

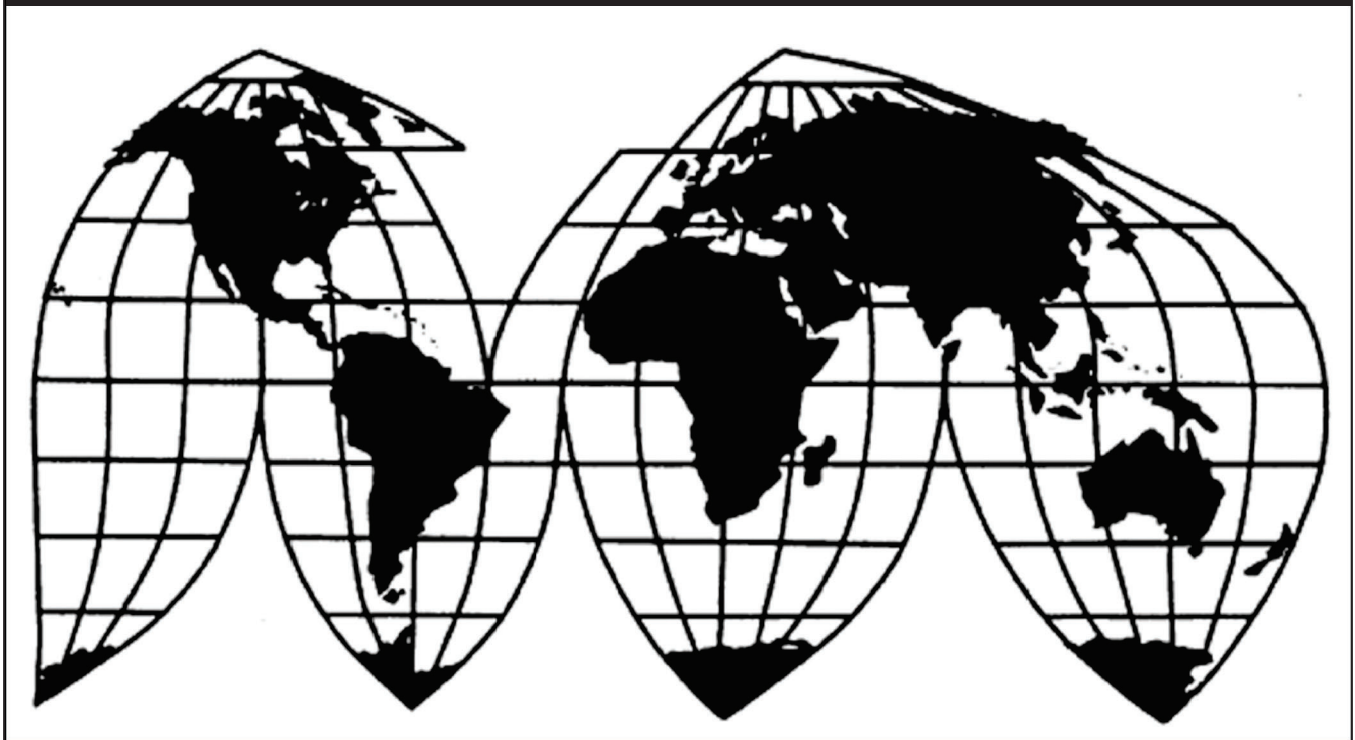
Large Residential Washers: Monitoring Developments in the Domestic Industry

Investigation No. TA-204-013

Publication 4941

August 2019

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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EXECUTIVE SUMMARY

The U.S. International Trade Commission (“Commission”) is required by section 204(a)(2) of the Trade Act of 1974 to monitor and report on developments with respect to a domestic industry after the imposition of a safeguard remedy.¹ In this mid-term report proceeding, the Commission gathered and analyzed information regarding developments in the U.S. industry producing large residential washers (“LRWs”) since safeguard measures were put in place by the President effective February 7, 2018. Those measures followed a safeguard investigation in which the Commission reached an affirmative serious injury determination and recommended remedies to the President. Since the safeguard measures were put in place, there have been a number of significant developments, including decreased imports, generally increased prices, some improvement in the financial performance of continuously operating producers, increased production by two new U.S. producers, increased employment in the industry, and progress implementing adjustment plans.

BACKGROUND

On December 4, 2017, the Commission completed an investigation and issued its report pursuant to section 202 of the Trade Act of 1974 (the “Act”). The Commission determined that LRWs and covered parts were being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing a like or directly competitive article. Among other conclusions, the Commission found that the increase in imports led to lower prices and declining financial performance for the domestic industry. The report also contained recommended remedies to facilitate efforts by the domestic industry and its workers to make a positive adjustment to import competition.

On January 23, 2018, the President imposed a safeguard measure in the form of a tariff-rate quota (“TRQ”) on imports of LRWs and covered parts for a period of 3 years and 1 day, effective February 7, 2018.² The measure excludes imports from Canada and imports from WTO Member developing countries (as long as imports from a developing country do not exceed 3 percent of total imports and imports from all developing countries with an import share of less than 3 percent do not collectively exceed 9 percent of total imports). The measure subjects imports of LRWs in excess of 1.2 million units annually to additional tariffs of 50 percent in the first year, 45 percent in the second year, and 40 percent in the third year, with an in-quota tariff of 20 percent in the first year, 18 percent in the second year, and 16 percent in the third year. With respect to covered parts, imports in excess of 50,000 units were to be subject to an additional 50 percent tariff in the first year, imports in excess of 70,000 units were to be subject to a tariff of 45 percent in the second year, and imports in excess of 90,000 units were to be subject to a tariff of 40 percent in the third year, while no additional tariff would apply to goods within the in-quota quantity. The TRQ contains no individual country allocations, and the in-

¹ 19 U.S.C. 2254(a)(2).

² *To Facilitate Positive Adjustment to Competition From Imports of Large Residential Washers*, 83 FR 3553, January 25, 2018.

quota quantity that receives lower-duty or duty-free treatment resets annually. The first phased reduction of the safeguard measure took effect on February 7, 2019.

The Commission instituted this proceeding under section 204(a)(2) of the Act for the purpose of preparing a mid-term report to the President and the Congress on the results of its monitoring of developments with respect to the domestic industry since the imposition of the safeguard measure. Pursuant to section 204(a)(1) of the Act, the Commission's report includes information concerning the progress and specific efforts made by workers and firms in the domestic industry to make a positive adjustment to import competition.

In preparing this report, the Commission collected data for calendar years 2016, 2017, and 2018, and interim periods January-March 2018 and January-March 2019. The Commission received questionnaire responses from five U.S. producers, including three that operated continuously during the period and two new entrants, that together account for virtually all domestic production of LRWs in 2018. The Commission also received questionnaire responses from five U.S. importers of LRWs, representing virtually all U.S. imports of LRWs (as well as certain non-covered washers). The Commission also received questionnaire responses from 20 U.S. purchasers and 16 foreign producers.

During this proceeding, Whirlpool Corporation ("Whirlpool") and Haier US Appliance Solutions d/b/a GE Appliances ("GE Appliances"), U.S. producers that operated continuously during the monitoring period, submitted pre- and posthearing briefs. LG Electronics USA, Inc. and LG Electronics, Inc. (collectively, "LG"), an importer and new entrant U.S. producer, also submitted pre- and posthearing briefs. The Commission held a hearing in Washington, DC, in which it received testimony from Whirlpool, GE Appliances, LG, Congressional witnesses, and a witness from the Korean Ministry of Trade, Industry and Energy. The Commission also conducted on-site fieldwork.

MARKET DEVELOPMENTS

Most U.S. producers and importers, and many purchasers, reported that U.S. demand for LRWs has declined since February 7, 2018. Apparent U.S. consumption of LRWs declined between 2017 and 2018, and was lower in January-March 2019 than in January-March 2018. Demand for LRWs is driven primarily by replacement of washers at the end of their useful lives and secondarily by home sales, renovations, and new construction. During 2018 and into 2019, the U.S. market saw reduced levels of new housing starts and remodeling, as well as fewer replacement purchases as consumers generally were replacing washers purchased during a period of weak demand from 2008 to 2011. Participants in the proceeding generally agreed that reduced demand was due to these factors and, to a certain extent, higher prices.

With respect to import supply in the U.S. market, the safeguard measure was preceded by a series of antidumping and countervailing duty investigations. Antidumping and countervailing duty orders were imposed on LRW imports from Korea and Mexico in February 2013, and an antidumping duty order on LRW imports from China was imposed in February 2017. Imports from these sources decreased substantially following the imposition of these orders and were replaced by imports principally from Thailand and Vietnam between 2016 and

2017. The vast majority of LRW imports from all of these countries were supplied by Samsung and LG.

Imports of LRWs decreased after the safeguard measure was imposed, falling considerably between 2017 and 2018. However, prior to the announcement of the safeguard measure in January 2018, imports of LRWs increased substantially. The pre-safeguard increase in imports resulted in the swelling of importers' 2017 year-end inventories, which contributed to a more moderate reduction in U.S. shipments of imports in 2018 despite the existence of the safeguard. Similarly, after the TRQ reset on February 7, 2019 (providing importers with the opportunity to import 1.2 million units of LRWs at the in-quota tariff rate of 18.0 percent), imports of LRWs increased substantially and importers' inventories similarly increased. However, U.S. shipments of imports and import market share in January-March 2019 were substantially lower than in January-March 2018.

DEVELOPMENTS IN THE DOMESTIC INDUSTRY

Since the safeguard measure was put in place, the domestic industry has seen increasing capacity and employment, growth in U.S. shipments and market share, and generally higher prices. On the other hand, production and capacity utilization have declined, though production remained larger than it was in 2016. Financial performance varied among producers based on firm-specific circumstances.

Two of the three U.S. producers in continuous operation during the monitoring period expanded their U.S. operations in 2018, resulting in increased capital expenditures, capacity, and employment. In addition, new entrants Samsung and LG commenced production of LRWs in South Carolina and Tennessee, respectively, in 2018. While both firms have experienced challenges during the ramping-up of their new facilities, resulting in slower-than-expected increases in production, these operations represent substantial investments that will increase the domestic industry's capacity, production, and employment over the long term.

The domestic industry's capacity increased between 2017 and 2018, and was higher in January-March 2019 than in January-March 2018; the same trends were generally seen in the industry's increased employment of production-related workers, hours worked, and wages paid. The industry's production did not keep pace, however, resulting in declining capacity utilization, lower productivity levels, and higher unit labor costs. By quantity, the domestic industry's U.S. shipments increased between 2017 and 2018 but were lower in January-March 2019 than in January-March 2018. The domestic industry increased its share of apparent U.S. consumption between 2017 and 2018 and in January-March 2019 relative to January-March 2018. Increased U.S. shipments and decreased import shipments by new entrants Samsung and LG fueled the increase in domestic industry market share, particularly over the interim periods.

Prices for imported LRWs and domestically produced LRWs generally increased after the safeguard measures were imposed. Based on quarterly sales price data collected on eight narrowly defined LRW products, the domestic industry's prices generally increased during 2018 before declining in the first quarter of 2019. The average unit value of U.S. shipments by the domestic industry and importers alike increased between 2017 and 2018 and was higher in January-March 2019 relative to January-March 2018. Other pricing information and statements

from participants in these proceedings also indicate that prices generally increased after the safeguard measures were imposed. Such price increases are consistent with the Commission's expectation that its recommended remedy would lead to a modest increase in prices in the short term.

Notwithstanding increasing cost of goods sold, the continuously operating U.S. producers experienced improved financial performance between 2017 and 2018 and between interim periods due to their ability to raise net sales unit values. New entrants Samsung and LG experienced financial losses as they completed construction and ramped up production at their new facilities in 2018 and January-March 2019. The overall industry's financial performance worsened between 2017 and 2018 by all measures, but improved in January-March 2019 as compared to January-March 2018.

ADJUSTMENT EFFORTS

Pursuant to section 204(a)(1) of the Act, the Commission collected information concerning the progress and specific efforts made by workers and firms to make a positive adjustment to import competition. During the safeguard investigation, Whirlpool and GE Appliances submitted proposed adjustment plans. In their respective plans, Whirlpool planned to make investments to update and expand its LRW offerings and to enhance the efficiency of its manufacturing and logistics operations, while GE Appliances planned to make investments in updated LRW offerings, human capital, and business process innovation.

Since imposition of the safeguard measure, Whirlpool stated that it has launched production of a new front load LRW platform, initiated an upgrade to its top load LRW platform, invested in the expansion of its jumbo-capacity top load LRW lineup, and begun executing its plans to supply new LRWs to a particular customer. Whirlpool has also approved investments in a variety of improvements to its LRW production plant in Clyde, Ohio.

GE Appliances stated that it has invested \$30 million in a new LRW line, increasing top load LRW capacity by 20 percent. In 2019, GE Appliances plans new product launches and the addition of new features to existing products.

Both LG and Samsung commenced LRW production in the United States in 2018. While both firms have collectively experienced some challenges in ramping up U.S. production, they both plan to produce the majority of their LRWs for the U.S. market from their new U.S. production facilities by the end of 2020.

The legislative history of Section 204 of the Act directs that adjustment efforts should be evaluated in light of existing economic conditions. Domestic producers described several factors that allegedly hindered their adjustment efforts. First, Whirlpool and GE contend that the sharp increase in U.S. imports and inventories held by importers prior to the February 7, 2018 imposition of the safeguard measure delayed the remedial effect of the measure. In addition, all parties point to weakening demand and higher raw material costs as factors weighing on their performance. Finally, LG claims that reduced demand caused by higher consumer prices, and its inability to import the volumes of LRWs necessary to preserve its market position as its U.S. plant ramps up, have adversely affected its U.S. production operations.

PART I: INTRODUCTION AND OVERVIEW

BACKGROUND

On June 5, 2017, a petition, as amended, was properly filed 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 alleged that large residential washers (“LRWs”) were 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. The Commission conducted an investigation under section 202(b)(1)(A) of the Act. Following receipt of the report from the U.S. International Trade Commission (“USITC” or “Commission”) in December 2017 under section 202 of the Act (19 U.S.C. § 2252) containing an affirmative serious injury determination and remedy recommendations, the President, on January 23, 2018, pursuant to section 203 of the Act (19 U.S.C. § 2253), issued Proclamation 9694, imposing a safeguard measure in the form of a tariff-rate quota on imports of large residential washers for a period of 3 years and 1 day, effective February 7, 2018.^{1 2}

The Commission instituted this proceeding on February 15, 2019,³ for the purpose of preparing the report to the President and the Congress required by section 204(a)(2) of the Trade Act of 1974 (“the Act”)⁴ on the results of its monitoring of developments with respect to the domestic large residential washer industry since the imposition of tariff-rate quotas on imports of large residential washers. The following tabulation provides information relating to the background and schedule of this proceeding.^{5 6}

¹ *To Facilitate Positive Adjustment to Competition From Imports of Large Residential Washers*, 83 FR 3553, January 25, 2018.

