responding producers and exporters in China.

Table IV-7
LRWs: Summary data for producers in China, 2016

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 China	***	***	***	***	***	***
Samsung China	***	***	***	***	***	***
Samsung Export China	***	***	***	***	***	***
Whirlpool China	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

¹⁴ These firms were identified through a review of information submitted in the petition and contained in *** records.

¹⁵ LG China reported that *** percent of its total sales in the most recent year was represented by sales of large residential washers. Questionnaire response of ***, II-9.

¹⁶ Whirlpool (China) Co., Ltd. reported that *** percent of its sales in the most recent year was represented by sales of large residential washers. Questionnaire response of ***, II-9.

¹⁷ Samsung China reported that *** percent of its sales in the most recent year was represented by sales of large residential washers. Questionnaire response of ***, II-9.

¹⁸ Samsung-Export China reported that *** percent of its total sales in the most recent year was represented by large residential washers. Questionnaire response of ***, II-9.

Changes in operations

Chinese LRWs producers reported several operational and organizational changes since January 1, 2012. *** reported establishment of plants producing LRWs: ***¹⁹ and ***.²⁰ ***²¹ ***.²² ***.²³

Operations on LRWs

Table IV-8 presents information on the LRWs operations of the four responding producers and exporters in China. Capacity in China increased by *** percent from 2012 to 2015, to a period high of *** units but decreased by *** percent (***) from, 2015 to 2016. Capacity in China was *** percent lower in January-March 2017 compared to January-March 2016 (***) units). Capacity is projected to be *** units in 2017 and 2018. Production in China more than quintupled from 2012 to 2015 to a period high of *** units, but decreased by *** percent from 2015 to 2016, for an overall increase of *** percent from 2012 to 2016. Production in China was *** percent lower in January-March 2017 (***) units) compared to January-March 2016 (***) units). Production is projected to increase by *** percent from 2017 to 2018. Capacity utilization increased by *** percentage points from 2012 to 2016, from *** percent to *** percent, but was *** percent in January-March 2017, down from *** percent in January-March 2016. Capacity utilization is expected to increase by *** percentage points from 2017 to 2018.

Table IV-8

LRWs: Data for producers in China, 2012-16, January to March 2016, and January to March 2017 and projections for calendar years 2017 and 2018

* * * * *

Exports of LRWs from China to the United States increased by *** percent from 2012 to 2015, and then decreased by *** percent from 2015 to 2016. In 2015, *** percent of total shipments of LRWs from China were exported to the United States, and *** percent were exported to other markets. Chinese firms reported exporting *** LRWs to the United States in January-March 2016, but exported *** units in January-March 2017.

¹⁹ Questionnaire response of ***, II-2.

²⁰ Questionnaire response of ***, II-2.

²¹ Questionnaire response of ***, II-2. ***, August 14, 2017.

²² Questionnaire response of ***, II-2.

²³ Ibid.

Alternative products

Responding China firms produced other products on the same equipment and machinery used to produce LRWs (table IV-9). In 2016, products other than LRWs accounted for *** percent of overall capacity and production using the same equipment and machinery used to producer LRWs. *** reported that it is able to produce top load (21- and 23-inch) and front load (24-inch) residential washers using the same equipment and labor as LRWs.²⁴ *** reported that ***.”²⁵ *** reported that it “***.”²⁶

Table IV-9

LRWs: China producers' overall capacity and production on the same equipment as LRWs production, 2012-16, January to March 2016, and January to March 2017

* * * * *

Exports

According to GTA, the leading export markets for washers from China are the U.S., Canada, and Mexico (table IV-10). In 2016, the United States was the top export market for washers from China, accounting for 35.1 percent of total exports, followed by Canada, accounting for 8.3 percent.²⁷

²⁴ Questionnaire response of ***, II-8i.

²⁵ Questionnaire response of ***, II-8i, Questionnaire response of ***, II-8i.

²⁶ Questionnaire response of ***, II-8i.

²⁷ HS 8450.20 covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Table IV-10
Washers: Exports from China, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Quantity (units)				
China exports to the United States	411,633	1,350,776	1,701,813	2,022,909	1,337,921
China exports to other major destination markets.--					
Canada	14,306	159,986	271,544	269,830	316,761
Mexico	124,374	162,823	134,144	233,345	306,334
Korea	4,327	46,309	53,252	70,265	190,535
Iraq	12,417	6,814	14,313	15,824	177,213
Brazil	51	32	11,436	118,655	151,360
Egypt	67,120	37,372	11,917	22,913	134,512
Algeria	10,026	12,387	28,777	55,462	99,021
Costa Rica	37,490	72,144	36,154	73,186	98,949
All other destination markets	420,969	424,713	461,691	709,697	997,703
Total China exports	1,102,713	2,273,356	2,725,041	3,592,086	3,810,309
	Value (1,000 dollars)				
China exports to the United States	154,705	485,908	639,204	711,283	424,599
China exports to other major destination markets.--					
Canada	5,776	61,854	107,047	98,248	93,847
Mexico	13,693	18,714	18,677	28,080	34,147
Korea	2,240	26,171	26,249	33,545	60,672
Iraq	1,177	611	1,664	1,558	12,420
Brazil	530	179	3,201	30,923	37,688
Egypt	9,652	4,406	1,740	3,574	18,481
Algeria	817	1,193	2,080	4,204	8,069
Costa Rica	3,726	6,772	3,579	7,044	8,998
All other destination markets	66,051	75,574	97,939	153,980	207,677
Total China exports	258,367	681,382	901,381	1,072,438	906,598

Table continued on next page.

Table IV-10—Continued
Washers: Exports from China, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Unit value (dollars per unit)				
China exports to the United States	376	360	376	352	317
China exports to other major destination markets.--					
Canada	404	387	394	364	296
Mexico	110	115	139	120	111
Korea	518	565	493	477	318
Iraq	95	90	116	98	70
Brazil	10,383	5,606	280	261	249
Egypt	144	118	146	156	137
Algeria	82	96	72	76	81
Costa Rica	99	94	99	96	91
All other destination markets	157	178	212	217	208
Total China exports	234	300	331	299	238
	Share of quantity (percent)				
China exports to the United States	37.3	59.4	62.5	56.3	35.1
China exports to other major destination markets.--					
Canada	1.3	7.0	10.0	7.5	8.3
Mexico	11.3	7.2	4.9	6.5	8.0
Korea	0.4	2.0	2.0	2.0	5.0
Iraq	1.1	0.3	0.5	0.4	4.7
Brazil	0.0	0.0	0.4	3.3	4.0
Egypt	6.1	1.6	0.4	0.6	3.5
Algeria	0.9	0.5	1.1	1.5	2.6
Costa Rica	3.4	3.2	1.3	2.0	2.6
All other destination markets	38.2	18.7	16.9	19.8	26.2
Total China exports	100.0	100.0	100.0	100.0	100.0

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

Source: Official exports statistics under HS subheading 8450.20 as reported by China Customs in the IHS/GTA database, accessed August 1, 2017.

The industry in Korea

The Commission issued foreign producers' or exporters' questionnaires to three firms believed to produce and/or export LRWs from Korea.²⁸ Usable responses to the Commission's questionnaire were received from two firms: Samsung Electronics Co., Ltd. ("Samsung Korea")²⁹ and LG Electronics Inc., Changwon Korea ("LG Korea").³⁰ A comparison of reported Korean exports to the United States to U.S. imports from Korea shows that the responding Korean producers accounted for *** U.S. imports of LRWs from Korea.

Table IV-11 presents information on the LRWs operations of the responding producers and exporters in Korea.

Table IV-11
LRWs: Summary data for producers in Korea, 2016

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 Korea	***	***	***	***	***	***
Samsung Korea	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Changes in operations

One Korean producer reported ***.***,³¹ ***.³² ***.

***. Based on these improvements and past performance, *** projects its 2017 LRW production to be *** units,³³ ***.³⁴ ***.

²⁸ These firms were identified through a review of information contained in *** records. Daewoo Electronics Corp. did not provide a questionnaire response. In 2012, Daewoo Electronics Corp. was an exporter to the United States of LRWs. In February 2013, the Dongbu Group acquired Daewoo. Dongbu Daewoo Electronics reportedly has been increasing production and exports of washers, particularly to China and other third markets. 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).

²⁹ Samsung Korea reported that *** percent of its total sales in its most recent year was represented by sales of LRWs. Questionnaire response of ***, II-9.

³⁰ LG Korea reported that *** percent of its total sales in its most recent year was represented by sales of LRWs. Questionnaire response of ***, II-9.

³¹ Questionnaire response of ***, II-2.

³² Ibid.

Operations on LRWs

Capacity for LRWs in Korea decreased by *** percent from 2012 to 2016 (table IV-12). Capacity in Korea was *** percent lower in January-March 2017 compared to January-March 2016, and is projected to remain at the same level in 2018 as 2017. Production in Korea decreased by *** percent from 2012 to 2016. Production in Korea was *** percent lower in January-March 2017 compared to January-March 2016, and is projected to increase *** percent from 2017 to 2018. Capacity utilization increased by *** percentage points from 2012 to 2013, then decreased by *** percentage points from 2013 to 2014. From 2014 to 2015 capacity utilization decreased *** percentage points, then increased by *** percentage points from 2015 to 2016. Capacity utilization was *** percent from January-March 2017, and is projected to increase *** percentage points from 2017 to 2018.

In 2016, *** percent of total shipments of LRWs from Korea were exported to the United States, and *** percent were exported to other markets. Exports of LRWs from Korea to the United States decreased by *** percent from 2012 to 2016. Exports of LRWs from Korea to the United States increased by *** percent in January-March 2017 compared to January-March 2016.

Table IV-12

LRWs: Data for producers in Korea, 2012-16, January to March 2016, and January to March 2017 and projections for calendar years 2017 and 2018

* * * * *

Alternative products

Responding Korean firms produced other products on the same equipment and machinery used to produce LRWs. In 2016, out-of-scope production accounted for *** percent of overall capacity and production on the same equipment as LRWs production in Korea (table IV-13). *** reported that it is able to switch production between LRWs to ***.³⁵ *** reported that “***.”³⁶

Table IV-13

LRWs: Korea producers' overall capacity and production on the same equipment as LRWs production, 2012-16, January to March 2016, and January to March 2017

* * * * *

(...continued)

³³ Questionnaire response of ***, II-3.

³⁴ Ibid.

³⁵ Questionnaire response of ***, II-8i.

³⁶ Questionnaire response of ***, II-8i.

Exports

According to GTA, the leading export markets for washers from Korea are the U.S., Taiwan, and Saudi Arabia (table IV-14). In 2016, the U.S. was the top export market for washers from Korea, accounting for 26.2 percent, down from 40.8 percent in 2012, followed by Taiwan, accounting for 9.5 percent.³⁷

Table IV-14
Washers: Exports from Korea, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Quantity (units)				
Korea exports to the United States	1,126,896	556,072	286,803	134,738	234,458
Korea exports to other major destination markets.--					
Taiwan	78,521	85,975	83,996	74,269	84,643
Saudi Arabia	57,441	70,523	58,662	86,213	55,966
Mexico	96,214	107,618	67,915	51,267	52,357
China	21,670	34,259	46,379	44,365	37,017
Australia	90,303	93,639	96,369	67,668	34,638
Colombia	70,207	95,212	59,482	37,671	33,807
France	41,874	49,694	49,799	35,844	29,489
Peru	46,750	37,120	37,084	23,227	23,262
All other destination markets	1,135,455	714,376	655,233	390,302	309,172
Total Korea exports	2,765,331	1,844,488	1,441,722	945,564	894,809
	Value (1,000 dollars)				
Korea exports to the United States	511,839	278,880	142,153	83,785	130,154
Korea exports to other major destination markets.--					
Taiwan	27,480	31,369	32,555	26,644	30,932
Saudi Arabia	26,065	34,192	28,566	41,831	28,712
Mexico	28,425	39,529	32,608	26,083	23,708
China	10,530	19,452	27,535	25,337	20,863
Australia	41,125	38,357	39,226	25,764	14,648
Colombia	29,463	33,412	25,350	16,639	15,723
France	15,292	18,384	19,726	13,223	11,291
Peru	17,584	13,987	14,655	9,894	9,784
All other destination markets	431,782	288,240	262,347	174,874	147,084
Total Korea exports	1,139,585	795,802	624,720	444,074	432,901

Table continued on next page.

³⁷ HS 8450.20 covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Table IV-14--Continued
Washers: Exports from Korea, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Unit value (dollars per unit)				
Korea exports to the United States	454	502	496	622	555
Korea exports to other major destination markets.--					
Taiwan	350	365	388	359	365
Saudi Arabia	454	485	487	485	513
Mexico	295	367	480	509	453
China	486	568	594	571	564
Australia	455	410	407	381	423
Colombia	420	351	426	442	465
France	365	370	396	369	383
Peru	376	377	395	426	421
All other destination markets	380	403	400	448	476
Total Korea exports	412	431	433	470	484
	Share of quantity (percent)				
Korea exports to the United States	40.8	30.1	19.9	14.2	26.2
Korea exports to other major destination markets.--					
Taiwan	2.8	4.7	5.8	7.9	9.5
Saudi Arabia	2.1	3.8	4.1	9.1	6.3
Mexico	3.5	5.8	4.7	5.4	5.9
China	0.8	1.9	3.2	4.7	4.1
Australia	3.3	5.1	6.7	7.2	3.9
Colombia	2.5	5.2	4.1	4.0	3.8
France	1.5	2.7	3.5	3.8	3.3
Peru	1.7	2.0	2.6	2.5	2.6
All other destination markets	41.1	38.7	45.4	41.3	34.6
Total Korea exports	100.0	100.0	100.0	100.0	100.0

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

Source: Official exports statistics under HS subheading 8450.20 as reported by Korea Customs and Trade Development Institution in the IHS/GTA database, accessed August 1, 2017.