² The measure providing import relief covers (a) washers provided for in subheadings 8450.11.00 and 8450.20.00 in the Annex to Proclamation 9694; (b) all cabinets, or portions thereof, designed for use in washers, and all assembled baskets designed for use in washers that incorporate, at a minimum, a side wrapper, a base, and a drive hub, provided for in subheading 8450.90.60 in the Annex to Proclamation 9694; (c) all assembled tubs designed for use in washers that incorporate, at a minimum, a tub and a seal, provided for in subheading 8450.90.20 in the Annex to Proclamation 9694; (d) any combination of the foregoing parts or subassemblies, provided for in subheadings 8450.90.20 or 8450.90.60. Also see HTS 9903.45.01 and 9903.45.02.

³ *Large Residential Washers: Monitoring Developments in the Domestic Industry*, 84 FR 5715, February 22, 2019.

⁴ 19 U.S.C. § 2254(a)(2).

⁵ Pertinent *Federal Register* notices are referenced in appendix A, and may be found at the Commission’s website (www.usitc.gov).

⁶ The Commission held a public hearing on this proceeding on June 25, 2019. U.S. Senators Sherrod Brown and Rob Portman of Ohio provided statements, as did Haekwan Chung, Director-General for Trade, Legal Affairs, and Public Relations from Korea’s Ministry of Trade, Industry, and Energy.

Witnesses and counsel appeared on behalf of Whirlpool, GE, and LG, and provided briefing, testimony, (continued...)

Effective date	Action
February 15, 2019	Institution of Commission's monitoring (84 FR 5715, February 22, 2019)
June 25, 2019	Commission's hearing
August 7, 2019	Commission's transmittal of report to the President and Congress

Section 204(a)(1) of the Act⁷ requires the Commission, so long as any action under section 203 of the Act remains in effect, to monitor developments with respect to the domestic industry, including the progress and specific efforts made by workers and firms in the domestic industry to make a positive adjustment to import competition.⁸ Section 204(a)(2) of the Act requires that whenever the initial period of an action under section 203 exceeds 3 years, the Commission shall submit a report on the results of the monitoring under section 204(a)(1) to the President and the Congress not later than the mid-point of the initial period of relief during which the action is in effect, or in this case by August 7, 2019.

WTO PROCEEDINGS

On May 14, 2018, Korea requested consultations with the United States concerning imposition of the safeguard measure on large residential washers pursuant to the World Trade Organization ("WTO") dispute settlement understanding. On May 25, 2018, Thailand requested to join the consultations. Subsequently, the United States informed the Dispute Settlement Body ("DSB") that it had accepted Thailand's request to join the consultations. On August 14, 2018, Korea requested the establishment of a panel and at its meeting on September 26, 2018, the DSB established a panel.⁹ After the United States and Korea were unable to agree on panelists, the Director-General determined the composition of the panel on July 1, 2019, at Korea's request.¹⁰

(...continued)

and responses to questions from the Commissioners. Appendix B presents a full list of witnesses appearing at the hearing.

⁷ 19 U.S.C. § 2254(a)(1).

⁸ Section 201(b)(1) of the Act states that a positive adjustment to import competition occurs when (A) the domestic industry (i) is able to compete successfully with imports after actions taken under section 204 terminate, or (ii) the domestic industry experiences an orderly transfer of resources to other productive pursuits; and (B) dislocated workers in the industry experience an orderly transition to productive pursuits.

Section 201(b)(2) states that the domestic industry may be considered to have made a positive adjustment to import competition even though the industry is not of the same size and composition as the industry at the time the investigation was instituted under section 202(b) of the Act.

⁹ WTO, "DS546: United States—Safeguard measure on imports of large residential washers," October 16, 2018, retrieved March 7, 2019.

¹⁰ WTO, "WT/DS546/5: United States – Safeguard measure on imports of large residential washers," July 2, 2019, retrieved July 16, 2019.

PREVIOUS AND RELATED INVESTIGATIONS

Antidumping and countervailing duty investigations on LRWs from Korea and Mexico

On December 30, 2011, Whirlpool filed a petition alleging that an industry in the United States is materially injured and threatened with material injury by reason of imports from Korea and Mexico of large residential washers that are sold in the United States at less-than-fair-value (“LTFV”) and subsidized by the Government of Korea. On December 26 and 27, 2012, the Department of Commerce (“Commerce”) determined that imports of certain LRWs from Korea and Mexico, respectively, were being sold at LTFV and that countervailable subsidies were being provided to producers and exporters of LRWs from Korea.¹¹ On February 8, 2013, the Commission determined that the domestic industry was materially injured by reason of imports of certain LRWs from Korea and Mexico sold at LTFV and subsidized by the Government of Korea.¹² Effective February 15, 2013, Commerce issued antidumping and countervailing duty orders on those imports.^{13 14}

¹¹ *Notice of Final Determination of Sales at Less Than Fair Value: Large Residential Washers from the Republic of Korea*, 77 FR 75975, December 26, 2012; *Notice of Final Determination of Sales at Less Than Fair Value: Large Residential Washers from Mexico*, 77 FR 76288, December 27, 2012; *Large Residential Washers from the Republic of Korea: Final Affirmative Countervailing Duty Determination*, 77 FR 75975, December 26, 2012. Dumping margins ranged from 9.29 to 82.41 percent for imports from Korea and 36.52 to 72.41 percent for imports from Mexico. The subsidy rates ranged from 1.85 to 72.30 percent for imports from Korea.

¹² *Large Residential Washers from Korea and Mexico; Determinations*, 78 FR 10636, February 14, 2013.

¹³ The scope of the antidumping and countervailing duty orders on LRWs from Korea and Mexico is broader than the scope of the safeguard measure on LRWs in that the orders covered three products specifically excluded from the safeguard measure: (1) top load LRWs with a permanent split capacitor motor, belt drive, and flat wrap spring clutch; (2) front load LRWs with a controlled induction motor and belt drive; and (3) front load LRWs with a cabinet width of more than 28.5 inches. Specifically, products covered by the orders are all large residential washers and certain subassemblies thereof. For purposes of the orders, the term “large residential washers” denotes all automatic clothes washing machines, regardless of the orientation of the rotational axis, except as noted below, 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).

Also covered in the scope of these orders are certain subassemblies used in large residential washers, namely: (1) all assembled cabinets designed for use in large residential washers which incorporate, at a minimum: (a) at least three of the six cabinet surfaces and (b) a bracket; (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 subassemblies.

(continued...)

There have been five administrative reviews regarding the antidumping duty order on LRWs from Korea, one administrative review regarding the countervailing duty order on LRWs from Korea, and four administrative reviews regarding the antidumping duty order on LRWs from Mexico. The results of the reviews are shown in tables I-1-I-3.

Table I-1
LRWs: Administrative reviews of the countervailing duty order on imports of LRWs from Korea

Date results published	Period of review	Producer or exporter	Subsidy rate (percent)
September 15, 2015 80 FR 55336	6/5/2012- 12/31/2013	Daewoo Electronics Corporation	81.91
		Samsung Electronics Co., Ltd	34.77

Source: Cited Federal Register notices.

Table I-2
LRWs: Administrative reviews of the antidumping duty order on imports of LRWs from Korea

Date results published	Period of review	Producer or exporter	Weighted average margin (percent)
September 15, 2015 80 FR 55595	8/3/2012- 1/31/2014	Daewoo Electronics Corporation	79.11
		LG Electronics, Inc.	1.52
		Samsung Electronics Co., Ltd	82.35
November 5, 2015 80 FR 68508 ¹	8/3/2012- 1/31/2014	LG Electronics, Inc.	1.38
September 12, 2016 81 FR 62715	2/1/2014- 1/31/2015	LG Electronics, Inc.	1.62
September 12, 2017 82 FR 42788	2/1/2015- 1/31/2016	LG Electronics, Inc.	0.00
January 31, 2018 83 FR 4467	2/1/2016- 1/31/2017	LG Electronics, Inc.	0.64
February 26, 2019 84 FR 6131	2/1/2017- 1/31/2018	LG Electronics, Inc.	0.0

¹ Amended final results of the antidumping duty administrative review.

Source: Cited Federal Register notices.

(...continued)

Excluded from the scope are stacked washer-dryers and commercial washers. Also excluded from the scope are automatic clothes washing machines with a vertical rotational axis and a rated capacity of less than 3.70 cubic feet.

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.

Table I-3
LRWs: Administrative reviews of the antidumping duty order on imports of LRWs from Mexico

Date results published	Period of review	Producer or exporter	Weighted average margin (percent)
September 15, 2015 80 FR 55335	8/3/2012- 1/31/2014	Electrolux Home Products Corp. NV/Electrolux Home Products de Mexico, S.A. de C.V.	6.45
November 5, 2015 80 FR 68510 ¹	8/3/2012- 1/31/2014	Electrolux Home Products Corp. NV/Electrolux Home Products de Mexico, S.A. de C.V.	6.22
September 12, 2016 81 FR 62714	2/1/2014- 1/31/2015	Electrolux Home Products Corp. NV/Electrolux Home Products de Mexico, S.A. de C.V.	2.47
July 12, 2017 82 FR 32169	2/1/2015- 1/31/2016	Electrolux Home Products Corp. NV/Electrolux Home Products de Mexico, S.A. de C.V.	3.67
March 19, 2018 83 FR 11963 ²	2/1/2016- 1/31/2017	Electrolux Home Products Corp. NV/Electrolux Home Products de Mexico, S.A. de C.V.	72.41

¹ Amended final results of the antidumping duty administrative review.

² On April 18, 2018, Electrolux requested NAFTA binational panel review of Commerce's final results of the fourth administrative review of the antidumping duty order on LRWs from Mexico. That panel review is currently pending. *North American Free Trade Agreement (NAFTA), Article 1904 Binational Panel Review: Notice of Request for Panel Review*, 83 FR 19221, May 2, 2018.

Source: Cited Federal Register notices.

On January 2, 2018, the Commission gave notice that it had instituted reviews on the antidumping and countervailing duties orders on LRWs from Korea and the antidumping duty orders on LRWs from Mexico.¹⁵ In April 24, 2019, the Commission completed full five-years review of the subject orders and determined that revocation of the antidumping and countervailing duty orders on large residential washers from Korea would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time, and that revocation of the antidumping duty order on large residential washers from Mexico would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.¹⁶ Effective February 15, 2019, Commerce revoked the antidumping and countervailing duty orders on LRWs from Korea, and effective May 6, 2019, Commerce issued a continuation of the antidumping duty order on imports of LRWs from Mexico.¹⁷

¹⁵ *Certain Large Residential Washers from Korea and Mexico; Institution of a Five-Year Reviews*, 83 FR 145, January 2, 2018.

¹⁶ *Large Residential Washers from Korea and Mexico (Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Review))*, USITC Publication 4882, April 2019.

¹⁷ *Large Residential Washers From Mexico and the Republic of Korea: Continuation of Antidumping Duty Order (Mexico) and Revocation of Antidumping and Countervailing Duty Orders (Korea)*, 84 FR 19763, May 6, 2019.

Antidumping duty investigation on LRWs from China

On December 16, 2015, Whirlpool filed a petition alleging that an industry in the United States was materially injured and threatened with material injury by reason of LTFV imports of LRWs from China. Following notification of a final determination by Commerce that imports of LRWs from China were being sold at LTFV, the Commission determined on January 30, 2017, that a domestic industry was materially injured by reason of LTFV imports of LRWs from China.¹⁸ Commerce published an antidumping duty order on LRWs from China on February 6, 2017.¹⁹ ²⁰ Dumping margins are shown in table I-4.²¹

¹⁸ *Large Residential Washers From China; Determination*, 82 FR 9223, February 3, 2017.

¹⁹ Commerce has not completed any administrative reviews of this order.

²⁰ *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.

²¹ The scope of the antidumping duty order on LRWs from China is identical to the scope of the safeguard measure on LRWs. Products covered by this order are all large residential washers and certain subassemblies thereof. For purposes of this order, the term "large residential washers" denotes all automatic clothes washing machines, regardless of the orientation of the rotational axis, with a cabinet width (measured from its widest point) of at least 24.5 inches (62.23 cm) and no more than 32.0 inches (81.28 cm), except as noted below.

Also covered in the scope of this order 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.

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; and (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). *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-4
LRWs: Commerce’s dumping margins for producers/exporters in China

Country	Manufacturer/exporter	Dumping margin (percent)
China	LG Electronics/Nanjing LG-Panda Appliances	38.43
	Samsung Electronics /Suzhou Samsung Electronics	57.37
	All others	49.72

Source: 82 FR 9371, February 6, 2017.

The Commission and Commerce are scheduled to conduct a five-year review of this order beginning in January 2022.

Antidumping and countervailing duty investigations on certain raw materials

In the second half of 2016, Commerce issued antidumping duty and countervailing duty orders on cold-rolled steel, such as that used in the production of LRWs. In total, these orders covered imports of cold-rolled steel from six countries.²² In 2017, Commerce issued antidumping and countervailing duty orders on stainless steel sheet and strip from China; this product is also used in the production of LRWs.²³

²² On July 7, 2016, the Commission completed and filed its determinations that an industry in the United States is materially injured by reason of imports of cold-rolled steel flat products from China and Japan that have been found by Commerce to be sold in the United States at LTFV, and that have been found by Commerce to be subsidized by the government of China.
https://www.usitc.gov/press_room/news_release/2016/er06221621.htm

On September 12, 2016, the Commission completed and filed its determinations that an industry is materially injured by reason of imports of cold-rolled steel flat products from Brazil, India, Korea, and the United Kingdom that have been found by Commerce to be sold in the United States at LTFV, and to be subsidized by the governments of Brazil and Korea. The Commission further determined that an industry in the United States is threatened with material injury by reason of imports of cold-rolled steel flat products that have been found by Commerce to be subsidized by the government of India.
https://www.usitc.gov/press_room/news_release/2016/er09021649.htm

²³ On March 24, 2017, the Commission completed and filed its determinations that an industry is materially injured by reason of imports of stainless steel sheet and strip from China that have been found by Commerce to be sold in the United States at LTFV, and to be subsidized by the government of China.

In addition, on September 20, 2017, the Commission determined that revocation of an existing countervailing duty order on imports of stainless steel sheet and strip from Korea and existing antidumping duty orders on imports of stainless steel sheet and strip from Japan, Korea, and Taiwan would be likely to lead to a continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time; these orders remain in effect.

Section 232 investigations (Commerce)²⁴

Steel

The relevant HTS subheadings within the scope of this safeguard remedy, 8450.20.00, 8450.11.00, 8450.90.20, and 8450.90.60 were not included in the enumeration of certain steel products subject to the additional 25-percent *ad valorem* duties under Section 232 of the Trade Expansion Act of 1962, as amended.²⁵ However, stainless steel sheet and cold-rolled steel, raw materials for producing LRWs, were included among the articles subject to the additional 25-percent *ad valorem* national-security duties.^{26 27 28} Table I-5 presents a summary of Section 232 tariffs on U.S. imports of steel, by country.

Table I-5a
Steel mill articles: Section 232 tariffs summary

Country	Effective date	Ad valorem duty rate	Absolute quotas
Argentina	May 31, 2018	Exempt	180,000 metric tons
Australia	May 31, 2018	Exempt	Exempt
Brazil	May 31, 2018	Exempt	4,193,157 metric tons
Canada	May 20, 2019	Exempt	Exempt
European Union	May 31, 2018	25%	N/A
Korea	April 30, 2018	Exempt	2,631,012 metric tons
Mexico	May 20, 2019	Exempt	Exempt
Turkey	May 21, 2019	25%	N/A
All other countries	March 8, 2018	25%	N/A

²⁴ See Appendix F for additional details.

²⁵ *Adjusting Imports of Steel Into the United States*, Presidential Proclamation 9705, March 8, 2018, 83 FR 11625, March 15, 2018.

²⁶ *Adjusting Imports of Steel Into the United States*, Presidential Proclamation 9705, March 8, 2018, 83 FR 11625, March 15, 2018.

²⁷ See U.S. notes 16(a) and 16(b), subchapter III of chapter 99. *HTS (2019) Revision 9*, USITC publication No. 4937, July 2019, pp. 99-III-5 – 99-III-7, 99-III-72 – 99-III-78.

²⁸ LG Electronics stated that the Section 232 tariffs have not affected its ability to source steel, nor have they affected its U.S. LRW operations. LG reported that it ***. LG's posthearing brief, exh. 1, p. 17.

Table I-5b
Aluminum products: Section 232 tariffs summary

Country	Effective date	Ad valorem duty rate	Absolute quotas
Argentina	May 31, 2018	Exempt	180,939 metric tons
Australia	May 31, 2018	Exempt	Exempt
Canada	May 20, 2019	Exempt	Exempt
Mexico	May 20, 2019	Exempt	Exempt
All other countries	March 8, 2018	10%	N/A

Source: U.S. Customs and Border Patrol website: <https://www.cbp.gov/trade/programs-administration/entry-summary/232-tariffs-aluminum-and-steel>, updated on May 29, 2019.

Aluminum

The relevant HTS subheadings within the scope of this safeguard remedy, 8450.20.00, 8450.11.00, 8450.90.20, and 8450.90.60, were not included in the enumeration of such aluminum products that are subject to the additional 10-percent *ad valorem* national-security duties under Section 232 of the Trade Expansion Act of 1962, as amended.²⁹ However, aluminum castings, a raw material for producing parts of LRWs, such as transmissions, were included among the articles subject to the additional duties.^{30 31 32}

Section 301 proceeding³³

Large residential washers imported from China provided for in HTS subheadings 8450.11.00, 8450.20.00, 8450.90.20, and 8450.90.60, are not subject to such duties.³⁴ Certain products from China are subject to additional *ad valorem* duties under Section 301 of the Trade Act of 1974. However, certain inputs into LRWs are subject to these duties. All five U.S. producers source a variety of LRW components that are subject to the Section 301 measures.³⁵

²⁹ *Presidential Proclamation 9704 of March 8, 2018, Adjusting Imports of Aluminum Into the United States*, 83 FR 11619, December 19, 2018.

³⁰ *Ibid.*

³¹ See U.S. notes 19(a), 19(b), 19(c), 19(d), and 19(e), subchapter III of chapter 99. *HTS (2019) Revision 9*, USITC publication No. 4937, July 2019, pp. 99-III-12 – 99-III-13, 99-III-79 – 99-III-80.

³² LG Electronics stated that it ***. LG reported that it submitted an exclusion request for this special aluminum on January 17, 2019, and received approval for such request on June 5, 2019. LG's one-year exclusion is for alloyed aluminum ingots with a magnesium (Mg) content of 2.6-3.0%; a silicon (Si) content of 9.9-10.5%; a zinc (Zn) content of 0.5% or less; and a copper (Cu) content of 0.15% or less. This product is imported under HTS 7601.20.9090. LG's posthearing brief, exh. 1, pp. 17-18. LG's posthearing brief, exh. 6.

³³ See appendix F for additional details.

³⁴ *Notice of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 FR 40823, August 16, 2018.

³⁵ For further details see Part III – Factors affecting prices.

GLOBAL DEVELOPMENTS³⁶

In 2012 and 2013, LG and Samsung shifted LRW production for the U.S. market from Korea to China. Samsung also moved LRW production from Mexico to China. As a result, China became the largest global supplier of LRWs during 2014-16. More recently, LG and Samsung shifted LRW production from China to Thailand and Vietnam.³⁷ Table I-6 presents the largest global export sources of washing machines during 2016-18. In 2016, China was the leading global exporter of washing machines, followed by Korea and Mexico. Exports from these countries to the United States began to decline following the issuance of antidumping duty orders on LRWs from Korea and Mexico and the countervailing duty order on LRWs from Korea in 2013 and the issuance of an antidumping order on LRWs from China in 2017.

³⁶ See appendix D for additional details.

³⁷ Samsung has stated that its factories in Mexico and Korea produced washers for not only the U.S. market but also other countries. Each factory has kept most its facilities and continues to use them to produce washers for other markets, as well as other laundry products. Samsung reported that the equipment in those factories was largely retained, and that Samsung reviews the efficiency of its global operations. Samsung also states that moving equipment is unusual, and would be much more difficult for the types of metal presses and injection molding equipment installed at its new plant in Newberry, South Carolina. *Large Residential Washers from Korea and Mexico, Inv. No. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019, p. IV-22.

Table I-6
Household- or laundry-type washing machines, with a dry linen capacity exceeding 10 Kg: Global exports by major sources, 2016-18

Item	2016	2017	2018
Value (1,000 dollars)			
China	906,598	539,501	596,765
Thailand	309,135	435,734	392,746
South Korea	432,901	545,742	380,016
USA	312,418	331,080	328,059
Mexico	408,041	393,144	312,174
Czech Republic	75,981	99,393	107,873
Sweden	60,818	63,587	84,259
Germany	81,593	82,861	77,876
Spain	48,277	61,763	67,775
Italy	29,911	28,393	28,914
Japan	16,297	16,151	19,865
Vietnam	262,696	750,669	N/A
All other	389,273	886,401	138,559
Total	3,071,242	3,483,772	2,534,893

Note.--Comprehensive export data for Vietnam in 2018 are not available. Data are likely understated due to unavailable reporting by Vietnam and certain other countries.

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

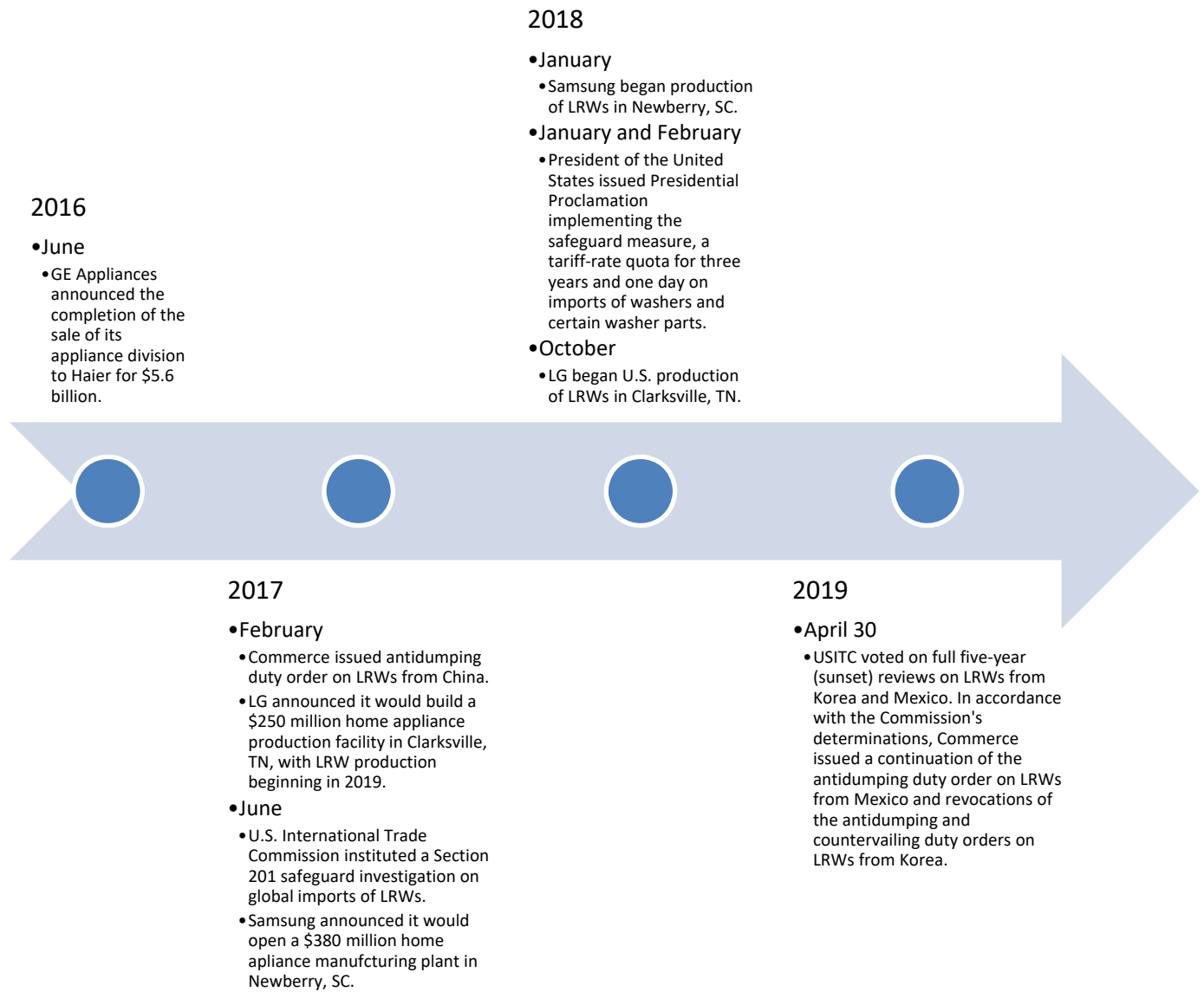
Note.--Data are likely overstated and include non-covered products (commercial washers and stacked washer-dryers).

Source: Global Trade Information Services, Inc., Global Trade Atlas, HS subheading 8450.20 ("Household- Or Laundry-Type Washing Machines, With A Dry Linen Capacity Exceeding 10 Kg") retrieved July 9, 2019.

U.S. DEVELOPMENTS

A timeline of key developments in the United States pertinent to this proceeding is presented below (Figure I-1). For additional details regarding industry events in the United States, see Part III of this report.

Figure I-1
LRWs: U.S. developments



Source: Compiled from various cited sources.

SUMMARY DATA

A summary of data collected in this proceeding is presented in appendix C, table C-1. Table C-1 also separately presents select data for (a) continuously operating U.S. producers and (b) new entrants. Except as noted, U.S. industry data are based on the questionnaire responses of five U.S. producers of washers that are believed to have accounted for virtually all domestic production of LRWs in 2018. U.S. import data and related information are based on the questionnaire responses of five U.S. importers of LRWs that are believed to have accounted for virtually all U.S. imports of LRWs.

SCOPE OF THE SAFEGUARD REMEDY

The President's remedy covers the following merchandise:

- (a) automatic clothes washing machines, regardless of the orientation of the rotational axis, each with a cabinet width (measured from its widest point) of at least 62.23 cm and no more than 81.28 cm;*
- (b) all cabinets, or portions thereof, designed for use in washers, and all assembled baskets designed for use in washers that incorporate, at a minimum, a side wrapper, a base, and a drive hub;*
- (c) all assembled tubs designed for use in washers that incorporate, at a minimum, a tub and a seal;*
- (d) any combination of the foregoing parts or subassemblies.*

Specifically excluded from the scope are

(A) all stacked washer-dryers and all commercial washers:

- (i) 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.*
- (ii) The term "commercial washer" denotes an automatic clothes washing machine designed for the "pay per use" segment meeting either of the following two definitions:*
 - (aa) (I) it contains payment system electronics;*
 - (II) it is configured with an externally mounted steel frame at least 15.24 cm 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);*
 - (III) 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*
 - (IV) the console containing the user interface is made of steel and is assembled with security fasteners; or*
- (bb) (I) it contains payment system electronics;*

(II) 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;

(III) 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

(IV) the console containing the user interface is made of steel and is assembled with security fasteners.

(B) automatic clothes washing machines that meet all of the following conditions:

(i) they have a vertical rotational axis,

(ii) they are top loading; and

(iii) they have a drive train consisting, inter alia, of (aa) a permanent split capacitor motor, (bb) a belt drive and (cc) a flat wrap spring clutch.

(C) automatic clothes washing machines that meet all of the following conditions:

(i) they have a horizontal rotational axis;

(ii) they are front loading; and

(iii) they have a drive train consisting, inter alia, of (aa) a controlled induction motor and (bb) a belt drive.

(D) automatic clothes washing machines that meet all of the following conditions:

(i) they have a horizontal rotational axis;

(ii) they are front loading; and

(iii) they have cabinet width (measured from its widest point) of more than 72.39 cm.

TARIFF-RATE QUOTA UNDER THE SAFEGUARD MEASURE

In Presidential Proclamation 9694 of January 23, 2018, the President imposed a safeguard measure in the form of a tariff-rate quota (“TRQ”) on imports of LRWs for a period of three years and one day, beginning February 7, 2018.³⁸ Imports of LRWs and covered parts from Canada are excluded from the measure. Imports of LRWs and covered parts from WTO Member developing countries are also excluded from the measure, as long as imports from a developing country do not exceed 3 percent of total imports and imports from all developing countries with an import share of less than 3 percent do not collectively exceed 9 percent of total imports. No individual country allocations were established for the in-quota quantity under the TRQ. The in-quota amount is reset on an annual basis.

Under the safeguard measure, imports of LRWs in excess of 1.2 million units annually were to be subject to an additional tariff of 50 percent in the first year, 45 percent in the second year, and 40 percent in the third year, with an in-quota tariff of 20 percent in the first year, 18 percent in the second year, and 16 percent in the third year.³⁹ With respect to covered parts, imports in excess of 50,000 units were to be subject to an additional tariff of 50 percent in the first year, imports in excess of 70,000 units were to be subject to a tariff of 45 percent in the second year, and imports in excess of 90,000 units were to be subject to a tariff of 40 percent in the third year, while no additional duty would apply to goods within the in-quota quantity.⁴⁰ Table I-7 presents the safeguard measures on LRWs and covered parts.

Table I-7
LRWs: Safeguard measures on LRWs and covered parts

Item	February 7, 2018 - February 6, 2019	February 7, 2019 - February 6, 2020	February 7, 2020 - February 7, 2021
Duty on first 1.2 million units of imported finished washers (percent)	20.0	18.0	16.0
Duty on all subsequent imports of finished washers (percent)	50.0	45.0	40.0
Duty covered parts (percent)	50.0	45.0	40.0
Covered parts excluded from duty (units)	50,000	70,000	90,000

Source: 83 FR 3553, January 25, 2018.