The industry in Thailand

The Commission issued foreign producers' or exporters' questionnaires to three firms believed to produce and/or export LRWs from Thailand.³⁸ Usable responses to the Commission's questionnaire were received from three firms: Electrolux Thailand Co, Ltd ("Electrolux Thailand"),³⁹ Thai Samsung Electronics Co., Ltd. ("Samsung Thailand"),⁴⁰ and LG Electronics Thailand Co., Ltd. ("LG Thailand").⁴¹ These firms' exports to the United States accounted for *** U.S. imports of LRWs from Thailand in 2016.

Table IV-15 presents information on the LRWs operations of the responding producers and exporters in Thailand.

Table IV-15
LRWs: Summary data for producers in Thailand, 2016

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)
Electrolux Thailand	***	***	***	***	***	***
LG Thailand	***	***	***	***	***	***
Samsung Thailand	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Changes in operations

***.⁴² ***. ***. ***.

Operations on LRWs

Responding Thai producers' capacity to produce LRWs increased by *** percent from 2012 to 2015, and then increased by *** percent from 2015 to 2016 (table IV-16). Capacity in Thailand was *** percent higher in January-March 2017 compared to January-March 2016. Capacity is projected to decrease by *** percent from 2017 to 2018. Production in Thailand increased by *** percent from 2012 to 2015, and then increased by *** percent from 2015 to 2016. Production in Thailand was *** percent higher in January-March 2017 compared to

³⁸ These firms were identified through a review of information contained in *** records.

³⁹ Electrolux Thailand reported that *** percent of the firm's total sales in its most recent fiscal year was represented by sales of LRWs. Questionnaire response of ***, II-9.

⁴⁰ Samsung Thailand reported that *** percent of the firm's total sales in its most recent fiscal year was represented by sales of LRWs. Questionnaire response of ***, II-9.

⁴¹ LG Thailand did not provide data for its sales of LRWs as a share of total sales in its most recent fiscal year.

⁴² Questionnaire response of ***, II-2.

January-March 2016. Production is projected to decrease by *** percent from 2017 to 2018. Capacity utilization in Thailand increased by *** percent from 2012 to 2014, declined *** percentage points in 2015, and increased *** percentage points in 2016. Capacity utilization was *** percentage points higher in January-March 2017 compared to January-March 2016. Capacity utilization is projected to decrease by *** percentage points from 2017 to 2018.

There were no exports of LRWs from Thailand to the United States in 2012, and low levels between 2013 and 2015 (by ***), but from 2015 to 2016 exports increased by *** units. In 2016, *** percent of total shipments of LRWs from Thailand were exported to the United States, and *** percent were exported to other markets. Exports of LRWs from Thailand to the United States increased to *** units in January-March 2017 compared to *** units in January-March 2016.

Table IV-16

LRWs: Data for producers in Thailand, 2012-16, January to March 2016, and January to March 2017 and projections for calendar years 2017 and 2018

* * * * *

Alternative products

Responding Thai firms produced other products on the same equipment and machinery used to produce LRWs. In 2016, products other than LRWs accounted for *** percent of production on the same equipment as LRWs production in Thailand (table IV-17). ***.⁴³ ***.⁴⁴

Table IV-17

LRWs: Thailand producers' overall capacity and production on the same equipment as LRWs production, 2012-16, January to March 2016, and January to March 2017

* * * * *

Exports

According to GTA, the leading export markets for washers, by value, from Thailand are Vietnam, United Arab Emirates, and South Korea (table IV-18). In 2016, Vietnam was the top export market for washers from Thailand, accounting for 14.8 percent, followed by United Arab Emirates, accounting for 13.1 percent.⁴⁵ In 2016, the value of exports from Thailand to the U.S. was significantly less than the value of exports from Thailand to its top destination.

⁴³ Questionnaire response of ***, II-8i.

⁴⁴ Questionnaire response of ***, II-8i.

⁴⁵ HS 8450.20 covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Table IV-18
Washers: Exports from Thailand, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Value (1,000 dollars)				
Thailand exports to the United States	6,622	6,284	8,216	9,194	9,998
Thailand exports to other major destination markets.--					
Vietnam	4,352	12,955	23,350	35,694	45,889
United Arab Emirates	16,135	20,372	25,386	42,309	40,582
Korea	237	358	9,101	22,127	26,551
Mexico	9,131	12,632	12,590	13,077	17,847
Colombia	11,408	9,614	10,242	9,906	12,882
Peru	10,966	12,155	12,585	10,361	12,621
Iraq	649	661	985	12,564	11,821
Indonesia	13,930	18,275	15,706	10,844	11,027
All other destination markets	115,297	143,127	161,842	136,384	119,917
Total Thailand exports	188,727	236,433	280,003	302,460	309,135
	Share of value (percent)				
Thailand exports to the United States	3.5	2.7	2.9	3.0	3.2
Thailand exports to other major destination markets.--					
Vietnam	2.3	5.5	8.3	11.8	14.8
United Arab Emirates	8.5	8.6	9.1	14.0	13.1
Korea	0.1	0.2	3.3	7.3	8.6
Mexico	4.8	5.3	4.5	4.3	5.8
Colombia	6.0	4.1	3.7	3.3	4.2
Peru	5.8	5.1	4.5	3.4	4.1
Iraq	0.3	0.3	0.4	4.2	3.8
Indonesia	7.4	7.7	5.6	3.6	3.6
All other destination markets	61.1	60.5	57.8	45.1	38.8
Total Thailand exports	100.0	100.0	100.0	100.0	100.0

Note.— Quantity data were not reported on a consistent basis, accordingly only value data are presented.

Source: Official exports statistics under HS subheading 8450.20 as reported by Thai Customs Department in the IHS/GTA database, accessed August 1, 2017.

The industry in Vietnam

The Commission issued foreign producers' or exporters' questionnaires to two firms believed to produce and/or export LRWs from Vietnam.⁴⁶ Usable responses to the Commission's questionnaire were received from two firms: LG Electronics Vietnam Haiphong Co., Ltd. ("LG Vietnam")⁴⁷ and Samsung Electronics HCMC CE Complex Co., Ltd. ("Samsung Vietnam").⁴⁸ These firms' exports to the United States accounted for approximately *** U.S. imports of LRWs from Vietnam in 2016, the first period in which there were U.S. imports of LRWs from Vietnam.

Table IV-19 presents information on the LRW operations of the responding producers and exporters in Vietnam.

Table IV-19
LRWs: Summary data for producers in Vietnam, 2016

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 Vietnam	***	***	***	***	***	***
Samsung Vietnam	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Changes in operations

Both responding firms reported factory expansions since January 1, 2012. Samsung Vietnam reported that in ***.⁴⁹ LG Vietnam reported that in ***.⁵⁰ ***.⁵¹

Operations on LRWs

The LRW operations of the two responding producers and exporters in Vietnam are described in table IV-20. There was *** reported LRW capacity in Vietnam from 2012 to 2015 but, after both Samsung Vietnam and LG Vietnam began producing LRWs in 2016, Vietnamese

⁴⁶ These firms were identified through a review of information submitted in the petition and contained in *** records.

⁴⁷ LG Vietnam reported that *** percent of its total sales in the most recent fiscal year was represented by sales of LRWs. Questionnaire response of ***, II-9.

⁴⁸ Samsung Vietnam reported that *** percent of its total sales in the most recent fiscal year was represented by sales of LRWs. Questionnaire response of ***, II-9.

⁴⁹ Questionnaire response of ***, II-2.

⁵⁰ Questionnaire response of ***, II-2.

⁵¹ Ibid.

producers had the capacity to produce *** units. Capacity in Vietnam was *** percent higher in January-March 2017 compared to January-March 2016. Capacity is projected to decrease by *** percent from 2017 to 2018. Production increased from *** units during 2012-15 to *** units in 2016. Production is projected to decrease by *** percent from 2017 to 2018. Capacity utilization in Vietnam was *** percent in 2016. Capacity utilization was *** percent in January-March 2017, and is projected to decrease from *** percent in 2017 to *** percent in 2018.

In 2016, the first year of reported production of LRWs in Vietnam, *** percent of total shipments of LRWs from Vietnam were exports to the United States. Exports of LRWs from Vietnam to the United States were *** units in January-March 2017, compared to *** units in January-March 2016. Exports of LRWs from Vietnam to the United States are projected to be *** units in 2017 and *** units in 2018.

Table IV-20

LRWs: Data for producers in Vietnam, 2012-16, January to March 2016, and January to March 2017 and projections for calendar years 2017 and 2018

* * * * *

Alternative products

Responding Vietnamese firms produced other products on the same equipment and machinery used to produce LRWs. In 2016, products other than LRWs accounted for *** percent of production on the same equipment as LRWs production in Vietnam (table IV-21). ***.⁵² *** reported that “***.”⁵³

Table IV-21

LRWs: Vietnam producers' overall capacity and production on the same equipment as subject production, 2012-16, January to March 2016, and January to March 2017

* * * * *

Exports

According to GTA, in 2016, when production of LRWs in Vietnam commenced, almost all exports of washers from Vietnam were to the United States (table IV-22).⁵⁴

⁵² Questionnaire response of ***, II-8i.

⁵³ Questionnaire response of ***, II-8i.

⁵⁴ HS 8450.20 covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Table IV-22
Washers: Exports from Vietnam, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Value (1,000 dollars)				
Vietnam exports to the United States	0	0	0	0	165,870
Vietnam exports to other major destination markets.--					
Korea	1	1	4	0	176
Cambodia	0	0	7	0	81
Panama	0	66	82	41	38
Thailand	0	2	1	0	10
Bolivia	0	0	2	0	5
Maldives	0	0	0	0	4
Indonesia	0	0	0	1	2
Seychelles	0	0	0	0	2
All other destination markets	120	703	1,344	370	6
Total Vietnam exports	121	772	1,439	413	166,195
	Share of value (percent)				
Vietnam exports to the United States	***	***	***	***	***
Vietnam exports to other major destination markets.--					
Korea	***	***	***	***	***
Cambodia	***	***	***	***	***
Panama	***	***	***	***	***
Thailand	***	***	***	***	***
Bolivia	***	***	***	***	***
Maldives	***	***	***	***	***
Indonesia	***	***	***	***	***
Seychelles	***	***	***	***	***
All other destination markets	***	***	***	***	***
Total Vietnam exports	***	***	***	***	***

Note.— Quantity data were not reported on a consistent basis, accordingly only value data are presented.

Source: Official exports statistics under HS subheading 8450.20 as reported by GTIS/GTA in the IHS/GTA database, accessed August 1, 2017.

THE LRW INDUSTRIES IN OTHER COUNTRIES WITH FREE TRADE AGREEMENTS WITH THE UNITED STATES

Although the foreign producer questionnaire was available on the Commission's website for download and completion by firms, the Commission did not receive any responses to its questionnaire in this proceeding from firms in Australia, CAFTA-DR countries, Canada, Israel, Jordan, Panama, Peru, or Singapore. Furthermore, there is no known production of LRWs in any of these countries. The Commission did, however, receive a foreign producers'/exporters' questionnaire response from a firm in Colombia.

The industry in Colombia

The Commission received foreign producers'/exporters' questionnaire from one LRW producer in Colombia, Haceb Whirlpool Industrial SAS ("Whirlpool Colombia").⁵⁵ Whirlpool Colombia reported that it ***. According to estimates requested of the responding Colombian producer, Haceb, accounted for an estimated *** percent of total production of LRWs in Colombia.⁵⁶ ***.⁵⁷

Table IV-23 presents information on the LRW operations of the responding producers and exporters in Vietnam.

Table IV-23
LRWs: Summary data for the producers in Colombia, 2016

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)
Whirlpool Colombia	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Operations on LRWs

Whirlpool Colombia *** (table VI-24). Capacity in Colombia was *** from 2012 to 2014, but grew to *** units from 2014 to 2015 corresponding to the establishment of the new plant in July 2015. Capacity then *** from 2015 to 2016. Capacity in Colombia *** in January-March 2017 compared to January-March 2016. Capacity is projected to *** from 2017 to 2018. Production began in 2015 and increased by *** percent from 2015 to 2016. Production was *** percent lower in January-March 2017 compared to January-March 2016, but is projected to increase *** percent from 2017 to 2018. Capacity utilization was *** percent in 2015 and increased to *** percent in 2016. Capacity utilization decreased by *** percentage points in January-March 2017 compared to January-March 2016, but is projected to increase *** percentage points from 2017 to 2018.

There were *** reported exports of LRWs to the United States, but exports to other markets accounted for *** percent of total shipments in 2016.⁵⁸ ***

⁵⁵ Haceb reported that *** percent of the firm's total sales in its most recent year was represented by sales of large residential washers. Questionnaire response of Haceb, II-9.

⁵⁶ Questionnaire response of Haceb, II-10.

⁵⁷ Questionnaire response of Haceb, II-2.

⁵⁸ Reported principal export markets are: ***.

projects that it *** LRWs to the United States in 2017 or in 2018 but *** to other markets during those years.

Table VI-24

LRWs: Data for producers in Colombia, 2012-16, January to March 2016, and January to March 2017 and projections for calendar years 2017 and 2018

* * * * *

Exports

According to GTA, the leading export markets for washers from Colombia are Argentina, Ecuador, and Guatemala (table IV-25); there were no exports to the United States. In 2016, Argentina was the top export market for washers from Colombia, accounting for 23.0 percent, followed by Ecuador, accounting for 18.0 percent.⁵⁹

⁵⁹ HS 8450.20 covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Table IV-25
Washers: Exports from Colombia, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Quantity (units)				
Colombia exports to the United States	---	1	---	---	---
Colombia exports to other major destination markets.--					
Argentina	---	---	1	4	10,812
Ecuador	9	103	145	4,536	8,466
Guatemala	---	---	---	3,045	6,364
Panama	4	20	---	1,122	3,974
Venezuela	---	---	---	---	3,060
Peru	---	---	---	1,842	2,958
Chile	---	---	---	---	2,857
El Salvador	---	---	---	510	1,606
All other destination markets	3	13	5	2,900	6,889
Total Colombia exports	16	137	151	13,959	46,986
	Value (1,000 dollars)				
Colombia exports to the United States	---	0	---	---	---
Colombia exports to other major destination markets.--					
Argentina	---	---	0	1	2,422
Ecuador	3	58	92	1,281	1,883
Guatemala	---	---	---	743	1,427
Panama	127	545	---	273	862
Venezuela	---	---	---	---	1,268
Peru	---	---	---	465	664
Chile	---	---	---	---	678
El Salvador	---	---	---	126	362
All other destination markets	1	6	2	711	1,561
Total Colombia exports	131	609	94	3,600	11,128

Table continued on next page.

Table IV-25--Continued
Washers: Exports from Colombia, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Unit value (dollars per unit)				
Colombia exports to the United States	---	349	---	---	---
Colombia exports to other major destination markets.--					
Argentina	---	---	276	251	224
Ecuador	310	561	631	282	222
Guatemala	---	---	---	244	224
Panama	31,713	27,236	---	243	217
Venezuela	---	---	---	---	414
Peru	---	---	---	253	225
Chile	---	---	---	---	237
El Salvador	---	---	---	247	225
All other destination markets	352	457	371	245	227
Total Colombia exports	8,169	4,444	620	258	237
	Share of quantity (percent)				
Colombia exports to the United States	---	0.7	---	---	---
Colombia exports to other major destination markets.--					
Argentina	---	---	0.7	0.0	23.0
Ecuador	56.3	75.2	96.0	32.5	18.0
Guatemala	---	---	---	21.8	13.5
Panama	25.0	14.6	---	8.0	8.5
Venezuela	---	---	---	---	6.5
Peru	---	---	---	13.2	6.3
Chile	---	---	---	---	6.1
El Salvador	---	---	---	3.7	3.4
All other destination markets	18.8	9.5	3.3	20.8	14.7
Total Colombia exports	100.0	100.0	100.0	100.0	100.0

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

Source: Official exports statistics under HS subheading 8450.20 as reported by Direccion de Impuestos y Aduanas Nacionales de Colombia – DIANX in the IHS/GTA database, accessed August 1, 2017. Source: GTIS/GTA database.

THE LRW INDUSTRIES IN OTHER COUNTRIES

The industry in Brazil

One Brazilian LRW producer, Whirlpool S.A. (“Whirlpool Brazil”), provided the Commission with a foreign producers’/exporters’ questionnaire response.^{60 61} Whirlpool Brazil reported *** exports of LRWs to the United States during the years examined. ***.⁶²

Operations on LRWs

There was *** production of LRWs in Brazil from 2012 to 2014, but production of LRWs *** in 2015 (*** units) and increased to *** units in 2016. Production in Brazil increased slightly in January-March 2017 compared to January-March 2016, and is projected to increase by *** percent from 2017 to 2018. Capacity utilization was ***.

During the period examined, *** reported that all of its shipments were *** and that it had ***.

Table IV-26

LRWs: Data for producers in Brazil, 2012-16, January to March 2016, and January to March 2017 and projections for calendar years 2017 and 2018

* * * * *

Alternative products

Whirlpool Brazil reported that it produces ***. From 2012 to 2014, these products accounted for *** percent of Whirlpool Brazil’s production of products made on the same equipment and machinery used to produce LRWs (table IV-27). In 2016, Whirlpool Brazil’s *** of LRW production, LRWs accounted for *** percent of total production of products made on the same equipment and machinery used to produce LRWs.

Table IV-27

LRWs: Brazil producers' overall capacity and production on the same equipment as LRWs production, 2012-16, January to March 2016, and January to March 2017

* * * * *

Exports

Based on GTA data, the leading export markets for washers from Brazil are Paraguay, Mexico, and Panama (table IV-28).⁶³

⁶⁰ Whirlpool S.A. reported that *** percent of its total sales in its most recent year was represented by sales of LRWs. Questionnaire response of Whirlpool Brazil, II-9.

⁶¹ Electrolux, which also has LRW operations in Brazil, reported that ***. Email from ***, August 4, 2017.

⁶² Questionnaire response of ***, II-2.

Table IV-28
Washers: Exports from Brazil, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Quantity (units)				
Brazil exports to the United States	---	---	548	529	1,588
Brazil exports to other major destination markets.--					
Paraguay	4,394	11,423	8,646	11,035	13,390
Mexico	---	10	---	10,825	9,394
Panama	---	---	137	3,084	6,333
Guatemala	---	---	864	1,737	5,581
El Salvador	---	---	685	2,378	5,517
Argentina	102	---	---	---	4,080
Honduras	---	---	685	1,370	3,312
Bolivia	2,023	1,557	3,926	2,794	3,270
All other destination markets	6,356	2,943	1,960	10,779	19,037
Total Brazil exports	12,875	15,933	17,451	44,531	71,502
	Value (1,000 dollars)				
Brazil exports to the United States	---	---	122	101	272
Brazil exports to other major destination markets.--					
Paraguay	1,440	2,432	1,983	1,677	1,646
Mexico	---	2	---	1,855	1,533
Panama	---	---	31	756	1,200
Guatemala	---	---	196	357	1,217
El Salvador	---	---	154	539	1,168
Argentina	28	---	---	---	1,156
Honduras	---	---	154	257	576
Bolivia	542	383	888	479	501
All other destination markets	1,788	701	742	2,859	3,855
Total Brazil exports	3,798	3,518	4,270	8,881	13,123

Table continued on next page.

(...continued)

⁶³ HS 8450.20 covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Table IV-28--Continued
Washers: Exports from Brazil, 2012-16

Destination market	Calendar year				
	2012	2013	2014	2015	2016
	Unit value (dollars per unit)				
Brazil exports to the United States	---	---	223	192	171
Brazil exports to other major destination markets.--					
Paraguay	328	213	229	152	123
Mexico	---	235	---	171	163
Panama	---	---	223	245	189
Guatemala	---	---	227	205	218
El Salvador	---	---	224	227	212
Argentina	270	---	---	---	283
Honduras	---	---	224	188	174
Bolovia	268	246	226	171	153
All other destination markets	281	238	378	265	203
Total Brazil exports	295	221	245	199	184
	Share of quantity (percent)				
Brazil exports to the United States	---	---	3.1	1.2	2.2
Brazil exports to other major destination markets.--					
Paraguay	34.1	71.7	49.5	24.8	18.7
Mexico	---	0.1	---	24.3	13.1
Panama	---	---	0.8	6.9	8.9
Guatemala	---	---	5.0	3.9	7.8
El Salvador	---	---	3.9	5.3	7.7
Argentina	0.8	---	---	---	5.7
Honduras	---	---	3.9	3.1	4.6
Bolovia	15.7	9.8	22.5	6.3	4.6
All other destination markets	49.4	18.5	11.2	24.2	26.6
Total Brazil exports	100.0	100.0	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 8450.20 as reported by Direccion de Impuestos y Aduanas Nacionales de Colombia – DIANX in the IHS/GTA database, accessed August 1, 2017.

OTHER RESIDENTIAL WASHER INDUSTRIES

Whirlpool, LG, and Samsung, as well as Electrolux, are global producers of LRWs. These companies principally export to the United States, but also export to Canada, Mexico, Latin America, Australia, as well as Saudi Arabia, Bahrain, Qatar, the United Arab Emirates, and Iraq. These companies also produce out-of-scope residential washers, as well as residential dryers. The out-of-scope residential washer include low technology washers incorporating a belt drive (e.g., the top load residential washers with PSC/belt/clutch and front load residential washers with CIM/belt, and residential washing machines with a width less than 24.5 inches (62.23 cm).

The major producers of LRWs also compete in other countries against regional producers in the out-of-scope residential washers. In Europe, such companies include Miele & Cie. KG, BSH Hausgeräte GmbH of the Bosch Group (Germany), and the Gorenje Group (Slovenia). Much of the residential washer production has relocated from Western Europe to Eastern Europe (principally to Poland, Slovakia, and Serbia). In China, major residential washer producers include Hisense Kelon Electrical Holdings Co. Ltd. of the Hisense Group, Midea Group, TCL Corporation, and the Haier Group. In Japan, Panasonic is a major residential washer producer, but has shifted production to Southeast Asia. In Turkey, the company Arçelik A.Ş. is a major regional Middle East producer of residential washers.

PART V: OTHER COMPETITIVE DYNAMICS OF THE U.S. MARKET

Market overview

The U.S. supply of LRWs comes mostly from U.S. producers GE Appliances and Whirlpool and importers LG and Samsung. LRWs are sold mostly at retail. Several large retailers account for the majority of such sales. Competition among suppliers of LRWs includes competition over pricing, as well as discounts and flooring space at retailers.

Product range, mix, and marketing

Two U.S. producers¹ indicated that there had been changes to the product range, mix, or marketing of LRWs since January 1, 2012. *** stated that in March 2015, U.S. federal energy efficiency standards changed. It continued that as a result, the distinction between agitator-based (sometimes called “conventional”) and impeller-based (sometimes called “high efficiency”) categories of top load LRWs has become blurred. Additionally, U.S. producers *** stated that discounts had become deeper and more frequent. (See also “U.S. demand” below.) However, U.S. producer *** stated that there had not been any product range, mix, or marketing changes.²

Importers *** described numerous changes to the product range, mix, or marketing of LRWs since January 1, 2012. *** described top load LRWs (including new high efficiency top load LRWs) as taking market share from front load washers, which had their peak market share in 2009. *** also reported that retailer Sears continues to lose market share (in terms of retail sales of LRWs), and added that this development had affected Whirlpool more than importers, which did not sell as many LRWs to Sears. *** added that, during this period, retailers Home Depot and Lowe’s had expanded their LRW product offerings while other retailers like Costco had begun offering LRWs. All three importers described new innovations in LRW characteristics, including extra-wide LRWs, high efficiency top loads, faster wash cycles, and increased product mix. *** stated that Whirlpool became “complacent” after its acquisition of Maytag in 2006 and did not focus on innovations that the market desired, especially as LRWs began being moved out of basements and into “display” areas in consumers’ homes.

Innovation

U.S. producers and importers were asked what product features that their firm had developed and that were either (1) first made available on LRWs sold by their firm in the retail market after January 1, 2012; or (2) available on LRWs sold by their firm in the retail market but not available on any of their competitors’ products during the same period.

¹ ***.

² ***.

Among U.S. producers, *** submitted a list of *** such innovations,³ including ***. U.S. producer *** described *** such innovations, including ***. U.S. producer *** also listed *** innovations, including the *** LRW in the U.S. market.

Among importers, *** submitted a list of *** such innovations, including ***. *** provided a list of *** innovations. Its innovations included ***. *** submitted *** of its innovations, including ***.

Joint respondents described multi-chamber LRWs as a product only offered by LG and Samsung.⁴

Geographic distribution

U.S. producers and importers sell LRWs to all regions in the United States using a tiered distribution network (table V-1).⁵ For U.S. producers, approximately *** percent of sales were within 100 miles of production facilities, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles.⁶ Importers sold *** percent of their product within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Table V-1

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

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

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

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

³ *** came after January 1, 2012, and *** came before then.

⁴ Joint respondents prehearing brief, p. 23.

⁵ Whirlpool and GE Appliances' 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. *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. II-4. ***.

⁶ ***.

U.S. supply

Table V-2 summarizes supply information for U.S. and foreign producers of LRWs.

Table V-2

LRWs: U.S. and foreign producer capacity, capacity utilization, inventories, the ability to shift production, and sales to various markets in 2016

* * * * *

Domestic production

Based on available information, U.S. producers of LRWs have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of U.S.-produced LRWs to the U.S. market. U.S. producers report substantial unused capacity, although there are also a few reports of short-term supply tightness in specific products (see below). This unused capacity is augmented with some, albeit limited, ability to shift export shipments back to the United States.⁷

As shown in table V-2, U.S. producers' capacity and capacity utilization both rose slightly over 2012 to 2016. Inventories as a ratio to total shipments were mostly unchanged over the period, and while the bulk of U.S. producers' shipments went to the U.S. market, U.S. producers did have some export shipments.

All three U.S. producers, importer ***, and 15 purchasers indicated that there had not been any change in the availability of U.S.-produced LRWs in the U.S. market since January 1, 2012.⁸ U.S. producer *** elaborated that it could supply significantly more product than it currently does. All three U.S. producers and importer *** also did not anticipate any change in the availability of U.S.-produced LRWs.

Importer *** alleged that Whirlpool had established a foreign trade zone (FTZ) around its Clyde, OH facility and then imported numerous LRW parts from China, including pressure sensors, thermostats, appliance fans, water filters, DC motors, AC multi-phase motors, halogen lamps, power cords, wire harnesses, and carbon brush assemblies. *** added that ***. Importer *** also stated that it anticipated increased U.S. production of LRWs based on "committed" plans for LG to build an LRW production plant in Tennessee and for Samsung to build one in South Carolina.⁹ Additionally, four purchasers indicated that there had been changes in the availability of U.S.-produced product since January 1, 2012. *** stated that U.S.

⁷ Whirlpool described most of the world as using smaller washers than LRWs, although it noted that there are some sales to Canada and very small sales to numerous countries. Hearing transcript, pp. 128-129 (Fettig and Tubman). However, joint respondents stated that multiple countries and regions, including Korea and South America, purchase LRWs. Hearing transcript, pp. 275-277 (Riddle and Harrington).

⁸ ***.