³⁸ *To Facilitate Positive Adjustment to Competition From Imports of Large Residential Washers*, 83 FR 3553, January 25, 2018.

³⁹ *Ibid.*

⁴⁰ *Ibid.* Covered parts include (1) all cabinets or portions thereof; (2) all assembled tubs, incorporating at a minimum a tub and a seal; (3) all assembled baskets incorporating at a minimum a side wrapper, a base, and a drive hub, and (4) any combination of the foregoing parts or subassemblies. *Ibid.*

TARIFF TREATMENT

Based on the scope of the safeguard measure, information available to the Commission indicates that the merchandise subject to this proceeding are provided for in the Harmonized Tariff Schedule of the United States (“HTS”) subheading 8450.20.00 and are imported under statistical reporting numbers 8450.20.0040 and 8450.20.0080. Particular LRWs are provided for in HTS subheading 8450.11.00, while specified parts of LRWs are provided for in subheadings 8450.90.20 or 8450.90.60. The general duty rate for subheading 8450.20.00 is 1.0 percent ad valorem. The general duty rate for subheading 8450.11.00 is 1.4 percent ad valorem. Parts and subassemblies covered by the scope of the orders 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. Both 8450.90.20 and 8450.90.60 have a general duty rate of 2.6 percent ad valorem.⁴¹ Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

Table I-8
LRWs: Summary of duties

Measure	Detail
AD China	The dumping margins are shown in table I-4.
AD/CVD Korea (Administrative Reviews)	Orders revoked. The results of the administrative reviews are shown in tables I-1 and I-2.
AD Mexico (Administrative Reviews)	The results of the administrative reviews are shown in table I-3.
Section 232 - Steel	HTS subheadings within the safeguard remedy, 8450.20.00, 8450.11.00, 8450.90.20, and 8450.90.60 were not included in the enumeration of iron and steel provisions that are subject to the additional 25-percent <i>ad valorem</i> duties under Section 232 of the Trade Expansion Act of 1962, as amended. However, stainless steel sheet and cold-rolled steel, raw materials for producing LRWs, were included among the articles subject to the additional 25-percent <i>ad valorem</i> duties.
Section 232 - Aluminum	HTS subheadings within the safeguard remedy, 8450.20.00, 8450.11.00, 8450.90.20, and 8450.90.60 were not included in the enumeration of aluminum provisions that are subject to the additional 10-percent <i>ad valorem</i> duties under Section 232 of the Trade Expansion Act of 1962, as amended. However, aluminum castings, a raw material for producing certain LRWs parts, such as the transmission, was included among the articles subject to the additional 10-percent <i>ad valorem</i> duties.
Section 301	Products from China provided for in HTS subheadings 8450.11.00, 8450.20.00, 8450.90.20, and 8450.90.60 are not subject to any additional <i>ad valorem</i> duties under Section 301 of the Trade Act of 1974. However, certain inputs into LRWs are subject to these duties.

⁴¹ Harmonized Tariff Schedule of the United States (2018). Eligible goods imported under U.S. free trade agreements or the Caribbean Basin Economic Recovery Act (“CBERA”), or from most beneficiary developing countries under the Generalized System of Preferences (“GSP”) program, may receive duty-free entry. Ecuador is excluded from GSP eligibility for one of the parts subheadings.

THE LIKE OR DIRECTLY COMPETITIVE PRODUCT

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.”⁴² 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. In its safeguard determination, the Commission found that domestically produced LRWs, top load PSC/belt/clutch washers, front load CIM/belt washers, and covered parts are like the imported LRWs and covered parts within the scope of the investigation. Accordingly, the Commission defined the like or directly competitive domestic product as all domestically produced LRWs, top load PSC/belt/clutch washers, front load CIM/belt washers, and covered parts.⁴³

Description and applications⁴⁴

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. 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

In the U.S. market, LRWs are currently typically produced and sold in two configurations, either with a vertical axis, generally referred to as “top load” LRWs, or with a horizontal axis, generally referred to as “front load” LRWs. 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. Both configurations can be equipped with various features, for instance, water heaters, different washing cycles, steam cleaning capabilities, and cabinet finishing. A general description of these LRW configurations follows.

⁴² 19 U.S.C. § 2252(b)(1)(A).

⁴³ *Large Residential Washers, Inv. No. TA-201-076*, USITC Publication 4745, December 2017, p. 17.

⁴⁴ Unless otherwise noted, this section is from *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

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-2). Top load LRWs come equipped with a broad array of product features and are sold at a wide range of price points. In order to further facilitate 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.

Figure I-2
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-3 presents an example of an agitator and an impeller.

Figure I-3:
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 create 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 result in more energy being used to clean and dry a load than LRWs with impellers. Specifically, the agitator needs more water to operate effectively and generally spins clothes more slowly during the spin cycle, requiring longer use of a dryer and thus resulting in higher overall energy consumption. 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 “agipellers”), which combine aspects of agitators and impellers.

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; 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 overall 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 January 1, 2018, and February 5, 2018, these LRWs are more likely to meet high efficiency energy standards or meet the Energy Star standard, although not all models meet these standards.

Front load LRWs

Front load LRWs feature a front loading door for loading clothes and a drum that spins on a horizontal axis. (see figure I-4). 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. Very fast spin cycles mean better moisture extraction compared even with top load LRWs with an impeller, thereby reducing drying time and overall energy consumption. 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 January 1, 2018, and February 5, 2018. 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. 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.⁴⁵

⁴⁵ 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 May 20, 2019. 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 May 20, 2019.

Because of mold accumulation, manufacturers of front load LRWs have faced class action litigation claiming design defects and breach of implied warranties. 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,” updated. <http://www.classactionsnews.com/consumer/samsung-front-load-washing-machine-class-action>, and “Court dismissed Samsung Lawsuit,” April 2, 2014, at <https://topclassactions.com/lawsuit-settlements/lawsuit-news/22578-samsung-washing-machine-class-action-lawsuit-dismissed/>, retrieved May 20, 2019. In 2014, Whirlpool received a favorable jury verdict in one lawsuit and settled the remaining litigation. <http://www.reuters.com/article/us-whirlpool-washers-verdict-idUSKBN0IJ25Y20141030> and <http://www.washersettlement.com/>, retrieved May 20, (continued...)

Figure I-4
LRWs: Front load washer



Source: Lowe's.

Product features⁴⁶

Product features have become increasingly prevalent in the LRW marketplace, and are seen by many manufacturers as a means of 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. Energy efficiency standards for LRWs are promulgated by three entities: (1) the Consortium for Energy Efficiency ("CEE"),⁴⁷ (2) the U.S. Environmental Protection Agency ("EPA"), and (3) the U.S. Department of

(...continued)

2019. In June 2016, LG also reached a settlement in its class action for washers sold during 2002–2006. <http://www.lgwashersettlement.com/>, retrieved May 20, 2019.

⁴⁶ Unless otherwise noted, this section is from *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

⁴⁷ The CEE is a nonprofit agency that encourages greater adoption of energy-efficient products and services through the development of various initiatives. According to the CEE web site, members include utility companies, environmental groups, research organizations, and state energy offices in the United States and Canada. The agency also solicits input from manufacturers and both the U.S. Department of Energy and the Environmental Protection Agency. <http://www.cee1.org/content/about>, retrieved May 20, 2019.

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.⁴⁸ 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 tiers of energy efficiency, with the third and advanced tiers 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,⁴⁹ technological advances which generate greater energy efficiencies, and product availability.⁵⁰ 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.⁵¹ Major changes in U.S. energy efficiency standards for residential washers occurred in January 2011, March 2015, and January and February 2018. As shown in table I-9, the newer efficiency standards require large increases in the efficiency of top load LRWs to decrease the volume of water that can be used in the LRW wash and rinse cycles and to increase energy efficiency.

⁴⁸ 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 May 20, 2019.

⁴⁹ 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 May 20, 2019. 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 May 20, 2019.

⁵⁰ <https://energy.gov/eere/buildings/energy-star>, retrieved May 20, 2019.

⁵¹ Ibid.

Table I-9
LRWs: Energy efficiency standards

Standard	Efficiency levels January 1, 2018 and February 5, 2018 ¹		Efficiency levels March 7, 2015 ²		Efficiency levels January 1, 2011 to March 6, 2015 ³	
	IMEF	IWF	IMEF	IWF	MEF	WF
Federal minimum—						
Top load	1.57	6.5	1.29	8.4	1.26	9.5
Front load	(⁴)	(⁴)	1.84	4.7	1.26	9.5
Energy Star—						
Top load	2.06	4.3	2.06	4.3	2.0	6.0
Front load	2.76	3.2	2.38	3.7	2.0	6.0
CEE Tier 1	2.76	3.2	2.38	3.7	2.0	6.0
CEE Tier 2	2.92	3.2	2.74	3.2	2.2	4.5
CEE Tier 3	(⁵)	(⁵)	2.92	3.2	2.4	4.0
CEE Advanced Tier	3.10	3.0	(⁵)	(⁵)	(⁵)	(⁵)

¹ Federal energy efficiency minimums for residential clothes washers compliance dates began on January 1, 2018, and Energy Star standards and CEE standards on February 5, 2018.

² Federal energy efficiency minimums for residential clothes washers, ENERGY STAR, and CEE standards compliance dates began March 7, 2015.

³ Federal energy efficiency minimums, Energy Star standards, and CEE ratings compliance dates began effective January 1, 2011.

⁴ Not applicable.

⁵ Not published.

Source: U.S. Department of Energy, Consortium for Energy Efficiency, *Super Efficient Home Initiative, Energy Conservation Program: Energy Conservation Standards for Residential Clothes Washers*, 77 F.R. 59719, October 1, 2012, *Large Residential Washers from Korea and Mexico, Inv. No. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

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 3.5-6.2 cf., respectively. The DOE requires manufacturers to certify and declare the capacity of their LRWs at the time of sale. Producers of LRWs endeavor to increase the capacity of their LRWs offerings. In 2014, Samsung began producing a 5.6 cf. LRW. Maytag/Whirlpool and Kenmore currently have the largest

capacity LRW on the market at 6.2 cf.⁵² LG has the second-largest capacity LRW on the market at 5.8 cf, followed by Samsung at 5.6 cf.^{53 54}

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 May 2019, Lowe's online shopping website that includes search filters listed 64 washers in white, 14 in a stainless look, 7 in black stainless steel, 7 in slate, 6 in black, and fewer washers available in red and bronze.⁵⁵ The Home Depot's online shopping Internet website listed 102 residential washers (front load and top load) in white; 23 washers in stainless finishes (including 18 in black stainless, 4 in stainless steel, and one stainless look); 15 washers in gray; 4 washers in slate; and fewer than 3 washers each in black, champagne, chrome, metallic carbon, and silver.⁵⁶

Manufacturing processes⁵⁷

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 *Large Residential Washers from China*, all producers of LRWs (Whirlpool, GE, LG, and Samsung) reported using "platforms" to develop product models.⁵⁸ 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.

⁵² Maytag website, <https://www.maytag.com/blog/washers-and-dryers/large-capacity-washing-machines.html?trackid=1431608645>, retrieved May 20, 2019. Kenmore website, <https://www.kenmore.com/products/laundry/washers/>, retrieved May 20, 2019.

⁵³ LG website, <https://www.lg.com/us/front-load-washers>, retrieved May 20, 2019.

⁵⁴ Samsung website, <https://www.samsung.com/us/home-appliances/washers/all-washers/?capacity=%3E+5.0+cu.+ft.>, retrieved May 20, 2019.

⁵⁵ Lowe's, "Washing Machines," <https://www.lowes.com/pl/Washing-machines-Washers-dryers-Appliances/4294857977>, retrieved May 20, 2019.

⁵⁶ The Home Depot, <https://www.homedepot.com/b/Appliances-Washers-Dryers-Washing-Machines/N-5yc1vZc3ov>, retrieved May 20, 2019.

⁵⁷ Unless otherwise noted, this section is from *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

⁵⁸ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017.

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. 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.

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

A “model” is an LRW defined by various features or functionality. In *Large Residential Washers from China*, Whirlpool, GE, LG, and Samsung agreed that a particular LRW model will typically have a lifecycle of 1-3 years.⁵⁹

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

Whirlpool

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-5). The components for each module originate within five areas in Whirlpool’s production plant, including materials receiving, cabinet assembly, fabrication support, plastics forming, and machining.

⁵⁹ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. I-19.

Figure I-5
LRWs: Production processes for LRWs

Operations in the plant

- Materials receiving
- Cabinet forming
- Fabrication support: blanking, stamping, and forging of metal; 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 Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

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 on metal stamping presses and then assembled if necessary. 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 by Whirlpool and then produced by specialty producers. These include the drive system, LRW controls, literature, and labels. The drive system components, which include the motor, transmission, seals, metal, and plastic housings, are designed and sized by Whirlpool engineers. These components are purchased from specialized producers and then combined 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.

Whirlpool produces cabinets, basket drums, and tubs at the Clyde facility. Whirlpool purchases electrical components, electronics, motors, and harnesses from third party suppliers. Whirlpool sources its electronics from Mexico and Asia and sources its motors from the United States, Mexico, and overseas. Whirlpool stated that *** percent of its LRW components are sourced from the United States and that Whirlpool's Clyde facility is a Foreign Trade Zone.⁶⁰

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, including 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.

⁶⁰ Staff field trip report, Whirlpool, November 2, 2018. EDIS Doc. Id. 676435, May 20, 2019.

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.

Samsung

Samsung began commercial production of LRWs at its Newberry, South Carolina facility in January 2018. This facility has over 1.5 million square feet. Samsung's Newberry operations are ***. ***. In 2019, Samsung projects to ***.⁶¹ Samsung ***. ***. Samsung has a variety of equipment that is used during the production of both its top loading and front loading LRWs, ***. According to Samsung, ***. When Samsung ***. Samsung uses ***. The front load washer has a *** while the top load washer has a ***. The backs of the LRW tubs produced in Newberry are ***.

LG

LG announced its decision to build its U.S. washing machine factory in February 2017. Construction of the million-square-foot facility in Clarksville, Tennessee, began in August 2017. Initial production began in October 2018, and LG plans to be in ***.⁶² The main factory building is approximately 1 million square feet with 4 additional support buildings for security, utilities, EPS, and hazardous materials storage and recycling. LG currently has two main assembly and sub assembly lines for its top load and front load washers. It also has four parts production departments: press, injection, paint, and EPS. Its press department includes ***. The press department produces *** different parts and has an automated quick die change-out, which typically takes about ***. LG's plastic injection department includes ***. LG's main assembly line includes ***. LG notes that its main assembly line is operated using an intelligent manufacturing system, which is the highest level of systems integration and automation of any LG LRW facility, all of which is controlled from an integrated control center. LG's EPS department includes *** EPS machines that produce in-house packaging material. As of May 15, 2019, LG's operations in Clarksville employ approximately 530 employees, and is projected to employ 550 by the end of the year 2019 and approximately 600 employees in 2020.⁶³

⁶¹ Staff field trip report, Samsung Electronics Home Appliances America, October 10, 2018. EDIS Doc. Id. 676434, May 20, 2019.