⁹ See also LG's prehearing brief, pp. 41-42 and exhibits 4-5. Petitioners stated that LG and Samsung have promised investments before in other countries, and then cancelled the investments. Hearing transcript, pp. 48 (Levy) and 175 (Fettig).

producers had improved quality and production capabilities in reaction to imports. The others cited changing supply or increased market share for U.S. producers.

Imports

Based on available information, producers of LRWs from outside the United States have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of LRWs to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of some unused capacity and a demonstrated ability to increase capacity quickly, along with substantial non-U.S. export markets.

As shown in table V-2, foreign producers generally reported moderately high capacity utilization, except for Mexican and Vietnamese producers, which reported ***. LRW producers in China, Thailand, and Vietnam *** between 2012 and 2016. Foreign producers generally reported very low inventories as a share of shipments, but also substantial export shipments to countries other than the United States.

*** and most purchasers indicated that there had not been any change in the availability of imports of LRWs in the U.S. market since January 1, 2012.¹⁰ Importers *** stated that the availability of imports in the U.S. market had changed since January 1, 2012, with *** indicating that the range of products offered had increased, and *** claiming that Whirlpool had begun importing an increased amount of LRW parts from China to its U.S. facilities for assembly into LRWs. U.S. producers *** stated that the supply of imported LRWs in the U.S. market had been continuous since January 1, 2012, because LG and Samsung had moved production from Korea and Mexico to China and then to Thailand and Vietnam, in order to avoid antidumping and/or countervailing duties. Six purchasers also indicated that the supply of imports had changed since January 1, 2012, generally describing foreign producers moving production from one country to another.

Importers *** anticipated changes to the availability of imported LRWs, with *** forecasting a continuing diversification of products and *** forecasting a decline in imports as its U.S. production increases. U.S. producer *** indicated that it did not anticipate any changes to the availability of imported LRWs in the U.S. market. U.S. producers *** indicated that they did anticipate such changes, with *** anticipating that LG and Samsung may begin U.S. production if a safeguard remedy is imposed, and *** anticipating that LG and Samsung will continue to move production to countries not affected by antidumping or countervailing duty orders.

Supply constraints

While many purchasers described some delays in receiving LRWs from multiple sources, most suppliers indicated that such delays were not long-lasting. All three U.S. producers

¹⁰ Twelve purchasers indicated that the availability of LRWs imported from China, Korea, Mexico, Thailand, and/or Vietnam had not changed, while six indicated that it had. Fifteen indicated that the availability of LRWs imported from all other countries had not changed, while one indicated that it had. ***.

indicated that they had not refused, declined, or been unable to supply LRWs since January 1, 2012.¹¹ *** added that it had ***. *** stated that ***, there can sometimes be a short period of extended lead times. It cited two examples of such periods: first, the 2014/2015 West Coast port closures; and second, a late 2016 recall of 2.8 million Samsung washers that occurred at the same time that Samsung and LG were moving production from China to other parts of Asia.¹² ***.

Importers *** indicated that they had not refused, declined, or been unable to supply LRWs since January 1, 2012. *** stated that demand for its LRWs had exceeded its ability to supply them in 2017. It added that the Los Angeles port strike in 2014 and the *** in 2016 had also caused supply disruptions.

Twelve purchasers indicated that at least one LRW supplier had been unable to supply it with LRWs since January 1, 2012. In general, these purchasers described delays or allocations due to parts shortages, peak production periods, and transportation issues. Most purchasers did not describe the delays as specific to one producer (and several noted that it occurs with “all” suppliers), but two purchasers named Whirlpool and another named “Korean companies.” Eight purchasers stated that they had not encountered any LRW supply constraints.

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. 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 ratio of new versus replacement purchases varies depending on the housing market. LRWs reportedly have a 7 to 10 year lifespan.¹³

U.S. housing market activity (an indicator for LRW demand, as noted below in “Demand trends,”) increased during the period of investigation. U.S. housing starts increased by 68.0 percent from January 2012 to June 2017 (figure V-1).¹⁴ Existing home sales also trended upwards, increasing by 23.2 percent from January 2012 to June 2017 (figure V-2).¹⁵ Similarly, home remodeling also increased, with the remodeling market index increasing by 17.6 percent between first quarter 2012 and second quarter 2017 (figure V-3).¹⁶

¹¹ ***.

¹² See also Whirlpool’s prehearing brief at p. 27 and exhibits 2-3.

¹³ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. II-8.

¹⁴ U.S. housing starts increased by 64.5 percent from January 2012 to March 2017.

¹⁵ Existing home sales increased by 27.2 percent from January 2012 to March 2017.

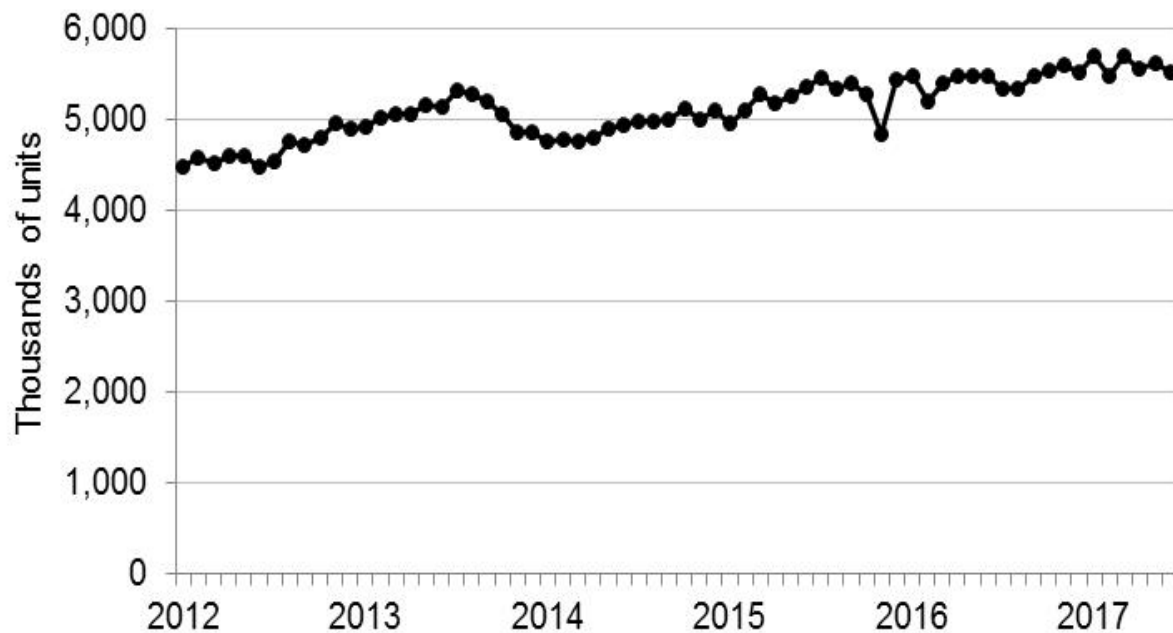
¹⁶ Home remodeling increased by 24.5 percent from first quarter 2012 to first quarter 2017.

Figure V-1
LRWs: New privately owned housing units started, monthly, seasonally adjusted annual rate, January 2012-June 2017



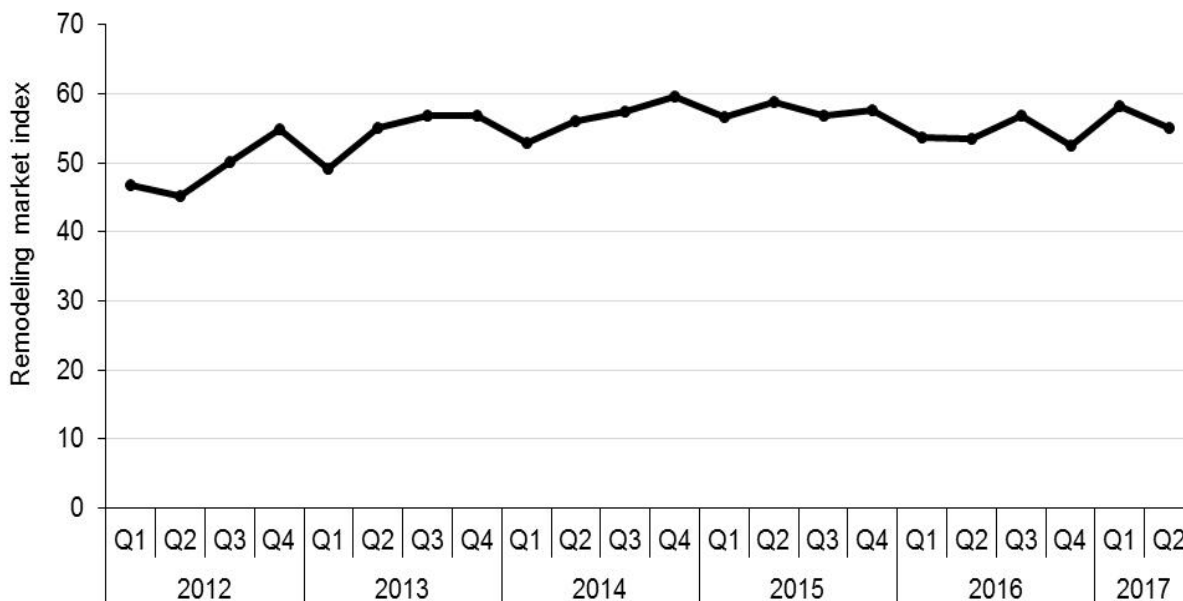
Source: Source: U.S. Census Bureau, http://www.census.gov/construction/nrc/historical_data/index.html, retrieved July 21, 2017.

Figure V-2
LRWs: Existing home sales, January 2012-June 2017



Source: Source: National Association of Realtors, <http://www.realtor.org/topics/existing-home-sales>, retrieved October 27, 2016, and July 21, 2017.

Figure V-3
LRWs: Remodeling Index, January 2012-June 2017



Source: National Association of Home Builders, Remodeling Market Index, <http://www.nahb.org/en/research/housing-economics/housing-indexes/remodeling-market-index.aspx>, retrieved July 31, 2017.

Business cycles

The LRW market traditionally has high volume sales around holidays associated with promotional discounts. These holidays include Presidents Day, Memorial Day, Labor Day, Columbus Day, and Black Friday.¹⁷

U.S. producers ***, ***, ***, and 10 of 21 purchasers indicated that the U.S. LRW market was subject to distinct business cycles or conditions of competition.¹⁸ *** cited seasonal holiday promotions and new product introductions as conditions distinctive to the market. U.S.

producer *** added that competition is heavily focused on flooring positions in retailers' stores and in discounts during product line reviews. *** stated that the distinctive conditions of competition in the U.S. LRW market include that LRWs are not commodity products but instead are highly differentiated, brand preference plays a large role in consumer decisions, millennials prefer the *** brand due to their experiences with other *** products, and *** has a history of LRW product differentiation that separates its products from those of Whirlpool.

¹⁷ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. II-10.

¹⁸ However, U.S. producer *** and 10 purchasers stated that there were not distinct conditions in the U.S. LRW market. ***.

Purchasers describing business cycles also named holiday promotional cycles, as well as an increase in sales around the time of tax refunds. *** added that when suppliers are at full capacity in the summer, it is more attractive to purchase from domestic suppliers due to shorter lead times. It continued that dock strikes and product recalls are another condition of competition that can have “huge” impacts on product availability. *** stated that Korean suppliers’ habit of making large price cuts during holiday promotional periods had accustomed consumers to buying then. *** stated that suppliers typically sell washers and dryers in pairs at the same price, and in turn retailers sell washers and dryers individually to customers at the same prices.

U.S. producers ***, importers ***, and eight purchasers stated that there had been changes in the conditions of competition since January 1, 2012. *** reported increasing discounts and longer promotional periods, with *** attributing those changes to the behavior of LG and Samsung. *** stated that LRW product life cycles have shortened due to the product innovations introduced by LG and Samsung. *** also stated that new products with more features are available at lower prices.

Among purchasers reporting changes to the conditions of competition, four described longer, “more aggressive,” or deeper-discount promotions. *** elaborated that such discounts came around “all holidays, whether major or not.” *** described pricing as fluctuating wildly, led by Korean suppliers. *** described new suppliers as offering innovative products with features that appeal to customers.

*** and seven purchasers indicated that there had not been any changes to the conditions of competition.

Demand trends

Most firms reported an increase in U.S. demand for LRWs since January 1, 2012 (table V-3).¹⁹ U.S. producer *** attributed the increase in demand to pent-up demand from the previous recession, as well as increased housing sector activity. However, it cautioned that it cannot distinguish “retail/replacement” demand from “new home construction” demand. Similarly, U.S. producers *** attributed U.S. demand growth to improved U.S. macroeconomic performance, and/or growth in the U.S. housing market. Among importers, *** cited public Whirlpool analysis that strong housing demand and positive consumer sentiment had driven LRW demand. *** described its innovations, as well as improved U.S. economic conditions, as having sparked demand growth. *** added that ***.

Among purchasers explaining trends in retail/replacement demand, most described LRW demand as following trends in the general economy or the housing market. Other reasons for demand trends cited by multiple purchasers included innovation/technology changes and appliance replacement cycles.

Regarding demand outside the United States, U.S. producer *** stated that demand trends vary by country. Importers described such demand as fluctuating or decreasing, but did not elaborate. Most purchasers did not have knowledge of demand outside the United States.

¹⁹ ***.

Table V-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 for retail/replacement markets				
U.S. producers	***	***	***	***
Importers	***	***	***	***
Purchasers	13	0	1	6
Demand in the United States for new home construction				
U.S. producers	***	***	***	***
Importers	***	***	***	***
Purchasers	10	1	0	2
Demand outside the United States				
U.S. producers	***	***	***	***
Importers	***	***	***	***
Purchasers	1	0	0	1

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

Substitute products

Few market participants indicated that substitute products existed, and even fewer indicated that the prices of such products had affected the prices of LRWs. U.S. producer ***,²⁰ importer ***, and 20 purchasers indicated that there were no substitutes for LRWs. U.S. producers *** indicated that there were substitutes, naming commercial washers. However, *** added that commercial washers were a “discrete segment,” and both *** indicated that changes in the prices of commercial washers had not affected the price of LRWs. U.S. producer *** also noted that compact washers and belt-driven washers are substitutes, but again described them as discrete segments with prices that did not affect the prices of LRWs. Purchaser *** named stacked washer-dryer sets and compact washers as substitutes, but indicated that changes in the price of those substitutes had not affected the prices of LRWs.

Importer *** stated that out-of-scope washers are substitutes for LRWs in that they wash clothes, although such substitutability is limited and prices of out-of-scope washers do not affect prices of LRWs. *** added that washer parts are not substitutable from one manufacturer to another. However, importer *** stated that some out-of-scope washers, such as front load belt drive models from China, are substitutes for LRWs, and that changes in the price of those substitutes had affected the prices of LRWs.

SUBSTITUTABILITY OF DOMESTIC AND IMPORTED LRWS

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

²⁰ ***.

Lead times

LRWs are primarily sold from inventory, although some suppliers also had a high volume of sales produced-to-order. U.S. producers *** and importer *** indicated that *** of their 2016 sales were from inventory, with lead times of ***. U.S. producer *** indicated that *** percent of its 2016 sales were produced-to-order, with lead times of ***.²¹ Importers *** indicated that *** percent of their 2016 sales, respectively, were from their U.S. inventories, with lead times of ***. The balance of *** 2016 sales were produced-to-order, with a lead time of ***, while the balance of *** 2016 sales were from foreign inventory, with a lead time of ***.

Knowledge of brand sources

Purchasers generally had marketing knowledge of most major brands of LRWs. All 21 purchasers indicated actual marketing and pricing knowledge of U.S. brands (Whirlpool and GE Appliances), 18 indicated knowledge of LG and Samsung, and 7 indicated knowledge of other import brands, including Bosch, Electrolux, and Fisher & Paykel. However, 20 purchasers purchased from both U.S. and imported sources, and only *** reported only U.S. producers as suppliers.²²

While purchasers frequently described the brand of LRWs as important to some of their customers (see below), they were less likely to describe the country of origin of LRWs to be important. Fifteen purchasers indicated that neither they nor their customers ever specifically ordered LRWs from one country in particular. Six did, usually citing a customer preference for domestic product. However, several of those six qualified this preference by noting that the preference may not be strong, or exists for a small share of customers.

Factors affecting purchasing decisions

The most often cited top three factors firms consider in their purchasing decisions for LRWs were price/pricing/cost (17 firms), quality²³ (10 firms), and features/design/technology/innovations (8 firms), as shown in table V-4. However, among the four largest purchasers (***), other factors were listed as the most important. *** listed brand awareness as its most important purchasing factor, and elaborated that its purchasing decisions are based on a ***. *** listed *** as its first factor (and *** as its second); *** listed *** as its first factor; and *** listed *** as its first factor.

²¹ Their remaining sales were sold from inventory with a lead time of *** days. ***.

²² These data came in response to a different question.

²³ When asked to define the characteristics that determine the quality of an LRW, purchasers named reliability (including service and recall history); fit, feel, and finish; durability; low return rates; and customer reviews.

Table V-4

LRWs: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor

Factor	First	Second	Third	Total²
Price/Pricing/Cost	10	2	5	17
Quality	2	6	2	10
Features/Design/Technology/Innovations	3	3	2	8
Promotions/Discounts/Promotional Support	---	4	4	7
Availability/Supply	---	3	1	4
Other ¹	6	3	7	NA

¹ Other factors include brand awareness, breadth of selection, customer demand, margin, size, and lead time.

² Total may be less than the sum of the first, second, and third as some purchasers may have listed similar factors in multiple rankings.

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

Most (16 of 21) responding purchasers indicated that at least 90 percent of their LRW purchases did not require domestic product, although five stated that some of their purchases were required by customers to be domestic product.²⁴

As shown in table V-5, most purchasers and their customers sometimes or never make purchasing decisions based on the producer or country of origin. Of the purchasers that reported that they at least sometimes make decisions based on the manufacturer, *** stated that it prefers a manufacturer that can provide a product that sells based on brand, quality, innovation, and feature set, at an acceptable margin. It elaborated that products must function in customers' homes with minimal returns and service. It added that preferred manufacturers will provide product support, including field staff available to train its own staff, as well as marketing and advertising support. Other purchasers described seeking suppliers that provided products with better reliability, quality, price, and brand reputation. *** stated that it strives to offer a breadth of products from multiple suppliers. Purchasers indicating that their customers sometimes make decisions based on LRW manufacturer generally stated that some customers have brand preferences.

Few purchasers indicated that they or their customers make decisions to purchase LRWs based on the country of origin of the LRWs. Those purchasers that did described their reasons as including supply reliability and lead times. Eight purchasers stated that some customers prefer to purchase LRWs made in the United States.

²⁴ Those five purchasers were ***, although the percentage of total purchases by *** that had such requirements was 10 percent or less. Additionally, only one purchaser, ***, indicated that any of its purchases were under legal or regulatory requirements for domestic purchases, and those purchases were ***.

Table V-5

LRWs: Purchasing decisions based on producer and country of origin

Purchaser/Customer Decision	Always	Usually	Sometimes	Never
Purchaser makes decision based on producer	1	4	8	7
Purchaser's customers make decision based on producer	---	4	11	1
Purchaser makes decision based on country	---	1	3	16
Purchaser's customers make decision based on country	---	1	9	5

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

Supplier certification

Twelve responding purchasers (including ***) do not require their suppliers to become certified or qualified to sell LRWs to their firm, but nine (including ***) did. Purchasers reported that the time to qualify a new supplier usually ranged from 30 to 60 days, and was based on factors including cost transparency, value, price, brand, reputation, service, and ability to partner with the supplier for the lifetime of a product. Twenty-one purchasers reported that no domestic or foreign supplier had failed in its attempt to qualify product, or had lost its approved status since January 1, 2012.

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. Whirlpool described securing floor spots as crucial for LRW suppliers to sell their products.²⁵

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.²⁶

In the 2016 investigation of LRWs from China, most purchasers 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. Most purchasers in that investigation also reported factoring expected profits into their decisions about which models and which suppliers would be allocated floor space. However, most purchasers (19 of 30) also stated that they had not denied, nor threatened to deny, a floor space to a particular LRW

²⁵ Hearing transcript, p. 60 (Tubman).

²⁶ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. II-16-17.

model because the supplier's proposed price was too high. (Eleven purchasers in that investigation stated that they had done so.)²⁷

Competition among types of LRWs

Commission questionnaires asked purchasers numerous questions on how different types of LRWs compete with each other. LRW comparisons included top load versus front load LRWs as well as highly-featured versus less-featured LRWs.²⁸

Purchasers were asked what factors influence a consumer's decisions to buy a top load versus a front load LRW. Purchasers named numerous factors, including features, price, brand, efficiency, cleaning performance, ease of cleaning the LRW, reliability, capacity of the LRW, and space in the house. Several purchasers stated that efficiency was not a very important factor because the difference in efficiency between front and top load LRWs is not large. *** stated that it believes that whether an LRW is Energy Star likely does not influence consumers' decisions much because most LRWs are Energy Star. Purchasers were asked how often consumers are willing to switch between a top load and a front load LRW based on the relative pricing between the two offerings. Eighteen purchasers (of 21) answered sometimes, while two answered frequently.

Purchasers were also asked if the availability and/or price of a highly-featured LRW affect the sales of less-featured LRWs. Seventeen answered that it did, and four that it did not. *** stated that highly-featured LRWs with large discounts tend to sell well. *** answered that while the availability would affect sales, consumers also consider brand reputation, failure rates, and perceived cleaning ability. *** indicated that higher-featured LRWs usually carry higher margins. *** stated that the "collapse" of pricing on high-end models had eroded the prices of lower-end models. Several purchasers also noted that as the difference between the price of higher-featured and lower-featured LRWs decreased, the sales of the former would increase at the expense of the latter.

Purchasers were also asked a series of questions on how price reductions on certain types of LRWs from one source (i.e., domestic or imported) had affected the prices of other types of LRWs from other sources, as shown in table V-6.

²⁷ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. II-16-17.

²⁸ *** also submitted a third-party study describing how consumers may consider purchasing different types of LRWs, as well as summaries of consumer surveys showing that *** LRWs often ranked as the top or near the top of different LRW categories in terms of consumer preferences. See ***.

Table V-6**LRWs: Frequency that price reductions on highly featured LRWs from one source affects the prices of LRWs from another source**

How often do price reductions on imported highly-featured top load impeller LRWs affect the price of U.S.-produced top load LRWs with agitators?			
Always	Usually	Sometimes	Never
2	4	10	4
How often do price reductions on imported highly-featured front load impeller LRWs affect the price of U.S.-produced top load LRWs with agitators?			
Always	Usually	Sometimes	Never
1	3	10	6
How often do price reductions on less-featured top load LRWs with agitators from the United States put downward pressure on prices for imported highly-featured top load LRWs?			
Always	Usually	Sometimes	Never
0	2	9	9
How often do price reductions on less-featured top load LRWs with agitators from the United States put downward pressure on prices for imported highly-featured front load LRWs?			
Always	Usually	Sometimes	Never
0	2	7	11

Source: Compiled from information submitted in response to Commission questionnaires

Purchasers offered additional comments on the first two comparisons, which concerned the extent to which price reductions on imported highly-featured LRWs impacted prices of U.S.-produced LRWs. ***, which answered sometimes, stated that many older customers prefer an older-style agitator with a tub that fills with water. Similarly, ***, which answered never, stated that the two categories of LRWs have different customers. ***, which answered usually, stated that price reductions force down prices across the categories of “good, better, best” in each retailers’ lineup. ***, which answered always, stated that domestic suppliers must lower prices or lose sales.

Purchasers also offered additional comments on the last two comparisons, which concerned the extent to which price reductions on U.S.-produced LRWs impacted prices of imported highly-featured LRWs. ***, which answered usually, stated that low-price point entries from Hotpoint (a GE Appliances brand) and Amana (a Whirlpool brand) induce LG and Samsung to lower their prices on their top load products. ***, which answered never, reiterated that the two categories of LRWs have different customers. In response to the last question, five purchasers stated that the customers for the two types of LRWs are not the same. *** stated that imports generally do not focus on the less-featured top load market segment.

Purchasers were also asked if the price they are willing to pay for LRWs from any particular supplier is influenced by the prices and/or features offered by competing suppliers. Fifteen purchasers answered that they were, while six answered that they were not. Among those answering that they were, multiple purchasers described seeking the best value, cost, margin, or price along with the best features and consumer satisfaction. *** stated that it seeks to offer its customers a full range of choices for features and price points. *** stated that it looks for price reductions on models with similar features and capabilities.

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since January 1, 2012 (table V-7). While purchasers reported a relatively broad range of responses for changes in purchases from U.S. suppliers, the clear majority of purchasers reported increased purchases from foreign suppliers. *** indicated that they had increased their share of purchases from LG and Samsung as the reason for their fluctuating purchases of U.S.-produced LRWs. *** indicated that their purchases of U.S.-produced LRWs had fluctuated because the U.S. brands were not as profitable, and/or were higher-priced, than other brands. Other purchasers indicated that increases in demand had led to increased purchases of U.S. product, or that their own store closures had led to decreased purchases. Purchasers reporting higher purchases of imported LRWs indicated that increased overall demand (noted by ***), changes in consumer preference toward imported brands (***), and better pricing or margins on imported product (noted by ***) explained their changed pattern.

Table V-7
LRWs: Changes in purchase patterns from U.S., all other countries

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	---	4	5	3	6
All other countries	2	1	12	2	2

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

Thirteen purchasers reported changing LRW suppliers since January 1, 2012, while eight stated that they did not. Among purchasers changing suppliers, ***. *** reported adding *** in 2012. *** reported *** and lowering LRW purchase prices through negotiations, and also adding *** as suppliers while continuing to buy from ***. *** stated that it dropped *** due to service and availability problems, and *** stated that it added Samsung for quality and product range reasons. ***.

Fifteen purchasers stated that they were not aware of any new suppliers that had entered the LRW market since January 1, 2012. Seven responded affirmatively, and three of those cited the movement of LG and Samsung production facilities from Korea and Mexico to China or from China to Thailand and/or Vietnam. Another named Haier (GE Appliances) as a new supplier.

Comparisons of domestic products and imported articles

Purchasers were asked to rate the importance of 23 factors in their decisions to purchase U.S.-produced and imported LRWs. As shown in table V-8, most purchasers ranked LRWs from the United States and other countries as comparable in importance and performance for all factors.²⁹ However, a majority of purchasers ranked U.S.-origin LRWs as performing better than foreign-origin LRWs in reliability of supply, and large minorities of

²⁹ The original questionnaire asked only to rate LRWs on the basis of importance. After the prehearing report, staff sent an additional request to responding purchasers to respond based on performance. Fifteen of the 21 purchasers (including ***) responded, with ***.

purchasers ranked U.S.-origin LRWs as performing better than foreign-origin LRWs in availability, delivery time, and technical support/service.