⁶² LGE USITC Visit Introduction Slides, LG, May 15, 2019. EDIS Doc. Id. 676476, May 20, 2019.

⁶³ Ibid.

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

U.S. MARKET PARTICIPANTS

U.S. producers

The Commission issued U.S. producers' questionnaires to five firms, all of which provided the Commission with information on their LRW operations. These firms are believed to account for virtually all U.S. production of LRWs in 2018.¹ Table II-1a presents a list of current domestic producers of LRWs and each company's position on the safeguard measures, production location, and share of reported U.S. production of LRWs in 2018.

Table II-1a
LRWs: U.S. producers, positions on orders, U.S. production locations, and shares of 2018 reported U.S. production

Firm	Position on safeguard measures	Production location(s)	Share of production (percent)
Alliance	***	Ripon, WI	***
LG	***	Clarksville, TN	***
Samsung	***	Newberry, SC	***
GE Appliances	***	Louisville, KY	***
Whirlpool	***	Clyde, OH	***
Total			***

Note.--LG produced *** LRWs in the United States in 2018.

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

Four U.S. producers (GE Appliances, LG, Samsung, and Whirlpool) are related to foreign producers of LRWs, and three firms (GE Appliances, LG, and Samsung) are related to U.S. importers of LRWs. In addition, as discussed in greater detail in Part III, two U.S. producers (***) directly imported the covered merchandise, and *** imported residential washers (***) not covered by the safeguard measure.

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 importation of LRWs and their responses are presented in table II-1b.

¹ Staber Industries, Inc. stated that it produced and shipped *** LRWs in 2018. Email from ***, June 21, 2019.

Table II-1b
LRWs: U.S. producers' ownership, related and/or affiliated firms

* * * * *

Alliance²

Alliance is a privately held corporation that was founded in 1908 and is headquartered in Ripon, Wisconsin. The company has manufacturing facilities in the United States, China, and the Czech Republic. The company produces washers and dryers for coin-operated laundries, multi-housing laundries, and also residential washers. Alliance manufactures products under the brands Speed Queen, Huebsch, IPSO, Primus, and UniMac. It produces and markets its residential washers under the Speed Queen brand name.³ Alliance reported ***, and an acquisition of Primus Company.⁴ 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.⁵ In June 2015, Alliance undertook a \$46 million expansion, including installation of a 1,500 ton transfer press for its Speed Queen residential washing machines.⁶ In May 2016, Alliance announced a \$62.6 million expansion of its manufacturing campus, adding 225,000 square feet for a new North America sales and marketing headquarters and the conversion of an existing warehouse into a manufacturing facility.⁷ In March 2018, Alliance also announced an investment of approximately \$50 million to build a new manufacturing plant in Thailand, with construction to begin in April 2018 and production to begin in early 2019.⁸

² Unless otherwise noted, information is from *Certain Large Residential Washers from Korea and Mexico, Investigation Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

³ Alliance Laundry Systems, "Our brands," <https://alliancelandry.com/en-us/our-brands/speed-queen> (accessed March 5, 2019).

⁴ Alliance's U.S. producer questionnaire response, section II-2 and "Alliance Laundry completes acquisition," July 3, 2014. <https://www.primuslaundry.com/en/alliance-laundry-completes-acquisition>.

⁵ PRNewswire, "Alliance Laundry Completes New \$400 Million Asset-Backed Finance Facility," June 19, 2015. <https://www.prnewswire.com/news-releases/alliance-laundry-completes-new-400-million-asset-backed-finance-facility-300106401.html>.

⁶ Ibid.

⁷ Alliance Laundry Systems LLC, "Largest Expansion In Alliance Laundry Systems History Approved," press release, May 11, 2016. <https://alliancelandry.com/en-us/newsroom/largest-expansion-in-alliance-laundry-systems-hist>.

⁸ The Nation, "Alliance Laundry invests Bt1.5 bn on factory," March 24, 2018. <http://www.nationmultimedia.com/detail/Corporate/30341615>.

General Electric⁹

GE Appliances was a division of General Electric (“GE”) until June 2016, when GE Appliances was sold to the Chinese company Qingdao Haier Co., Ltd. (“Haier”).

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 pursue other options to sell the division.¹⁰ On January 15, 2016, GE announced that it had entered into a definitive agreement to sell its appliances division to 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.¹¹ The deal included the stake of 48.4 percent that GE Appliances owns in Mabe, a Mexican appliances company that manufactures washers.^{12 13} In October 2018, Haier announced that it would invest \$200 million to expand GE Appliance’s washer and dishwasher operations in Appliance Park.¹⁴ Thus, GE Appliances is currently 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. In 2017, Haier announced that it would expand its washer production in China by building a plant in Hefei, the capital of East China’s Anhui province, which the ability to produce three million units annually.¹⁵

⁹ Unless otherwise noted, information is from *Certain Large Residential Washers from Korea and Mexico, Investigation Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

¹⁰ General Electric, “GE Statement on Appliances Business,” Press Release, December 7, 2015, <https://www.genewsroom.com/press-releases/ge-statement-appliances-business-282453>.

¹¹ General Electric, “GE Completes Sale of Appliances Business to Haier,” Press Release, June 6, 2016, <https://pressroom.geappliances.com/news/ge-completes-sale-of-appliances-business-to-haier>.

¹² The New York Times, “G.E. to Sell Appliance Division to Haier for \$5.4 Billion,” January 15, 2016, <https://www.nytimes.com/2016/01/16/business/dealbook/haier-ge-appliances.html>.

¹³ Forbes, “Mabe, en la incertidumbre por la negociacion del TLCAN,” November 16, 2017, <https://www.forbes.com.mx/la-vida-sin-ge/>.

¹⁴ Twice, “GE Expanding Laundry, Dishwasher Production,” October 3, 2018, <https://www.twice.com/product/ge-expanding-laundry-dishwasher-production>.

¹⁵ China Daily, “Haier to make washing machines in Hefei,” November 3, 2017, http://www.chinadaily.com.cn/business/2017-11/03/content_34059400.htm and “Qingdao Haier Co.,

LG Electronics¹⁶

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. LG produces an array of products such as washing machines, flat panel televisions, mobile cellular devices, air conditioners, and refrigerators. The firm employs 75,000 employees worldwide and has reported global sales of \$47.9 billion in 2016.¹⁷

Since 2012, LG has produced LRWs within its home appliances and air solutions business unit in Korea and at its affiliates in China, Thailand, and Vietnam. The company began exports of LRWs from Thailand and Vietnam in ***.

In February 2017, LG announced that it would open a U.S. production plant for LRWs in Clarksville, Tennessee. LG reported that it began production of subject LRWs at its Tennessee factory in late 2018. Initial production began in October 2018, with plans to be ***.¹⁸ LG noted that it ***¹⁹

Samsung²⁰

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. It produces an array of products, such as washing machines, flat panel televisions, printers, photocopiers, medical equipment, mobile cellular devices, computer networking devices, and refrigerators. The firm reported global revenue of 239.6 trillion Korean won (\$212.2 billion) in 2017.²¹ Samsung produces LRWs in its digital appliances business unit. The firm produces LRWs in Korea, Mexico, China (Suzhou Samsung Electronics Co., Ltd. and Suzhou Samsung Electronics Co, Ltd. – Export), Thailand, and Vietnam.²²

Ltd, 2018 Annual Report,” found at

http://www.haier.net/en/investor_relations/haier/gsgg/yjbg/201904/P020190430366165227131.pdf.

¹⁶ Unless otherwise noted, information is from *Certain Large Residential Washers from Korea and Mexico, Investigation Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

¹⁷ LG, “Company Information,” undated, <https://www.lg.com/global/investor-relations/company-info>, retrieved May 20, 2019.

¹⁸ Staff field trip report, LG, May 15, 2019. Doc. Id. 664813, December 20, 2018.

¹⁹ LG USA’s U.S. importer questionnaire, response to question II-4.

²⁰ Unless otherwise noted, this section is from *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

²¹ Samsung, “Financial Highlights,” undated, <https://www.samsung.com/global/ir/financial-information/financial-valuation-snapshot/>, retrieved May 20, 2019. Federal Reserve Board, “Foreign Exchange Rates – G.5A,” February 5, 2019, <https://www.federalreserve.gov/releases/g5a/current/>, retrieved May 20, 2019.

²² Samsung’s foreign producer questionnaire, response to question I-4.

In June 2017, Samsung announced that it would open a production site for LRWs in Newberry, South Carolina.²³ Samsung's Newberry operation is a fully integrated LRW manufacturing facility employing nearly *** workers with a goal to employ *** workers by the end of 2019 and approximately *** employees by 2020.²⁴ In 2018, Samsung produced more than *** LRW units in Newberry, and projects that it will produce approximately *** LRWs in 2019.²⁵ Samsung stated that it believes its Newberry plant will be fully operational ***.

Whirlpool²⁶

Whirlpool, founded in 1898 and headquartered in Benton Harbor, Michigan, is a manufacturer and marketer of home appliances. It reported net sales of approximately \$21 billion for 2018.²⁷ Globally, the firm employed approximately 92,000 employees and had 41 manufacturing facilities in 14 countries as of 2018.²⁸ The firm reported 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.²⁹

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.³⁰ A wholly owned subsidiary, Whirlpool Overseas Manufacturing S.a.r.l. ("Whirlpool Mexico"), ceased exports of LRWs to the United States in July 2012, and currently produces LRWs for sale in non-U.S. markets. Whirlpool also has LRW production in Brazil, China, and Colombia. The company maintains a large home appliance presence in Europe which includes residential washer production, but not LRW production.

²³ 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 March 6, 2019.

²⁴ Staff field trip report, Samsung Electronics Home Appliances America, October 10, 2018. Doc. Id. 676434, May 20, 2019.

²⁵ Ibid.

²⁶ Unless otherwise noted, this section is from *Large Residential Washers from Korea and Mexico, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

²⁷ Whirlpool SEC Form 10-K, issued February 8, 2019.

²⁸ Ibid.

²⁹ Ibid. Other brand names used globally by Whirlpool include Consul, Brastemp, Baukhnecht, and Indesit.

³⁰ *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication No. 4666, January 2017, pp. III-2 – III-3.

U.S. importers

The Commission issued U.S. importers' questionnaires to 16 firms believed to be importers of LRWs, including all U.S. producers of LRWs. Usable questionnaire responses were received from five firms, representing virtually all U.S. imports of LRWs.³¹ Table II-2 lists all responding U.S. importers of LRWs, their locations, and their shares of U.S. imports in 2018.³²

Table II-2
LRWs: U.S. importers, source(s) of imports, U.S. headquarters, and shares of imports in 2018

Firm	Headquarters	Share of LRW imports by source (percent)					All import sources
		China	Korea	Mexico	Thailand	Vietnam	
Electrolux	Charlotte, NC	***	***	***	***	***	***
GE Appliances	Louisville, KY	***	***	***	***	***	***
LG Alabama	Huntsville, AL	***	***	***	***	***	***
LG USA	Englewood Cliffs, NJ	***	***	***	***	***	***
Samsung	Ridgefield Park, NJ	***	***	***	***	***	***
Total		***	***	***	***	***	***

Note.--***.

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

Electrolux

Electrolux, which is a U.S. importer of non-covered washers, is also a producer of home appliances and appliances for professional use, and is headquartered in Stockholm, Sweden.³³ The company's products include refrigerators, ovens, cookers, dishwashers, washing machines, vacuum cleaners, air conditioners and small domestic appliances. Its most recognized brands include Electrolux, AEG, Zanussi, and Frigidaire.³⁴ In 2018, Electrolux had sales of SEK 124 billion (\$13.9 billion) and 54,419 employees.³⁵

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. Electrolux subsequently produced out-of-scope front load washers from its facility in Juarez, Mexico for export to the United States.

³¹ Five firms (***) certified that they did not import LRWs from any source at any time since January 1, 2016.

³² ***.

³³ Unless otherwise noted, information from *Large Residential Washers, Inv. No. TA-201-076*, USITC Publication 4745, December 2017, and *Certain Large Residential Washers from Korea and Mexico, Investigation Nos. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

³⁴ Electrolux Group, *Electrolux Annual Report 2018*, February 27, 2019, p. 90, <https://www.electroluxgroup.com/en/latest-annual-report-24418/>, retrieved March 6, 2019.

³⁵ *Ibid.* pp. 75, 82.

Electrolux maintains its North American Global Technology Center and headquarters in Charlotte, North Carolina. The company manufactures other appliances in the United States. Currently, Electrolux has LRW production in Brazil, Mexico, and Thailand.³⁶ The company also has residential washer production in Italy and Poland.

U.S. purchasers

The Commission received 20 usable questionnaire responses from firms that purchased LRWs since January 1, 2016.^{37 38 39} Large purchasers of LRWs include ***.

The majority of responding purchasers (18 of 20) reported that they purchased imported LRWs before February 7, 2018. Of these 18 purchasers, 10 reported that their purchasing patterns have been essentially unchanged since February 7, 2018. However, three reduced purchases of imports because of the safeguard measure, and five changed their pattern of purchases of imports for other reasons. These other reasons included LG and Samsung beginning U.S. production, and ***.

Most purchasers reported increasing purchases of domestically produced LRWs and/or decreasing purchases of imported LRWs since February 7, 2018. Thirteen purchasers reported increased purchases of domestically produced LRWs, three reported such purchases fluctuated, two decreased such purchases, and one maintained its purchases of domestically produced LRWs. Some purchasers noted that Samsung's and LG's decisions to open facilities in the United States led to increased purchases of domestically produced LRWs. Purchasers *** reported that there were more LRWs produced in the United States.⁴⁰ Purchaser ***, however, reported that Whirlpool has had a problem keeping up with demand.

Ten purchasers reported that they decreased purchases of imported LRWs, four reported such purchases fluctuated, three reported such purchases increased, and two reported that such purchases were constant since February 7, 2018. Again, some purchasers indicated that Samsung's and LG's decisions to move manufacturing to the United States decreased purchasers' reliance on imported LRWs. Purchaser *** stated that in 2018, Samsung began producing in South Carolina the washer/dryer pairs that the purchaser carries, and ***

³⁶ Electrolux's importer questionnaire, response to question I-5.

³⁷ Of the 18 responding purchasers, 16 purchased domestic LRWs, 8 purchased imports of LRWs from China, 9 purchased imports of LRWs from Korea, 8 purchased imports of LRWs from Mexico, 7 purchased imports of LRWs from Thailand, 6 purchased imports of LRWs from Vietnam, and 3 purchased imports of LRWs from other or unknown sources. Purchase information was also collected by supplier. Seventeen purchasers reported purchasing LRWs from Whirlpool, 17 from GE Appliances, 14 from LG, 15 from Samsung, 10 from Electrolux, and 7 from other firms. In 2018, responding purchasers obtained *** percent of their total purchases from Whirlpool, *** percent from Samsung, *** percent from LG, *** percent from GE Appliances, and *** each from Electrolux and other firms.