Table V-8
LRWs: Purchasing factor comparisons

Factor	Importance			Performance		
	U.S.-origin vs foreign-origin			U.S.-origin vs foreign-origin		
	U.S. superior	Compar-able	U.S. inferior	U.S. superior	Compar-able	U.S. inferior
Availability	2	19	---	6	7	1
Consumer preferences for particular brands resulting in high store turnover	2	18	---	0	12	2
Consumer preference for particular features resulting in high store turnover	1	19	---	0	12	2
Country-of-origin preference	3	19	1	4	10	0
Delivery terms	2	18	---	3	10	1
Delivery time	2	18	---	6	7	1
Desire to display multiple brands	1	20	1	2	12	0
Desire to display multiple price points	2	19	1	2	12	0
Discounts offered	3	19	1	1	10	3
Extension of credit	2	18	---	1	13	0
Favorable margin offered by manufacturer	2	18	---	2	10	2
Frequency of returns/product reliability	2	19	---	2	11	1
Minimum quantity requirements	2	17	---	2	11	1
Packaging	1	19	---	1	9	4
Price	2	19	---	0	11	3
Product consistency	1	19	---	3	11	0
Product range	3	19	2	2	11	1
Quality meets industry standards	3	19	1	1	13	0
Quality exceeds industry standards	2	19	---	1	12	1
Reliability of supply	3	19	2	9	4	1
Special incentives offered by manufacturer	2	19	---	2	10	2
Technical support/service	3	18	1	6	8	0
U.S. transportation costs	2	18	---	1	13	0

Note.—For importance, purchasers were asked to rate the importance of each factor in its decisions to purchase LRWs from the United States or other countries on a scale of 1 to 5, where 1 is “not important at all” and 5 is “very important.” For performance, purchasers were asked to rate the performance of each factor in its decisions to purchase LRWs from the United States or other countries on a scale of 1 to 5, where 1 is “performs poorly” and 5 is “performs well.”

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

In order to determine whether U.S.-produced LRWs can generally be used in the same applications as imports, U.S. producers, importers, and purchasers were asked whether the products were or were not used interchangeably. As shown in table V-9, most U.S. producers

and purchasers indicated that U.S. and imported LRWs are always or usually interchangeable,³⁰ but most importers indicated that such LRWs are only sometimes interchangeable.

Table V-9
LRWs: Interchangeability between LRWs produced in the United States and in other countries

Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
A	U	S	N	A	U	S	N	A	U	S	N
3	0	0	0	1	0	2	0	11	8	0	0

Note.--A = Always, U= Usually, S = Sometimes, N = Never.

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

In additional comments, importer *** stated that there were four factors limiting the interchangeability of U.S. and imported LRWs: U.S. producers supply conventional top load washers (i.e., with agitators), which *** does not supply; Whirlpool and GE Appliances sell to rental stores and construction channels in which *** does not compete; Whirlpool exports LRWs (which are then not interchangeable with other product in the U.S. market); and *** initiates innovations that make its LRWs unique until they are later copied by Whirlpool and GE Appliances. Similarly, *** also stated that U.S.-produced and imported LRWs do not compete in some market segments (such as the construction channels and conventional top load market), in which U.S. product predominates. It also stated that imports are focused on the high end of the LRW market, and that *** has been a leader in many LRW innovations that have limited interchangeability. As an example, *** cited its ***. It stated that no U.S. producer makes a similar, and thus interchangeable, product.

In addition, producers, importers, and purchasers were asked to assess how differences other than price were significant in sales of LRWs from the United States, subject, or nonsubject countries. As seen in table V-10, most U.S. producers and purchasers described differences other than price as sometimes significant, but most importers described such differences as always significant.³¹

Table V-10
LRWs: Differences other than price between LRWs produced in the United States and in other countries

Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
A	U	S	N	A	U	S	N	A	U	S	N
0	0	3	0	2	0	0	1	6	2	12	0

Note.--A = Always, U= Usually, S = Sometimes, N = Never.

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

³⁰ ***.

³¹ ***.

In additional comments, U.S. producer *** stated that all major LRW manufacturers offer quality products with the same core features, leaving no factors independent of price to influence purchasing decisions. Importer *** stated that its LRWs have a reputation for superior fit, feel, and finish, and consumers associate its brand with the highest quality and innovation. It stated that it had performed well in many consumer surveys (including J.D. Power). Similarly, *** stated that J.D. Power consumer surveys had shown that features, style, performance, and reliability are often more important than price for consumers, and that *** LRWs lead in these areas. It added that its worldwide reputation for high-quality products had continued over to retail salespeople, aided by *** large investments in advertising and in-store displays. However, it added that some retail stores had increased flooring of U.S.-produced LRWs in order to have shorter supply chains.

Some purchasers also named factors other than price as significant factors influencing their purchases. *** named customers' preferences for a particular laundry platform. *** described innovative technology using the latest developments as important to its customers. *** reported wanting quality product, a range of products, and features that appeal to customers. Other purchasers indicated that transportation, size, and lead time were also important.

ELASTICITY ESTIMATES

This section discusses elasticity estimates; parties were encouraged to comment on these estimates. In its prehearing and posthearing briefs, LG submitted economic analyses of the importance of Korean imports (relative to other imports) to U.S. producers' revenues, and used elasticity estimates consistent with staff's estimates below, while not endorsing them.³² No other parties commented on staff's elasticity estimates.

U.S. supply elasticity

The domestic supply elasticity³³ 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 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 4 to 8 is suggested.

Foreign supply elasticity

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

³² See LG's prehearing brief, exhibit 2, and LG's posthearing brief, exhibit 20.

³³ A supply function is not defined in the case of a non-competitive market.

supply depends on several factors including the level of excess capacity, the ease with which foreign producers can alter capacity, foreign producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for foreign-produced LRWs. Analysis of these factors above indicates that the foreign industries have the ability to substantially (i.e., somewhat, greatly, etc.) increase or decrease shipments to the U.S. market; an estimate in the range of 4 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 above such as the existence, availability, and commercial viability of substitute products, as well as the component share of the LRWs in the production of any downstream products. In the 2016 investigation of LRWs from Korea, Whirlpool submitted several economic studies, using data from 2009 and before, that estimated the demand elasticity of washers to be in the range of -0.3 to -0.8.³⁴ Staff estimates the range to be -0.3 to -0.8.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.³⁵ Product differentiation, in turn, depends upon such factors as quality (e.g., appearance, warranty, service needs, etc.) and conditions of sale (e.g., availability, sales terms/ discounts/ promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced LRWs and imported LRWs is likely to be in the range of 3 to 5.

FACTORS AFFECTING PRICES

Raw material costs

Raw materials used to produce LRWs include plastic, propylene, cold-rolled and stainless steel, copper, aluminum, crude oil, and rubber.³⁶ Raw material costs, as a share of U.S. producers' total cost of goods sold (COGS), were stable in a range of *** to *** percent over 2012 to 2016.

³⁴ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. II-24.

³⁵ 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.

³⁶ *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.

As shown in figure V-4, the prices of relevant steel products fell from early 2012 until early 2016, and have risen somewhat since then, for an overall decrease of between *** and *** percent from January 2012 to June 2017.^{37 38} U.S. producer *** included figures showing price trends for some raw materials with its questionnaire response. These figures showed plastic prices fluctuating with a moderate downward trend, while prices for propylene and rubber declined from 2012 to early 2016 before rising somewhat in 2016 and 2017 (though still declining more than 40 percent overall from the first quarter of 2012 to the second quarter of 2017).³⁹ Additionally, copper prices fell almost 45 percent from January 2012 to January 2016, but have since risen by almost 28 percent through June 2017.⁴⁰

Figure V-4
Raw material costs: U.S. price indexes of cold-rolled steel in coil and stainless steel cold-rolled sheet, monthly, January 2012-June 2017

* * * * *

Questionnaire respondents generally confirmed that raw material prices have fallen since January 1, 2012, although they indicated that such price declines have not had much of an effect on the prices of LRWs. U.S. producer *** indicated that raw material costs had decreased overall since January 1, 2012, but that declining raw material costs had been offset by the increasing cost of investments in new products. U.S. producers *** indicated that raw material costs had fluctuated overall since January 1, 2012, and Whirlpool added that total raw material costs for LRWs generally increased as various models used more raw materials on a per unit basis.⁴¹ It elaborated that ***.⁴²

Among importers, *** stated that global prices of steel, plastic resin, and other metals continue to decrease. *** stated that LRW raw material costs are generally related to the price of oil, which has declined since 2012 (see figure V-5). However, it added that the decline in raw material costs had not been enough to influence its U.S. selling prices of LRWs, which it stated had not been affected by raw material cost changes.

Figure V-5
Raw material costs: Crude oil prices, January 2012-June 2017

* * * * *

³⁷ The price of *** decreased over most of the period, *** in March 2017, and the prices of *** showed a decrease from January 2012 to March 2017 of *** percent.

³⁸ With its producer questionnaire and later correspondence, *** submitted pricing data for a different cold-rolled steel series and a different stainless steel series. These data showed similar trends, but an overall small rise in price for both series from the first quarter of 2012 to the second quarter of 2017. See email from ***.

³⁹ See email from ***.

⁴⁰ St. Louis Federal Reserve data on copper prices, downloaded August 4, 2017, and staff calculations.

⁴¹ Hearing transcript, p. 127 (Levy).

⁴² Email from ***. Separately, ***.

Transportation costs to the U.S. market

Transportation costs for LRWs shipped from countries to the United States averaged 6.8 percent (worldwide) during 2016. (For Mexico, the cost was only 0.3 percent; for Asian countries, the average was usually within a percentage point of the worldwide average). These estimates were derived from official import data and represent the transportation and other charges on imports.⁴³

U.S. inland transportation costs

Three U.S. producers⁴⁴ and three importers reported that they typically arrange transportation to their customers.⁴⁵ U.S. producer *** reported that its U.S. inland transportation costs were *** percent of the total delivered cost of an LRW while U.S. producer *** reported that such costs were *** percent. Importers reported U.S. inland transportation costs were *** percent (***), *** percent (***), and *** percent (***).

Exchange rates

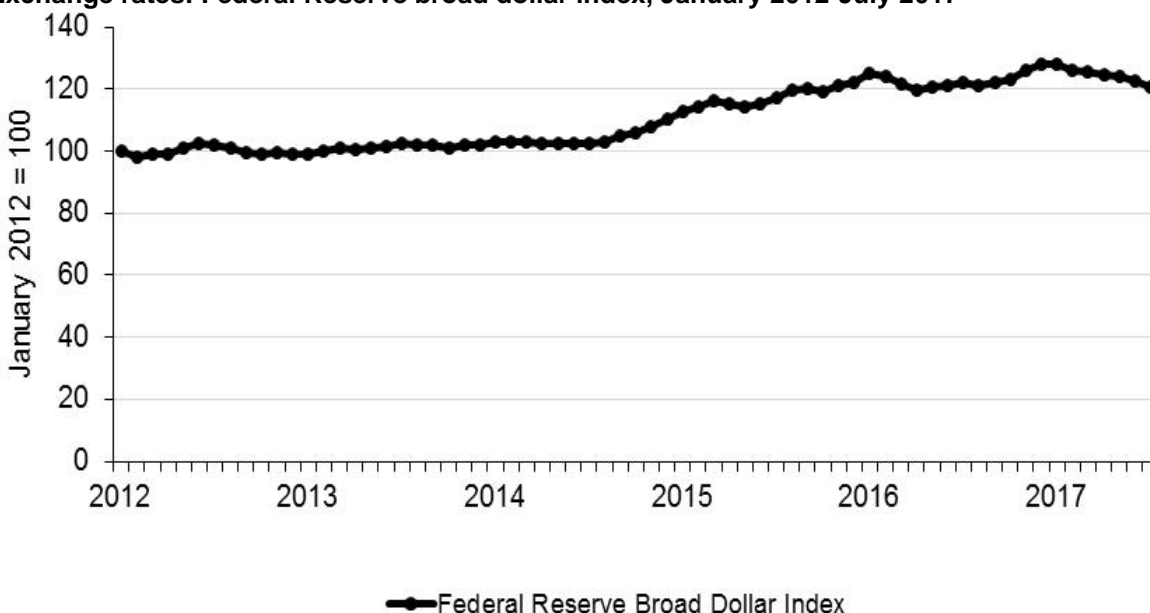
The Federal Reserve's broad dollar index increased by over 27 percent from January 2012 to December 2016 (indicating an appreciation of the dollar against world currencies), before falling back slightly since then, as shown in figure V-6.

⁴³ The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2016 and then dividing by the customs value based on the HTS subheadings 8450.20.0040 and 8450.20.0080.

⁴⁴ ***.

⁴⁵ Among importers, *** shipped LRWs from a storage facility, while *** did so from both a storage facility and its point of importation.

Figure V-6
Exchange rates: Federal Reserve broad dollar index, January 2012-July 2017



Source: St. Louis Federal Reserve, Trade Weighted U.S. Dollar Index: Broad, Monthly, Not Seasonally Adjusted, downloaded August 3, 2017.

PRICING PRACTICES

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 advertised 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.⁴⁶ Separately from negotiated reductions in MAP, retailers may sell the LRW at any price it wishes; the MAP only restricts the price at which the LRW may be advertised.⁴⁷

Sales bundled with dryers

Parties disagreed over the importance of bundling LRW sales with dryer sales. Respondents stated that LRWs are typically sold to consumers with matching dryers, at the same price, to consumers.⁴⁸ They also stated that LRWs are priced taking into account dryer

⁴⁶ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. V-3.

⁴⁷ Hearing transcript, p. 122 (Tubman).

⁴⁸ For example, see Joint Respondents’ prehearing brief at pp. 40-44, and hearing transcript, p. 215 (Bunde). In its posthearing brief, LG supplied declarations from several retailers and former buyers for

profitability.⁴⁹ Petitioners stated that LRWs are generally not sold with the same matching dryers, and that the wholesale prices of LRWs and dryers are not always the same, even if the MAP is sometimes the same for LRWs and matching dryers.⁵⁰ GE Appliances added that it does not produce dryers domestically, and instead imports them.⁵¹

U.S. producers and importers were asked approximately what percentage of their LRW sales from January 2012 to March 2017 were bundled with sales of an accompanying dryer. Among U.S. producers, *** indicated that ***. *** stated that it does not track such sales in pairs, but noted that front load washers tend to sell with dryers more often than top load washers due to platform design and aesthetics. *** stated that it sells at wholesale and does not typically invoice washers with dryers, although it estimated that such sales may account for *** percent of its 2016 sales.⁵²

However, importers *** estimated that *** percent of their LRW sales were bundled with sales of an accompanying dryer. *** stated that most of its products' consumers typically negotiate prices for matching dryers at the same time that they negotiate for purchases, causing dryer sales to affect *** negotiations with retailers over prices and discounts for LRWs. Importer *** supplied extensive comments stating that dryer sales are bundled with LRW sales for 75 to 90 percent of sales. It stated that dryers are less costly to produce and thus more profitable than LRWs, because retailers insist on the same price for matching washers and dryers. It supplied documents that it described as showing that it launches new LRW models with matching dryers, that dryers are designed to be marketed with matching LRWs, and that other LRW suppliers (including Whirlpool) market LRWs with accompanying dryers.⁵³

Pricing methods

U.S. producers and importers negotiate sales primarily, but not exclusively, on a transaction-by-transaction basis, as presented in table V-11. In addition to transaction-by-transaction negotiations, U.S. producers *** and importer *** used contracts. *** stated that its contracts do *** but instead establish the *** (see above) and ***. It stated that the ***.

U.S. producer *** and importer *** indicated that they use set price lists.⁵⁴ Importer *** reported only using "other" methods, and stated that it uses price lists only as a reference point for starting negotiations. It also stated that most of its customers negotiate prices for matching dryers at the same time.

retailers that Whirlpool negotiates LRW and dryer prices together and/or charges the same net price to retailers for washers and dryers. LG's posthearing brief, pp. 3-4, and exhibits 16, 17, 18, 19, and 23. In its posthearing brief, Samsung stated that *** usually set the same MAP for LRWs and matching dryers, and that Whirlpool offers the same net prices to wholesale buyers. Samsung's posthearing brief, answers to questions, p. 8.

⁴⁹ Hearing transcript, p. 205 (Riddle).

⁵⁰ Hearing transcript, pp. 121-122, 157 (Tubman), and 162 (Pepe), and Whirlpool's posthearing brief at I-14 and II-29.

⁵¹ GE Appliances' posthearing brief, pp. 5-6.

⁵² ***.

⁵³ See ***.

⁵⁴ ***.

Table V-11

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	1
Set price list	1	1
Other ²	1	2
Responding firms	3	3

¹ The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

² *** reported using ***.

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

Table V-12 shows total U.S. producers' and importers' 2016 U.S. commercial shipments of LRWs by type of sale. Among U.S. producers, *** sell most (***) or all (***) of their LRWs through spot sales, while *** sells *** of its LRWs under short-term contracts. (The balance of *** are made under long-term contracts.) *** short-term contracts ***, *** long-term contracts fix price and do not have meet-or-release provisions. ***.

Table V-12

LRWs: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2016

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

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

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

Among importers, *** reported that over *** percent of their 2016 sales were under annual contracts, while *** of *** 2016 sales were through spot sales. *** contracts do not allow price renegotiation and do not have meet-or-release provisions. *** contracts allow price renegotiation and do not have meet-or-release provisions.

Ten purchasers reported that they purchase product daily, nine purchase weekly, two purchase monthly, and two purchase quarterly. Twenty of 21 responding purchasers reported that their purchasing frequency had not changed since January 1, 2012, with one reporting that the economic recovery had led to it purchasing more often. Most purchasers contact between one to six suppliers before making a purchase, with 10 purchasers contacting at least two.

Negotiations

Twenty of 21 purchasers indicated that their firm's flooring and purchase decisions for LRWs involve negotiations between supplier and purchaser. Negotiating factors include price or cost, margins, warranties, promotions, and support. Five purchasers (including *** stated that competing quotes were not shared.⁵⁵ *** described ***. Large purchasers *** described an extensive list of factors considered, including the previously mentioned factors and also ***.

***.⁵⁶

Sales terms and 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).⁵⁷

U.S. producers ***⁵⁸ and importers *** reported offering multiple types of discounts, including quantity discounts,⁵⁹ annual total volume discounts, sales incentives, promotional discounts, cooperative advertising allowances, and sales person incentives. U.S. producer *** reported offering discounts on a ***. Importer *** reported also offering ***.

All three U.S. producers reported quoting prices on ***.⁶⁰ *** reported quoting prices on a delivered basis.

U.S. producer *** reported offering numerous types of sales terms (including ***) depending on the customer. U.S. producer *** reported receiving ***. U.S. producer *** reported that its typical sales terms are ***.⁶¹ *** reported offering sales terms of net 30 days, although *** indicated that it also offered ***.

PRICE DATA

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following LRW products shipped to unrelated U.S. customers during January 2012-March 2017.⁶² Data were requested net of all discounts, both direct and indirect.

⁵⁵ No other purchasers indicated whether it shared competing quotes or not.

⁵⁶ LG's prehearing brief, exhibit 10.

⁵⁷ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. V-6.

⁵⁸ ***.

⁵⁹ *** reported offering quantity discounts.

⁶⁰ ***.

⁶¹ ***.

⁶² Products 1, 2, and 6 correspond to products 3, 4, and 2 (respectively) from the final phase of the 2016 investigation of Chinese washers. Those products were also used in the preliminary phase of that investigation. Products 3 and 4 correspond to products 5 and 7 in the final phase of that investigation, and were selected by respondents in that investigation. Product 5 corresponds to product 8 in that investigation, and was selected by GE Appliances and Whirlpool in that investigation. See *Large*

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; water heater included; steam cycle(s) included; no LCD display; white finish.

Product 2.— 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 3.— Top loading, Energy Star rated washer; impeller; rated DOE capacity greater than or equal to 4.7 cubic feet but less than 5.2 cubic feet; no water heater included; no steam cycle included; lid includes clear or tinted window; white finish.

Product 4.— Top loading, Energy Star rated; impeller; rated DOE capacity greater than or equal to 4.7 cubic feet but less than 5.2 cubic feet; water heater included; steam cycle included; lid includes clear or tinted window; white finish.

Product 5.— 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 6.— 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.

Two 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.⁶³ Importers' pricing data covered LRWs imported from ***.⁶⁴ Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' shipments of LRWs and *** percent of U.S. shipments of imported LRWs during 2016.

*** indicated that none of their sales of pricing products were to original equipment manufacturers (OEMs) that marketed and advertised LRWs under their own brand.⁶⁵ *** indicated that they sold some pricing products to OEMs, ***. *** indicated that prices to OEMs are usually lower than prices to other buyers because OEM prices do not include warranty expenses. *** specified that prices to OEMs are *** percent lower, while *** stated that due to differences (such as the timing of promotional support) in how LRWs are sold to OEMs and other buyers, it could not provide an exact price comparison. Additionally, *** described the pricing product categories as "far too broad."⁶⁶

Residential Washers from China, Investigation No. 731-TA-1306 (Final), USITC Publication 4666, January 2017, pp. V-10-11.

⁶³ 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.

⁶⁴ Pricing data were also requested for imports of pricing products from other countries, but no such data were provided.

⁶⁵ ***.

⁶⁶ See also Joint Respondents' prehearing brief, pp. 84-86.

Price data for products 1-6 are presented in tables V-13 to V-18 and figures V-7 to V-12 for U.S. and imported LRWs. Pricing data by country are presented in appendix G.

Table V-13

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 1,¹ by quarters, January 2012-March 2017

* * * * *

Table V-14

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 2,¹ by quarters, January 2012-March 2017

* * * * *

Table V-15

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 3,¹ by quarters, January 2012-March 2017

* * * * *

Table V-16

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4,¹ by quarters, January 2012-March 2017

* * * * *

Table V-17

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5,¹ by quarters, January 2012-March 2017

* * * * *

Table V-18

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6,¹ by quarters, January 2012-March 2017

* * * * *

Figure V-7

LRWs: Weighted-average prices and quantities of domestic and imported product 1, by quarters, January 2012-March 2017

* * * * *

Figure V-8

LRWs: Weighted-average prices and quantities of domestic and imported product 2, by quarters, January 2012-March 2017

* * * * *

Figure V-9
LRWs: Weighted-average prices and quantities of domestic and imported product 3, by quarters, January 2012-March 2017

* * * * *

Figure V-10
LRWs: Weighted-average prices and quantities of domestic and imported product 4, by quarters, January 2012-March 2017

* * * * *

Figure V-11
LRWs: Weighted-average prices and quantities of domestic and imported product 5, by quarters, January 2012-March 2017

* * * * *

Figure V-12
LRWs: Weighted-average prices and quantities of domestic and imported product 6, by quarters, January 2012-March 2017

* * * * *

Price trends

In general, prices decreased during January 2012-March 2017. Table V-19 summarizes the price trends, by source and by product. Domestic price decreases ranged from 6.2 to 43.7 percent during January 2012-March 2017 while import price decreases ranged from 2.9 to 39.3 percent.⁶⁷

Table V-19
LRWs: Summary of weighted-average f.o.b. prices for products 1-6 from the United States and other countries

* * * * *

Price comparisons

As shown in table V-20, prices for imported LRWs were below those for U.S.-produced product in 70 of 92 instances (3.9 million units) and above in 22 of 92 instances (0.6 million units).⁶⁸

⁶⁷ Joint respondents pointed to a Bureau of Labor Statistics index for laundry products to state that prices for LRWs are actually rising. Hearing transcript, p. 243 (Klett). However, petitioners pointed to average unit value data submitted by joint respondents to state that even prices for models that respondents described as innovative were falling. Hearing transcript, p. 128 (Levy).

⁶⁸ With its prehearing brief, *** submitted a statement from ***. *** stated that in his experience, LG and Samsung LRWs did not undersell U.S. LRWs at these rates. See prehearing brief of LG at exhibit 6.

Table V-20

LRWs: Instances of foreign prices above and below U.S. prices, by source, January 2012-March 2017

Comparison	Total number of comparisons	Foreign-origin lower than US-origin		Foreign-origin higher than U.S.-origin	
		Number of quarters	Quantity (units)	Number of quarters	Quantity (units)
Foreign- vs US-origin-- Product 1	9	7	***	2	***
Product 2	12	12	***	0	0
Product 3	18	15	***	3	***
Product 4	17	6	***	11	***
Product 5	21	20	***	1	***
Product 6	15	10	***	5	***
Total	92	70	3,860,937	22	613,567

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

LOST SALES AND LOST REVENUE

U.S. producers were asked if they had lost sales of LRWs to imports of this product since January 1, 2012. Three stated that they had, with ***.⁶⁹ U.S. producers were also asked if, over the same period, they had lost revenue (i.e., reduced prices and/or rolled back price increases) to avoid losing sales to competitors selling imported LRWs. Three producers answered that they had (although *** stated that it had ***.⁷⁰ ***.

Additionally, U.S. producer *** added that its lost sales and lost revenue allegations were only those that could be described “with specificity,” and stated that its allegations thus may understate the actual amount of lost sales and lost revenue.⁷¹ ***. U.S. producer *** stated that because ***, it is “not unusual” for customers to cite “cut-rate” prices on LG and Samsung product during negotiations, forcing *** to increase its discounts offered.

Table V-21 shows purchasers’ changes in purchasing patterns over 2012 to 2016. Eighteen of 21 purchasers indicated that they had decreased their share of U.S. LRW purchases and increased their share of imported LRW purchases.

Of the 20 responding purchasers, 9 reported that, since 2012, they had purchased imported LRWs instead of U.S.-produced product (table V-22). Five of these purchasers reported that subject import prices were lower than U.S.-produced product, and four of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced LRWs. Three purchasers estimated the quantity of imported LRWs purchased instead of domestic LRWs; quantities ranged from *** units to ***

⁶⁹ ***.

⁷⁰ ***.

⁷¹ See ***.

units. Purchasers identified offering a variety of brands and specific requests as non-price reasons for purchasing imported rather than U.S.-produced LRWs.

Five responding purchasers reported that U.S. producers had reduced prices in order to compete with lower-priced imports (table V-23); eleven did not know, but some of those offered comments. The reported estimated price reduction ranged from 5 to 40 percent. In describing the price reductions, purchasers reported making their LRW purchase decisions on price and also on numerous other factors such as brand reputation, consumer preference familiarity, advertising, features, performance, and energy consumption.

Table V-21
LRWs: Purchasers' responses to purchasing patterns

* * * * *

Table V-22
LRWs: Purchasers' responses to purchasing subject imports instead of domestic product

* * * * *

Table V-23
LRWs: Purchasers' responses to U.S. producer price reductions

* * * * *

Alleged factors other than imports that may be affecting the domestic industry

Federal programs

Whirlpool's and GE Appliances' 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.⁷² Whirlpool stated that commencing in 2013, the company imported 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.⁷³ Whirlpool further stated that using the FTZ structure allowed Whirlpool to minimize tariff liability and remain cost competitive while maintaining its

⁷² 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.

⁷³ 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,

global components supply chain.⁷⁴ Pursuant to FTZ regulations, production activities⁷⁵ 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. In the final phase of the China investigation, the Commission treated LRWs withdrawn by Whirlpool from its FTZ as domestically produced LRWs.⁷⁶

GE Appliances' Appliance Park in Louisville, Kentucky, currently has FTZ subzone authority to produce a wide range of household appliances, including apparel washing machines and dryers.⁷⁷ GE Appliances' subzone was established in 1985.⁷⁸

Federal Tax Credits for Energy Efficiency

A federal income tax credit for energy efficiency was available during 2012-13 and could be earned on certain front load and top load washers meeting specified criteria regarding modified energy factors and water consumption.⁷⁹ While relevant LRW production earned tax credits during 2012-13, Whirlpool stated that the tax credits were used to reduce corporate income tax liability and that U.S. LRW operations did not contribute to their taxable income.⁸⁰

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.