³⁸ Samsung provided a purchaser questionnaire because it has become the distributor for Samsung's U.S. production as well as the importer of record. It began purchasing from its U.S.-based entity in 2018.

³⁹ Staff sent a purchaser questionnaire to ***. This purchaser response is ***.

⁴⁰ Purchasers *** also reported that production in the United States by Samsung and LG resulted in increased purchases of domestic LRWs.

echoed this statement. Changes in the retail market also led to decreased purchases of imported LRWs, as *** stated that it had reduced purchases overall due to store closings. Purchaser *** reported that once the import quota was reached, Samsung and LG were both short on supply in the fourth quarter of 2018, the largest selling quarter of the year, which domestic manufacturing was not able to cover.

Thirteen purchasers reported they had not changed suppliers since February 7, 2018; seven reported they did. Purchaser *** stated that it dropped LG and Whirlpool due to price increases, added GE Appliances, and maintained its relationship with Samsung. Purchaser *** reported that it added Midea (China), a new emerging brand, to its distribution portfolio. Purchaser *** reported that it added Electrolux and continued buying from GE Appliances and Whirlpool. Purchaser *** stated that it stopped purchasing from Whirlpool because it could not reach mutually agreeable terms.

U.S. MARKET CHARACTERISTICS

Four firms account for the large majority of U.S. supply of LRWs: GE Appliances, LG, Samsung, and Whirlpool. LG and Samsung primarily imported LRWs during January 2016 to March 2019, but began domestic production in 2018. LRWs are sold mostly to retailers. Competition among suppliers of LRWs includes competition over pricing, as well as discounts and flooring space at retailers.⁴¹

CHANNELS OF DISTRIBUTION

U.S. producers and importers of LRWs from China, Korea, Thailand, and Vietnam sold LRWs and extra-wide washers mainly to retailers (table II-3a and b).

Table II-3a
LRWs: U.S. producers' and importers' share of reported U.S. shipments, by sources and channels of distribution, 2016-18, January-March 2018, and January-March 2019

* * * * *

Table II-3b
LRWs: U.S. importers' share of reported U.S. shipments of non-covered extra-wide washers, by channels of distribution, 2016-18, January-March 2018, and January-March 2019

* * * * *

⁴¹ *Large Residential Washers, Investigation No. TA-201-076*, USITC Publication 4745, December 2017, p. V-1.

GEOGRAPHIC DISTRIBUTION

U.S. producers and importers reported selling LRWs to all regions in the United States during the safeguard investigation.⁴² U.S. producers and importers reported that there had not been any changes in the U.S. geographical market areas in which LRWs were sold since February 7, 2018.

SUPPLY AND DEMAND CONSIDERATIONS

Changes in U.S. supply

Table II-4 summarizes supply information for U.S. and foreign producers of LRWs.

Table II-4

LRWs: U.S. and foreign producer capacity, capacity utilization, inventories, ability to shift production, and sales to various markets in 2018

* * * * *

Domestic production

Based on available information, U.S. producers of LRWs have the ability to respond to changes in demand with moderately high changes in the quantity of shipments of U.S.-produced LRWs to the U.S. market. The main contributing factor to this degree of responsiveness of supply is substantial unused capacity. Factors mitigating responsiveness of supply include limited inventories, limited ability to shift shipments from alternate markets, and limited ability to shift production to or from alternate products.

U.S. producers' capacity utilization decreased as capacity increases outpaced production increases from 2016 to 2018. Reported major export markets are Canada, Asia, and Europe. Most U.S. producers reported that they cannot produce other products on the same equipment as LRWs, although *** reported production of *** on the same equipment. Factors affecting U.S. producers' ability to shift production include the investment of time and money and specialized equipment. *** stated that some employees may be capable of shifting to a different production line, but the products produced on those lines are not easily shifted.

U.S. producers reported that production constraints include the number of parts made in the support area, the number of assembly lines, steel sourcing disruptions related to the section 232 tariffs, lack of available workers ***, lengthy training processes, equipment cycle time, and injection molding press capacity for producing plastic washer tubs.

Most responding firms reported that the availability of domestically produced LRWs increased in 2018 when Samsung and LG began domestic manufacturing operations. Purchaser *** stated that there has been poor availability for domestically produced LRWs, and that domestic producers were not prepared for additional business.

⁴² *Large Residential Washers, Investigation No. TA-201-076*, USITC Publication 4745, December 2017, p. V-2.

Imports

Based on available information, producers of LRWs from outside the United States have the ability to respond to changes in demand with 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 substantial unused capacity and a demonstrated ability to increase capacity quickly, along with substantial non-U.S. export markets.

As shown in table II-4, Korean, Mexican, Thai, and Vietnamese producers reported levels of capacity utilization above the level of U.S. producers in 2018, while Chinese producers reported capacity utilization that was lower. Foreign industries in every country but Thailand possessed ***. Foreign producers generally reported substantial export shipments to countries other than the United States, but very low inventories as a share of shipments.

Three of four responding U.S. producers, three of four responding importers, and 11 of 15 responding purchasers reported that the availability of supply of imports changed since February 7, 2018. *** and five purchasers reported that the supply of imports decreased because of the safeguard measure. Purchaser *** reported that Samsung and LG reached their import quota by mid-summer, which left serious product shortages in the fourth quarter, the largest selling quarter of the year. Two purchasers reported the opening of new production facilities in the United States.

Supply constraints

All responding U.S. producers and two of four responding importers reported no supply constraints. Importer *** reported that due to yearly safeguard measures restricting the quantity of imported washers, the supply of imported washer models has been “inhibited.” It continued that supplementation by domestically produced models has not been fully possible due to differences in model specifications and limited domestic capacity during the ramping up of its new U.S. plant. Importer *** reported that the limited supply of imported washers before the ramping up of its new U.S. plant led to a decline in its ability to supply customers’ increasing demand for its LRWs. While *** reported no supply constraints, it did report extended delivery times on occasion for particular models.

Ten of 19 responding purchasers reported experiencing supply constraints since February 7, 2018, including inventory constraints, deliveries of less than ordered quantities, late shipments, production constraints due to availability of parts or material and factory capacity, and allocations because of U.S. safeguard measures. *** reported that Whirlpool stopped selling its branded products to the purchaser in 2017, that Samsung and LG have also imposed constraints related to the safeguard measure, and that some vendors restricted availability due to ***.

Product availability and changes

Most purchasers did not report that there were certain products available only from certain sources. Of the seven purchasers that did report that some products are only available from certain sources, products cited included washers wider than 27 inches, such as 29-inch and 30-inch washers, that are currently available only from Korea and China.⁴³ *** reported that Samsung's front load FlexWash is only available from Korea; Speed Queen washers are the only "residential commercial" washers, and are only available from Alliance in the United States; and Electrolux LRWs are produced in Mexico. In addition, *** dual washer chamber "FlexWash" washer is only available from Vietnam.

Most responding U.S. producers and importers indicated that there had not been any changes to the product mix or range for LRWs since February 7, 2018. *** reported that the safeguard measure has restricted supply of imported products and limited its ability to offer a full range of LRW models.

Changes in U.S. demand

During the safeguard investigation, the Commission found that about two-thirds of demand for LRWs is driven by consumers needing to replace existing washers at the end of their functional lives, known as "replacement demand," with the balance driven by home sales, renovations, and new construction. Most responding domestic producers, importers, and purchasers reported that U.S. demand for LRWs increased during January 2012-June 2017, 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.⁴⁴ In this proceeding, however, most responding domestic producers and importers reported that demand for LRWs declined during the monitoring period, while a plurality of responding purchasers reported that demand increased. Whirlpool, GE Appliances, and LG agree that demand has decreased in 2018 and that the replacement cycle and reduced housing activity are factors that contributed to the decline.⁴⁵ Whirlpool stated that aggregate demand for LRWs declined for the first time in years due to a trough in the replacement cycle and middling housing activity.⁴⁶ Whirlpool stated that the replacement cycle was the most important determinant of LRW demand, and that because LRWs last seven to ten years, weak demand during the Great Recession ten years ago led to fewer replacement purchases in this replacement cycle.⁴⁷ LG argues that higher prices for

⁴³ These extra-wide washers are not covered by the safeguard measure.

⁴⁴ *Large Residential Washers, Investigation No. TA-201-076*, USITC Publication 4745, December 2017, p. 23.

⁴⁵ Hearing transcript, p. 25 (Getlan), pp. 130, 166-168 (Toohey), p. 169 (Klett).

⁴⁶ Hearing transcript, p. 25 (Getlan), pp. 39-40 (Tubman), pp. 56-57 (Keppler). Whirlpool's posthearing brief, Part II – Answers to Commission Questions, question 10, p. II-17.

⁴⁷ Whirlpool contends that prices have had only a modest impact on demand. Based on the elasticity of demand estimate at -0.3 by the Commission, Whirlpool calculated that only *** percentage points of the *** percent decline in apparent U.S. consumption between 2017 and 2018 resulted from the ***

washers were largely responsible for lower demand.⁴⁸ Whirlpool also stated that demand is forecasted to level out and remain roughly flat for the year.⁴⁹ LG stated that the Association of Housing Appliance Manufacturers (“AHAM”) projects washer demand in 2019 to be up 0.05 percent from 2018 and demand in 2020 to be up by 1.5 or 1.7 percent from 2019.⁵⁰

The U.S. housing market has fluctuated since 2016, showing some declines over 2018 and early 2019. U.S. housing starts increased by 20 percent from January 2016 to January 2018 before declining 7.5 percent through April 2019; overall, U.S. housing starts increased by 10.9 percent from January 2016 to April 2019 (figure II-1). Home remodeling fluctuated as National Association of Home Builders (NAHB) remodeling market index (RMI) increased irregularly from the first quarter of 2016 to the fourth quarter of 2017, remained relatively stable in 2018, and declined in the first quarter of 2019; overall, the RMI ended the first quarter of 2019 at about the same level as in the first quarter 2016 (figure II-2).⁵¹

percent increase in the average unit value of apparent U.S. consumption. Similarly, Whirlpool calculated that only *** percentage points of the *** percent decline in apparent U.S. consumption in January-March 2019 compared to January-March 2018 resulted from higher prices. Whirlpool’s posthearing brief, Part II – Answers to Commission Questions, question 10, pp. II-18-19.

⁴⁸ Hearing transcript, pp. 130-133 (Toohey). LG contends that U.S. LRW prices have increased significantly and that such increases will cause a noticeable decline in demand, even with a relatively price inelastic good. LG’s posthearing brief, p. 9. See Part III for further discussion on prices and demand.

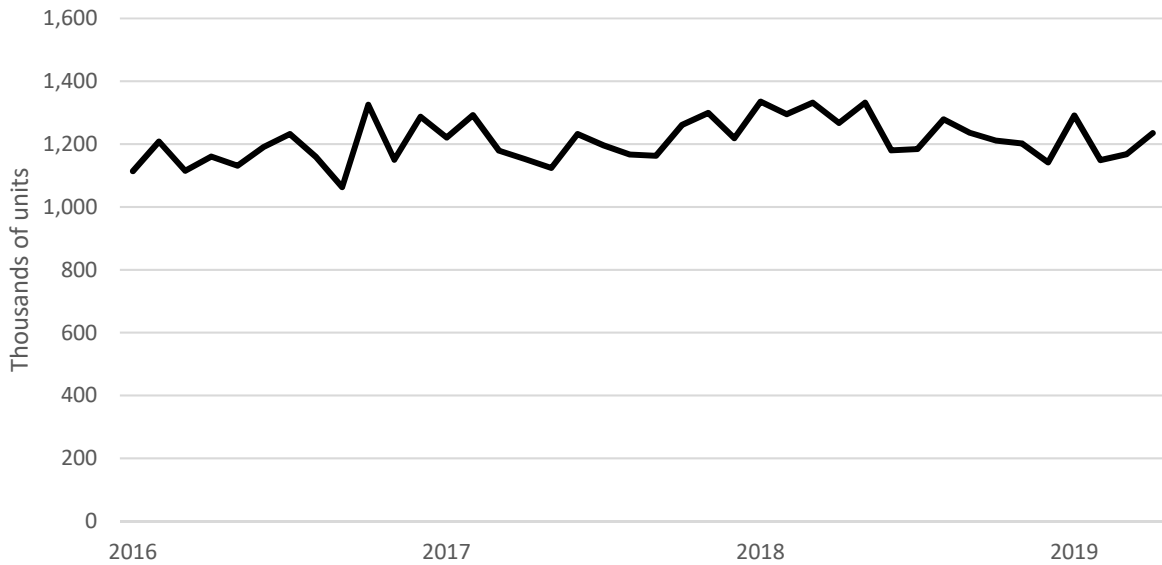
⁴⁹ Hearing transcript, p. 65 (Tubman).

⁵⁰ Hearing transcript, p. 187 (Klett).

⁵¹ Whirlpool asserts that softness in housing construction and remodeling activity further explains the decline in LRW demand in 2018 and the first quarter of 2019. Whirlpool’s posthearing brief, Part II – Answers to Commission Questions, question 10, p. II-17.

Figure II-1

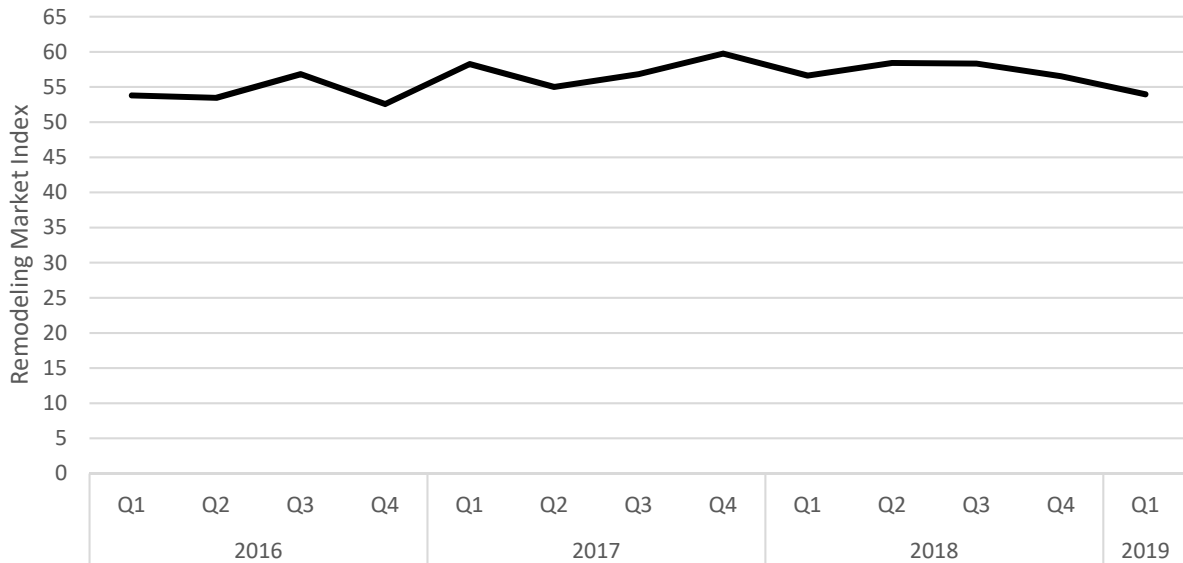
U.S. housing starts: New privately owned housing units started, monthly, seasonally adjusted annual rate, January 2016-April 2019



Source: U.S. Census Bureau, http://www.census.gov/construction/nrc/historical_data/index.html, retrieved May 30, 2019.