⁷⁴ 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. *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. III-6—III-7.

⁷⁵ 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.

⁷⁶ *Large Residential Washers from China, Investigation No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. 17.

⁷⁷ GE Appliances' FTZ production authority is listed in a *Federal Register* notice for the last modification to its FTZ authority in 2013 for water heaters. *Notification of Proposed Production Activity; GE Appliances; Subzone 29C (Electric Water Heaters), Louisville, KY*, 78 FR 7394 (February 1, 2013).

⁷⁸ GE Appliances' subzone was established in 1985. U.S. Department of Commerce, International Trade Administration, Enforcement and Compliance, "Foreign Trade Zone Board Action Cross Reference, Zone Nos. 1-50," <http://enforcement.trade.gov/ftzpage/1-50.html>, retrieved August 17, 2017.

⁷⁹ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Preliminary)*, USITC Publication 4591, January 2017, p. VI-7.

⁸⁰ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Preliminary)*, USITC Publication 4591, January 2017, p. VI-7.

State and local incentive programs

No information is readily available indicating that U.S. producers of LRWs have received benefits from state and local incentive programs for LRW production.

Other factors that are potential sources of injury

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

On March 7, 2015, the Department of Energy (DOE) implemented regulations that increased both the minimum efficiency standards for all LRWs as well as the efficiency standards required for an LRW to meet Energy Star certification.⁸¹ These regulations substantially decreased the volume of water that can be used in the LRW wash and rinse cycles, and therefore the total energy consumption of the entire laundry cycle.⁸²

U.S. producers were requested to report their U.S. commercial shipments of top load LRWs, by efficiency (i.e. whether a particular top load LRW is considered Energy-Star rated or not).⁸³ As shown in Table III-5, the share of U.S. producers' U.S. shipments of top load LRWs with an Energy Star rating has *** throughout the period of investigation. In 2016, *** percent of all U.S. producers' commercial shipments were Energy Star rated compared to *** percent in 2012. Furthermore, the share was *** percent for January-March, 2017. The largest annual decline occurred from 2014 to 2015 coinciding with the more stringent energy efficiency standards that became effective on March 7, 2015.

⁸¹ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, pp. 14-15.

⁸² *Ibid.*

⁸³ 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.

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 *Federal Register* notices issued by the Commission during the current proceeding.

Citation	Title	Link
82 FR 27075 June 13, 2017	<i>Large Residential Washers; Institution and Scheduling of Safeguard Investigation and Determination That the Investigation Is Extraordinarily Complicated</i>	https://www.gpo.gov/fdsys/pkg/FR-2017-06-13/pdf/2017-12160.pdf
82 FR 33926 July 21, 2017	<i>Large Residential Washers; Institution and Scheduling of Safeguard Investigation and Determination That the Investigation Is Extraordinarily Complicated, Amendment</i>	https://www.gpo.gov/fdsys/pkg/FR-2017-07-21/pdf/2017-15356.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

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

Subject: Large Residential Washers
Inv. No.: TA-201-76
Date and Time: September 7, 2017 - 9:45 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

The Honorable Patrick J. Tiberi, U.S. Representative, 12th District, Ohio

The Honorable Ralph Norman, U.S. Representative, 5th District, South Carolina

STATE GOVERNMENT WITNESSES:

The Honorable Mark E. Green, M.D., State Senator, Tennessee State Senate

The Honorable Jim Durrett, Mayor of Montgomery, Tennessee

The Honorable Kim McMillan, Mayor of Clarksville, Tennessee

EMBASSY WITNESSES:

Embassy of the Republic of Korea
Washington, DC

Hee-Sang Kim, Deputy Director-General of the Bilateral Economic Affairs
Bureau of the Ministry of Foreign Affairs

EMBASSY WITNESSES (continued):

**Embassy of the Republic of Indonesia
Washington, DC**

Reza Pahlevi Chairul, Commercial Attaché

**Taipei Economic and Cultural Representative Office
Washington, DC**

Chien Chi Chao, Economic Officer

OPENING REMARKS

Petitioner (**Jack A. Levy**, Cassidy Levy Kent (USA) LLP)
Respondents (**Shara L. Aranoff**, Covington & Burling LLP)

IN SUPPORT OF THE PETITION:

Cassidy Levy Kent (USA) LLP
Adducci, Mastriani & Schaumberg LLP
Washington, DC
on behalf of

Whirlpool Corporation

Jeff Fettig, Chairman and CEO, Whirlpool Corporation

Joseph Liotine, President, North America Region, Whirlpool Corporation

Casey Tubman, General Manager for Laundry Products, Whirlpool Corporation

Jack A. Levy)
Myles S. Getlan) – OF COUNSEL
Deanna Tanner Okun)

IN SUPPORT OF THE PETITION (continued):

TRADEWINS LLC
Washington, DC
on behalf of

GE Appliances, a Haier Company

Peter Pepe, Vice President, Clothes Care, GE Appliances

Earl Jones, Executive Counsel, Public Policy & Industry
Relations, GE Appliances

John R. Magnus)
) – OF COUNSEL
Sheridan S. McKinney)

IN OPPOSITION TO THE PETITION:

Curtis, Mallet-Prevost, Colt & Mosle LLP
Washington, DC
on behalf of

LG Electronics USA, Inc.; LG Electronics, Inc.;
LG Electronics Vietnam Haiphong Co., Ltd.;
LG Electronics Thailand Co., Ltd., and Nanjing
LG-Panda Appliances Co., Ltd.
(collectively “LGE” or “LG”)

John Riddle, Senior Vice President of USHome Appliances, LGEUS

Richard Wingate, Vice President Compliance and General Counsel,
LGEUS

Sung Han Kim, Director of Laundry Product Management, LGEUS

Joshua Bunde, Regional Account Sales Manager, LGEUS

Dr. Orley Ashenfelter, Professor of Economics, Princeton University

Dr. Rodney Ludema, Associate Professor, Georgetown University

IN OPPOSITION TO THE PETITION (continued):

Ruth Gilgenbach, Partner, Ashenfelter & Ashmore

Daniel Klett, Economist, Capital Trade Inc.

Daniel L. Porter)
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James P. Durling)

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on behalf of

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Samsung Digital Appliances Mexico; Samsung Electronics HCMC
Complex; Suzhou Samsung Electronics Co., Ltd., and
Suzhou Samsung Electronics Co., Ltd.-Export
(collectively “Samsung”)

Tim Baxter, President *and* Chief Executive Officer, Samsung
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John Herrington, Senior Vice President *and* General Manager – Home
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REBUTTAL/CLOSING REMARKS:

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Respondents (**Daniel L. Porter**, Curtis, Mallet-Prevost, Colt & Mosle LLP)

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LRWs and covered parts: Summary data concerning LRWs and covered parts, 2012-16, January to March 2016, and January to March 2017

* * * * *

Table C-2

Residential washers and covered parts: Summary data concerning LRWs, covered parts, and selected out-of-scope residential washers, 2012-16, January to March 2016, and January to March 2017

* * * * *

Table C-3

Residential washers: Summary data concerning LRWs and selected out-of-scope residential washers, 2012-16, January to March 2016, and January to March 2017

* * * * *

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LRWs: Summary data concerning LRWs, 2012-16, January to March 2016, and January to March 2017

* * * * *

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* * * * *

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Table D-1
LRWs: U.S. producers' efforts to compete more effectively in the U.S. market, by reporting firm, January 2012-present

* * * * *

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* * * * *

APPENDIX E

Effects of imports on U.S. producers and related information by firm

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LRWs: Narrative responses by U.S. producers regarding actual and anticipated negative effects of imports on investment, growth, and development since January 1, 2012

* * * * *

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* * * * *

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COMMENTS ON THE EFFECTS OF U.S. ANTIDUMPING AND COUNTERVAILING
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Three of three responding U.S. producers that accounted for virtually all U.S. production of LRWs during the period of investigation reported that their firm's operations concerning LRWs had been injured by imports of LRWs since January 1, 2012. Explanations of their responses are presented in table F-1.

Table F-1
LRWs: U.S. producers' injury from imports

* * * * *

U.S. producers were asked to rank any factors that are having an adverse impact on the operations of their firm producing LRWs. The most often cited factor as being an extremely important cause of injury to U.S. producers was *** (table F-2).

Table F-2
LRWs: Ranking of the importance of factors¹ causing injury as reported by U.S. producers, by factor, on a scale of 1 to (with being an extremely important cause)

* * * * *

U.S. producers were also asked to describe the impact of imports of LRWs on their U.S. operations producing LRWs and to identify and describe any other factors that are having an adverse impact on the operation of their firm. They were also asked to describe the role played by each factor that they identified. The responses of U.S. producers to this request are presented in table F-3.

Table F-3
LRWs: U.S. producers' descriptions of factors that have adverse impact on their firm

* * * * *

U.S. producers were asked to describe the significance, if any, of the existing U.S. antidumping and countervailing duty orders on imports of LRWs from China, Korea, and Mexico on their firm's production, capacity, U.S. shipments, inventories, purchases, employment, revenues, costs, profits, cash flow, capital expenditures, research and development expenditures, and asset values. Responses to this request are presented in table F-4.

Table F-4
LRWs: U.S. producers' descriptions of significance of existing U.S. AD/CVD orders on imports of LRWs from China, Korea, and Mexico

* * * * *

Importers were asked if their patterns of importing LRWs had changed since the United States imposed antidumping and countervailing duty orders on imports from Korea, Mexico, and China. Their responses are presented in table F-5.

Table F-5
LRWs: Effect of AD/CVD orders on U.S. importers' imports of LRWs, by number of responding firms

* * * * *

Importers were requested to provide an explanation when identifying an effect on their pattern of imports. Importers' responses are provided in table F-6.

Table F-6
LRWs: U.S. importers' explanations on the effect of AD/CVD orders on their imports

* * * * *

Importers were asked to describe the significance, if any, of the existing U.S. antidumping and countervailing duty orders on imports of LRWs from China, Korea, and Mexico on their firm's imports, U.S. shipments of imports, and inventories. Responses to this request are presented in table F-7.

Table F-7
LRWs: U.S. importers' descriptions of significance of existing U.S. AD/CVD orders on imports of LRWs from China, Korea, and Mexico

* * * * *

Purchasers were asked if their purchasing patterns for LRWs had changed since the United States imposed antidumping and/or countervailing duty orders on LRWs from China, Korea, and/or Mexico. Responses to this request are presented in table F-8. *** answered that they had purchased LRWs before 2012, but 14 (including the ***) indicated that their purchasing pattern was essentially unchanged. (***) This description of purchasers' purchasing practices does not match purchasers' reported purchases (see *Part V*), suggesting that many responding purchasers did not correctly interpret the question to ask about whether imposition of the orders had affected the countries from which they purchased LRWs. For example, *** indicated that it purchased based on features and quality, not country of origin. Those purchasers that indicated their purchasing pattern had changed usually described doing so because LG or Samsung had relocated production to those countries, as also discussed in *Part V*, or due to changes in their own firm's demand for LRWs.

Table F-8

LRW: Effect of AD/CVD orders on U.S. purchasers' purchases of LRWs, by number of responding firms¹

Decision	Number of purchasers' reporting
No, our pattern of imports is unchanged.	14
Yes, we discontinued imports China	---
Yes, we reduced imports from China	2
Yes, changed China unrelated to order	3
Yes, we discontinued imports from Korea	---
Yes, we reduced imports from Korea	2
Yes, changed Korea unrelated to order	1
Yes, we discontinued imports from Mexico	---
Yes, we reduced imports from Mexico	2
Yes, changed Mexico unrelated to order	---
Yes, began importing all other sources	1
Yes, increase importing all other sources	2
Yes, changed all other sources unrelated to orders	2

¹The sum of responses may not add up to the total number of responding firms as each firm was instructed to check all applicable effects on purchases.

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

Purchasers were requested to provide an explanation when identifying an effect on their pattern of purchases of LRWs. Purchasers' responses are provided in table F-9.

Table F-9

LRWs: U.S. purchasers' explanations on the effect of AD/CVD orders on their purchases of LRWs

* * * * *

Foreign producers were asked to describe the significance, if any, of the existing U.S. antidumping and countervailing duty orders on LRWs from China, Korea, and Mexico on their firm's production, capacity, U.S. exports, inventories, purchases, or other indicators. Responses to this request are presented in table F-10.

Table F-10

LRWs: Foreign producers' descriptions of significance of existing U.S. AD/CVD orders

* * * * *

APPENDIX G

PRICE DATA BY COUNTRY SOURCE

Confidential Business Information

As noted in *Part V*, two U.S. producers and two importers provided pricing data, with importers providing data for LRWs from ***. In *Part V*, the importers' pricing data were presented for all import sources together. In this appendix, the importers' pricing data are presented by country of origin. These price items and accompanying data are comparable to those presented in tables V-13 to V-18. Price and quantity data are shown in tables G-1 to G-6 (with domestic and imported sources).

Table G-1

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 1,¹ by quarters, January 2012-March 2017

* * * * *

Table G-2

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 2,¹ by quarters, January 2012-March 2017

* * * * *

Table G-3

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 3,¹ by quarters, January 2012-March 2017

* * * * *

Table G-4

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4,¹ by quarters, January 2012-March 2017

* * * * *

Table G-5

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5,¹ by quarters, January 2012-March 2017

* * * * *

Table G-6

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6,¹ by quarters, January 2012-March 2017

* * * * *

APPENDIX H

**U.S. IMPORTERS' SHIPMENTS OF LRWS BY PRODUCT TYPE,
BY COUNTRY SOURCE**

Table H-1
LRWs: U.S. importers' commercial U.S. shipments of imports by type and source, 2012-16,
January to March 2016, and January to March 2017

* * * * *