Figure II-2

Remodeling Index, quarterly, January 2016-March 2019



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

Source: National Association of Home Builders, Remodeling Market Index, <http://www.nahb.org/en/research/housing-economics/housing-indexes/remodeling-market-index.aspx>, retrieved May 30, 2019.

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.⁵²

When asked if conditions of competition had changed since February 7, 2018, two domestic producers, one importer, and eight purchasers stated that there were changes.⁵³ *** listed numerous changes. It stated that aggregate demand for washers began to decline, and that Samsung and LG “stockpiled massive quantities” of LRW imports in the lead up to the President’s imposition of the safeguard measure. It added that domestic producers encountered significant cost increases in 2018 due to increased freight expenses, as well as the 232 and 301 tariffs on its raw materials.⁵⁴ It also noted the revocation of the antidumping and countervailing duty orders on washers from Korea. *** reported that increasing raw material costs and the safeguard measure have increased LRW prices to customers. Eight purchasers reported changes in the business cycle or conditions of competition, citing the new home construction rate, higher price points from traditional U.S. manufacturers, the ten-year replacement cycle, new U.S. factories built by Samsung and LG, and LG’s reduction of promotional pricing from September 2017 to January 2018 before resumption of such pricing as of February 2019.

Questionnaire responses regarding demand trends

Most U.S. producers and importers reported that demand has declined since February 7, 2018, while purchasers were divided on the question (table II-5). Most producers and importers expect demand to decrease or fluctuate over the next two years, while purchasers had more varied responses. *** stated that demand is based on replacement activity and new construction. *** stated that the overall market for top load and front load washers was “negative” in 2018 and that in the first quarter of 2019 top load has continued to be “negative” but front load is “slightly positive.” *** stated that increasing retail prices have lowered demand. *** stated that U.S. demand for LRWs has declined since the safeguard measure was implemented, with U.S. washer shipments decreasing by 5 percent year-over-year since March-December 2018, and that price increases due to the safeguard measure contributed to the decline in demand.

⁵² *Large Residential Washers from China, Inv. No. 731-TA-1306 (Final)*, USITC Publication 4666, January 2017, p. II-10.

⁵³ Three domestic producers, three importers, and twelve purchasers indicated that there had not been any changes to conditions of competition since February 7, 2018.

⁵⁴ See Part III for a discussion of raw material costs.

Table II-5
LRWs: Firms' responses regarding U.S. demand since February 7, 2018

Item	Increase	No change	Decrease	Fluctuate
Demand in the United States				
U.S. producers	---	1	4	---
Importers	---	---	3	1
Purchasers	6	5	6	3
Demand outside the United States				
U.S. producers	---	1	---	2
Importers	---	---	---	2
Purchasers	---	3	1	4
Anticipated future demand in the United States				
U.S. producers	---	1	2	2
Importers	---	---	2	2
Purchasers	6	4	5	1
Anticipated future demand outside the United States				
U.S. producers	---	1	---	2
Importers	---	---	---	2
Purchasers	---	2	1	4

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

Purchasers, as noted, had more mixed responses. Five purchasers, including ***, reported that price increases led to a decrease in demand. *** reported that overall unit sales have decreased. *** stated that demand is influenced by the replacement cycle, dissatisfaction with a current model or brand, and/or new innovations that motivate customers to update their existing models before they require replacement. *** stated that there has been a decline in industry shipments due to the 10-year replacement cycle and industry price increases. *** stated that demand will move with the rate of new construction. Of the six purchasers that reported increased demand, *** attributed it to new stores and marketing, *** reported “growing penetration in the appliance industry,” *** stated its customer base is increasing, and *** stated that there is “pent up” demand for consumers to purchase washers due to product shortages created by the import quotas and steel tariffs, though demand is potentially limited by retail price increases.

APPARENT U.S. CONSUMPTION

Data concerning apparent U.S. consumption of LRWs are shown in table II-6 and figure II-3.⁵⁵ U.S. producers' U.S. shipments increased during 2016-18 by *** percent, by quantity, and *** percent, by value. U.S. shipments of imports of covered LRWs decreased by *** percent, by quantity, and *** percent, by value, during 2016-18, and were lower by *** and *** percent, respectively, in January-March 2019 than in January-March 2018. The decline during 2016-18 was driven by the decline in U.S. shipments of imports of covered LRWs from China, which

⁵⁵ Apparent U.S. consumption is derived from reported on U.S. shipments by producers and importers. U.S. imports are discussed in Part III of this report.

declined by *** percent, by quantity, and *** percent by value. This decline was partially offset by the increase in U.S. shipments of imports of covered LRWs from Thailand and Vietnam, and to a lesser degree, Korea. These trends resulted in an overall decrease in apparent U.S. consumption, by quantity, ending *** percent lower in 2018 than in 2016, while the value of apparent U.S. consumption increased, by *** percent, over the same period. Apparent U.S. consumption was *** percent lower in terms of quantity and *** percent lower in terms of value in January-March 2019 than in January-March 2018. Although most categories of washers experienced lower volumes in 2018 (relative to 2016) and/or in January-March 2019 (relative to January-March 2018), U.S. shipments of imported non-covered washers were higher in both comparisons, in terms of both quantity and value. Imports of these non-covered washers originated primarily in China and Mexico.

Table II-6

LRWs: Apparent U.S. consumption, 2016-18, January to March 2018, and January to March 2019

* * * * *

Figure II-3

LRWs: Apparent U.S. consumption, 2016-18, January to March 2018, and January to March 2019

* * * * *

U.S. MARKET SHARES

U.S. market share data are presented in table II-7. U.S. producers' share of apparent U.S. consumption fluctuated during 2016-18, ending *** percentage points higher in 2018 than in 2016, while U.S. imports' share declined by *** percentage points for imports of LRWs and *** percentage points for all washers (LRWs and non-covered top load PSC/belt/clutch and front load CIM/belt washers). The share of apparent U.S. consumption for U.S. imports from China, following the imposition of the antidumping duty order on LRWs from China in February 2017, declined from *** percent in 2016 to less than *** percent in 2018 and in January-March 2019. The share of apparent U.S. consumption of U.S. imports from other sources, namely Korea, Thailand, and Vietnam, increased during 2016-18, but was lower in January-March 2019 than in January-March 2018 for all but Vietnam. The market shares held by imported non-covered washers, however, were higher both in 2018 and in January-March 2019.

Table II-7

LRWs: Market shares, 2016-18, January to March 2018, and January to March 2019

* * * * *

PART III: U.S. INDUSTRY AND MARKET DATA

OVERVIEW

In the safeguard investigation of LRWs, the Commission defined the domestic industry as all domestic producers of LRWs, PSC/belt drive top load washers, CIM/belt drive front load washers, and covered parts, consistent with its definition of the like or directly competitive domestic product.¹ The information in this section of the report was compiled from responses to the Commission's domestic producers' questionnaire by five firms, which accounted for virtually all U.S. production of washers during 2018. The list of responding domestic producers, each company's position on the safeguard measures, production locations, and share of reported production of LRWs during 2018 is presented in Part II of this report at table II-1. U.S. import data and related information are based on the questionnaire responses of five U.S. importers of LRWs that are believed to have accounted for virtually all U.S. imports of LRWs. Table II-2 lists all responding U.S. importers of LRWs, their locations, and their shares of U.S. imports in 2018. Price data and related information are based on the questionnaire responses of 20 firms that purchased LRWs since January 1, 2016.

DEVELOPMENTS IN THE U.S. LRW INDUSTRY

Since January 1, 2016, there have been several developments affecting the LRW industry. First, new U.S. producers either increased production or began production. Samsung began producing LRWs in Newberry, South Carolina in January 2018, and LG began producing LRWs in its manufacturing facility in Clarksville, Tennessee in October 2018.² Second, new energy efficiency and water use standards for LRWs went into effect in 2018. In addition, the supply of imported LRWs that LG and Samsung had shifted from Korea and Mexico to China, then shifted from China to Thailand and Vietnam after the issuance of the antidumping duty

¹ *Large Residential Washers, Inv. No. TA-201-076*, USITC Publication 4745, December 2017, p. 27. In the safeguard investigation, the Commission found that domestically produced LRWs, PSC/belt drive top load washers, CIM/belt drive front load washers, and covered parts were like the imported LRWs and covered parts within the scope of the investigation. See *id.*, pp. 13-25. Accordingly, the Commission defined the like or directly competitive domestic product as all domestically produced LRWs, PSC/belt drive top load washers, CIM/belt drive front load washers, and covered parts. *Id.*, p. 25. The term "domestic industry" is defined in section 202(c)(6)(A)(i) of the Trade Act, 19 U.S.C. § 2252(c)(6)(A)(i), 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."

² LG noted that its actual experience ramping up its new production differs from its initial plans, given the many factors that must be monitored and adjusted to address unexpected problems. LG stated that obtaining the necessary material is currently one of its biggest start up challenges, including ***. Other challenges include ***. Hearing transcript, pp. 175-176 (Myers) and LG's posthearing brief, ex. 1, pp. 5-8.

order on LRWs from China in early February 2017. In January 2018, the President imposed the safeguard measure, effective February 7, 2018. In May 2019, Commerce revoked the antidumping and countervailing duty orders on LRWs from Korea, while continuing the antidumping duty order on LRWs from Mexico, pursuant to the Commission’s determinations in the five-year reviews of the orders. Finally, as discussed in greater detail in Part I and appendix F, tariffs covering material inputs have been implemented following investigations under Section 232 and Section 301. Table III-2 presents major developments in the domestic LRW industry since 2016.

Table III-2
LRW: Important industry events since January 1, 2016

Year	Month	Entity	Event
2016	January	GE Appliances	Announced its intent to sell its GE Appliances division to Haier of China.
	June	GE Appliances	Announced the completion of the sale of its appliance division to Haier for \$5.6 billion.
	November	GE Appliances	Union members vote down new labor contract proposed by Haier-owned GE Appliances.
2017	January	GE Appliances	Reached tentative agreement with the union for a new contract; the union subsequently approved the four-year contract.
		Commerce	Antidumping duty order issued on LRWs from China.
	February	LG	Announced it would build a \$250 million home appliance production facility near Clarksville, Tennessee, including for washing machines, opening in 2019.
		USITC	Instituted a section 201 safeguard investigation on global imports of LRWs.
	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.
	December	USITC	Delivered its safeguard recommendations to the President.
2018	January 1	U.S. Department of Commerce	Notice of initiation of five-year (sunset) reviews of certain LRWs from Korea and Mexico by Commerce (83 FR 100, January 2, 2018)
	January 2	USITC	Notice of institution of five-year reviews of certain LRWs from Korea and Mexico by Commission (83 FR 145)
		EnergyStar and CEE	New energy and water efficiency standards for LRWs became effective and surpass levels of 2015 requirements.
	January	Samsung	Began U.S. production of LRWs

Table continued on next page.

Table III-2--Continued
LRW: Important industry events since January 1, 2016

Year	Month	Company	Event
2018	January 23 and February 7	President of the United States	Issued Presidential Proclamation implementing the safeguard measure, a tariff-rate quota for three years and one day on imports of washers and certain washer parts.
	April 18	North America Free Trade Agreement	Electrolux filed an appeal with NAFTA Secretariat of Commerce's final antidumping duty administrative review determination regarding LRWs from Mexico (83 FR 19221).
	May 10	Commerce	Published final results of expedited five-year review of the antidumping duty order on LRWs from Mexico (83 FR 21764)
	May 14	World Trade Organization	South Korea requested consultations under WTO dispute settlement process with the United States concerning the safeguard measures (DS546).
	August 14	World Trade Organization	South Korea requested the establishment of a Dispute Settlement Body ("DSB") panel (DS546).
	September 26	World Trade Organization	Established a DSB panel (DS546).
	October 18	Commerce	Published final results of full five-year review of the antidumping duty order on LRWs from Korea (83 FR 52803)
	October	LG	Began U.S production of LRWs
2019	February 7	Commerce	Tariff rate quota reset.
	April 30	USITC	Published determinations in full five-year (sunset) reviews: LRWs from Korea and Mexico (84 FR 18319)--affirmative (Mexico) and negative (Korea).
	May 8	U.S. Department of Commerce	Published continuation of antidumping order on LRWs from Mexico and terminated antidumping and countervailing duty orders on LRWs from Korea.

Source: Compiled from various sources.

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, 2016. All of the domestic producers indicated that they had experienced such changes as presented in table III-3.

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

* * * * *

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-4 and figure III-1 present U.S. producers’ production, capacity, and capacity utilization. Samsung began U.S. production in January 2018 and LG began U.S. production in October 2018. U.S. capacity increased in each year with the majority of the increase in 2018, ending *** percent higher in 2018 than in 2016. U.S. production increased by *** percent in 2017, and then declined by *** percent in 2018, ending *** percent higher in 2018 than in 2016. Capacity utilization declined by *** percentage points during 2016-18. All operating firms *** increased capacity between 2016 and 2018, while production by *** declined over the same period. *** accounted for the majority of the increase in capacity and production, as it reportedly ***.

Table III-4
LRWs: U.S. producers' capacity, production, and capacity utilization, 2016-18, January to March 2018, and January to March 2019

* * * * * * *

Figure III-1
LRWs: U.S. producers’ production, capacity, and capacity utilization, 2016-18, January to March 2018, and January to March 2019

* * * * * * *

Capacity was *** percent higher in January-March 2019 than in January-March 2018, while production was *** percent lower. The higher level of capacity was largely due to *** and to ***. The lower level of production was largely due to ***.

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.⁴ Doing so allowed Whirlpool to minimize tariff liability.⁵ Pursuant to FTZ regulations,

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: ***.

production activities⁶ must be approved by the FTZ board and U.S. Customs entries must be made for finished goods that utilized foreign components in their production when they leave the FTZ for U.S. consumption. 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 U.S. content.⁷

GE Appliances established an FTZ at its Louisville, Kentucky manufacturing facility in ***. During the monitoring period, 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 monitoring period 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' FTZ admissions, 2016-18, January to March 2018, and January to March 2019

* * * * *

Alternative products

*** U.S. producers ***, produced large residential washers and other products using the same equipment, machinery, or employees. *** also produced top load PSC/belt/clutch washers and front load CIM/belt washers. *** also produced commercial washers, stacked washer-dryers, and other products using the same equipment, machinery, or employees.⁹ As shown in table III-6, approximately *** percent of the production using shared capacity by U.S. producers during January 2016 to March 2019 consisted of LRWs. Overall capacity utilization

(...continued)

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 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 Other products include ***.

between 2016 and 2018 declined by *** percentage points, as overall capacity increased by *** percent and total production increased by *** percent. While all five firms had higher overall capacity in January-March 2019 than in January-March 2018, the majority of the *** percent increase was accounted for by ***.

Table III-6

LRWs: U.S. producers' overall plant capacity and production on the same equipment as subject production, 2016-18, January to March 2018, January to March 2019, and projected 2019-20

* * * * *

Production of LRWs was higher for *** in January-March 2019 than in January-March 2018, but not enough to offset the lower production of the other firms, resulting in total LRW production being *** percent lower in January-March 2019 than in January-March 2018. While production of other products produced on the same equipment was higher in January-March 2019 than in January-March 2018, the lower production of large residential washers, which accounted for more than *** percent of overall production, caused overall capacity utilization to decline *** percentage points. Projected overall capacity utilization between 2018 and 2020 is expected to increase by *** percentage points, as overall capacity is expected to increase by *** percent and total production is expected to increase by *** percent.

U.S. PRODUCERS' SHIPMENTS

Table III-7 presents U.S. producers' U.S. shipments, export shipments, and total shipments. Two firms, ***, reported internal consumption and one firm, ***, reported transfers to related firms.¹⁰ Three firms (***) reported exports, mainly to Canada and *** to Europe and Asia. U.S. shipments, by quantity, increased in each year during 2016-18, ending *** percent higher in 2018 than in 2016. *** had higher U.S. shipments in 2018 than in 2016, while *** had lower U.S. shipments in January-March 2019 than in January-March 2018. U.S. shipments were *** percent lower in January-March 2019 than in January-March 2018. The average unit value of U.S. shipments increased by *** percent from 2016 to 2018, increasing by *** percent between 2016 and 2017, and by *** percent in 2018, and was *** percent higher in January-March 2019 than in January-March 2018.

Table III-7

LRWs: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2016-18, January to March 2018, and January to March 2019

* * * * *

¹⁰ In 2018, U.S. producers' internal consumption and transfers to related firms was *** units and *** units, respectively.

U.S. producers' commercial U.S. shipments of covered parts

Table III-8 presents U.S. producers' commercial U.S. shipments of covered parts, the vast majority of which were reported by ***.

Table III-8

LRWs: U.S. producers' commercial shipments of covered parts, by source, 2016-18, January to March 2018, and January to March 2019

* * * * *

U.S. producers' commercial U.S. 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 or not. Top load LRWs can incorporate either an agitator, an impeller, or an agi-peller.¹¹

Top load LRWs accounted for the vast majority of U.S. producers' commercial U.S. shipments of LRWs (table III-9 and figure III-2). Nevertheless, while the quantity of U.S. producers' commercial U.S. shipments of top load LRWs increased by *** percent during 2016-18, their share of total commercial U.S. shipments decreased from *** percent in 2016 to *** in 2018, or by *** percentage points, and were *** percent in January-March 2019.¹² The quantity of U.S. producers' commercial U.S. shipments of front load LRWs increased both absolutely and relatively from 2016 to 2018, as such shipments increased by *** percent and accounted for *** percent of total U.S. commercial shipments in 2018, up from *** percent in 2016.¹³ Front load LRWs accounted for *** percent of U.S. producers' commercial U.S. shipments by January-March 2019.

¹¹ U.S. producers' reported top load LRWs incorporating agi-pellers as top load LRWs without agitators.

¹² *** had commercial U.S. shipment of top load washers during January 2016-March 2019, although ***. Of the remaining producers, *** had decreased quantities between 2016 and 2018 while *** were lower in January-March 2019 than in January-March 2018. *** commercial U.S. shipments of top load washers decreased by *** percent between 2016 and 2018, while these shipments increased by *** percent for *** over the same period. Commercial U.S. shipments of top load washers for *** were *** percent lower, respectively, in January-March 2019 than in January-March 2018.

¹³ *** had commercial U.S. shipment of front load washers during January 2016-March 2019, although ***. The *** had decreased quantities between 2016 and 2018 and they were lower in January-March 2019 than in January-March 2018. *** commercial U.S. shipments of front load washers decreased by *** percent between 2016 and 2018, while these shipments decreased by *** percent for *** over the same period. Commercial U.S. shipments of front load washers for *** were *** percent lower, respectively, in January-March 2019 than in January-March 2018.

Table III-9

LRWs: U.S. producers' commercial U.S. shipments, 2016-18, January to March 2018, and January to March 2019

* * * * *

Figure III-2

LRWs: U.S. producers' commercial U.S. shipments, by type, 2016-18, January to March 2018, and January to March 2019

* * * * *

The average unit value of U.S. producers' commercial U.S. shipments of front load washers, which was higher than for top load washers, decreased by *** percent between 2016 and 2018 and was *** percent lower in January-March 2019 than in January-March 2018, while the average unit value of top load washers increased by *** percent between 2016 and 2018, and was *** percent higher in January-March 2019 than in January-March 2018.

U.S. producers' commercial U.S. shipments of top load LRWs with an agitator but without Energy Star certification increased between 2016 and 2017 and then declined in 2018, whereas their commercial U.S. shipments of top load LRWs with an agitator and Energy Star certification declined between 2016 and 2017, and then increased in 2018, although both ended higher in 2018 than in 2016. The share of U.S. producers' commercial U.S. shipments of top load LRWs without an agitator that were Energy Star certified declined between 2016 and 2017, as stricter Energy Star efficiency standards became effective, but then increased in 2018, while the share of U.S. producers' commercial U.S. shipments of top load LRWs without an agitator that were not Energy Star certified declined steadily during 2016-18.¹⁴

As noted above, commercial U.S. shipments of front load LRWs increased by *** percent from 2016 to 2018. Prior to 2018, all U.S. producers' commercial U.S. shipments of front load LRWs were Energy Star certified. These shipments were largely by *** and *** produced front load LRWs that were not Energy Star certified.

The share of LRWs that were Energy Star certified fluctuated during 2016-18, increasing by *** percentage points and accounting for *** percent of U.S. producers' U.S. commercial shipments in 2018.

¹⁴ Energy Star standards were revised in March 2015 and January and February 2018 (see Part I, Energy Efficiency).

U.S. PRODUCERS' INVENTORIES

Table III-10 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments. Inventories and the associated ratios fluctuated during 2016-18, rising in 2017 and then declining in 2018, but ending higher in 2018 than in 2016. Inventories were higher in January-March 2019 than in January-March 2018, in absolute terms and relative to production, U.S. shipments, and total shipments. The majority of the higher inventory quantity in January-March 2019 was due to *** offsetting the lower inventories reported by other producers, particularly ***.

Table III-10

LRWs: U.S. producers' inventories, 2016-18, January to March 2018, and January to March 2019

* * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

U.S. producers' imports of LRWs are presented in table III-11. All but *** imported LRWs. U.S. imports by ***, declined during 2016-18, but were higher in January-March 2019 than in January-March 2018. *** imports of *** increased each year during 2016-18 and were higher in January-March 2019 than in January-March 2018. The ratio of *** imports to the firm's U.S. production ranged from a low of *** percent in 2016 to a high of *** percent in January-March 2019. No U.S. producer purchased large residential washers produced in the United States or in other countries since January 1, 2016.

Table III-11

LRWs: U.S. producers' U.S. production and imports, 2016-18, January to March 2018, and January to March 2019

* * * * *

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-12 shows U.S. producers' employment-related data. Each of the employment factors except hours worked per PRW and productivity increased between 2016 and 2018, and all but hourly wages and productivity were higher in January-March 2019 than in January-March 2018. The number of PRWs between 2016 and 2018 increased by *** PRWs for ***, and declined by *** PRWs for ***, while employment was lower in January-March 2019 compared with January-March 2018 for ***, by ***.¹⁵ The number of PRWs for *** increased from *** in 2017 to *** in 2018, and were higher in January-March 2019 than in January-March 2018, by ***. LG indicated that its original target for hiring and staffing (approximately 600 employees) ***.¹⁶ Samsung projects that it will employ ***.¹⁷

Table III-12

LRWs: U.S. producers' employment related data, 2016-18, January to March 2018, and January to March 2019

* * * * *

¹⁵ Whirlpool noted that its own washer business supports approximately 800 suppliers throughout the United States. More broadly, Whirlpool observed that each job in the U.S. laundry equipment manufacturing industry supports between 1.72 and 3.04 jobs in other industries. Hearing transcript, p. 41 (Keppler) and Whirlpool's posthearing brief, pp. II-7-8. Based on the reported employment in January-March 2019, Whirlpool attributes between *** and *** indirect jobs to the domestic industry producing LRWs.

¹⁶ LG's posthearing brief, exh. 1, p. 6.

¹⁷ USITC staff fieldwork, October 10, 2018.

FINANCIAL CONDITION OF THE U.S. INDUSTRY

Background

Five U.S. producers reported usable financial results on their washers operations: Alliance, GE Appliances, LG, Samsung, and Whirlpool.¹⁸ *** accounted for the majority of the quantity of total net sales in 2018 (***) percent), followed by *** (***) percent), *** (***) percent), *** (***) percent), and *** (***) percent).^{19 20} All U.S. producers reported their financial results on the basis of generally accepted accounting principles and for the calendar-year periods.

Operations on washers

Table III-13 presents aggregated data on U.S. producers' operations in relation to washers. Table III-14 shows the changes in average unit values ("AUVs") of selected financial indicators. Table III-15 presents selected company-specific financial data.

Table III-13

LRWs: Results of operations of U.S. producers, 2016-18, January to March 2018, and January to March 2019

* * * * *

Table III-14

LRWs: Changes in AUVs, between fiscal years and between partial year periods

* * * * *

Table III-15

LRWs: Select results of operations of U.S. producers, by company, 2016-18, January to March 2018, and January to March 2019

* * * * *

¹⁸ In comments on draft questionnaires for this proceeding, LG recommended collection of additional financial data regarding operations on dryers as well as operations on other appliances. LG's comments on draft questionnaires, March 11, 2019, pp. 4-6 and attachment A. LG similarly argued for collection of such data in several prior Commission proceedings regarding LRWs. The Commission has not collected such data in prior investigations concerning LRWs, including the safeguard investigation, and did not do so in its questionnaires for this proceeding.

¹⁹ ***. U.S. producers' questionnaire response of ***, question II-2a.

²⁰ ***. U.S. producer's questionnaire response of ***, question II-2a and email from ***, May 16 and 21, 2019.

Net sales quantity and value

U.S. producers' net sales values consisted of commercial sales (***) percent), transfers to related firms (***) percent), and internal consumption (***) percent) in 2018.²¹ As shown in table III-13, the quantity and value of net sales reported by U.S. producers increased from 2016 to 2018. In January-March 2019, net sales quantity was lower and net sales value was somewhat higher compared to January-March 2018. As shown in table III-15, ***.

Cost of goods sold and gross profit or loss

Raw material costs ranged from *** percent of total COGS in January-March 2019 to *** percent in 2016 (see table III-13). Raw materials consist of stainless steel, carbon and non-stainless alloy steel, plastics, computer and electrical components, and other material inputs such as ***.^{22 23} As shown in table III-13, the industry's unit raw material costs increased from 2016 to 2018 and were higher in January-March 2019 compared to January-March 2018. As shown in table III-15, ***. ***. ***.

On an overall basis, other factory costs ("OFC") accounted for the second largest share of COGS, ranging from *** percent (2016) to *** percent (January-March 2019) of total COGS. As shown in table III-13, the industry's unit OFC increased from 2016 to 2018, and was higher in January-March 2019 compared to January-March 2018. As shown in table III-15, ***.²⁴

Direct labor ("DL") costs represented the smallest share of COGS ranging from *** percent (2016 and 2017) to *** percent (January-March 2019) of total COGS. As shown in table III-13, the industry's unit DL costs increased from 2016 to 2018 and were higher in January-March 2019 than January-March 2018. As shown in table III-15, ***.

As shown in table III-13 and notwithstanding higher total sales volume, the industry's gross profit declined from 2016 to 2018 because the increase in COGS exceeded the corresponding increase in net sales values. Offsetting the decline in sales volume, the industry's gross profit was higher in January-March 2019 compared to January-March 2018, as the change in total net sales value was greater than the change in COGS. As shown in table III-15, ***.

²¹ ***. Email from ***, May 23, 2019.

²² ***. U.S. producers' questionnaire response of ***, question III-9c.

²³ Whirlpool testified that there has been little impact from the section 232 tariffs to its washer business since 90 percent of the inputs (including steel) used in the manufacture of washing machines are procured domestically and very little aluminum is used in its products. Hearing transcript, pp. 59-60 (Keppler). ***. *** posthearing brief, p. 2.

²⁴ ***. Emails from ***, May 15 and July 16, 2019. ***. Email from ***, May 14, 2019.

SG&A expenses and operating income or loss

The U.S. industry's total SG&A expenses and corresponding SG&A expense ratio (total SG&A expenses divided by net sales value) decreased from 2016 to 2018 and were lower in January-March 2019 than January-March 2018. On a company-specific basis, ***, ***,²⁵ ***,²⁶

Overall, the U.S. industry's operating loss increased irregularly from 2016 to 2018 but was lower in January-March 2019 than January-March 2018. As shown in table III-15, ***, ***,

Interest expense, other expenses, and net income or loss

Classified below the operating income level are interest expense, other expense, and other income, which are usually allocated to the product line from high levels in the corporation. Interest expenses increased from 2016 to 2018 and were higher in January-March 2019 than January-March 2018. ***,²⁷ Other expenses increased irregularly from 2016 to 2018 but were lower in January-March 2019 compared to January-March 2018.²⁸ Other income increased from 2016 to 2018, and was negative in January-March 2019 compared to positive in January-March 2018.²⁹

The industry's net loss increased from 2016 to 2018 and was lower in January-March 2019 compared to January-March 2018. *** firms' net income (loss) followed the same trends as operating income (loss).

Table III-15 (addendum) presents profitability comparisons between the three continuously operating producers (***) and the two new entrants (***). In contrast to the aggregated industry's trend, the profitability of the continuously operating producers improved by all measures from 2016 to 2018. In January-March 2019, the profitability of the continuously operating producers improved by all measures compared to January-March 2018 following the aggregated industry's trend. The profitability of the new entrants worsened in January-March 2019 compared to January-March 2018, although their profit margins improved.³⁰

Table III-15 (addendum)
Profitability for continuously operating producers and new entrants, 2016-18, January to March 2018, and January to March 2019

* * * * *

²⁵ ***. Email from ***, May 15, 2019.

²⁶ ***. Email from ***, May 16, 2019.

²⁷ ***. Email from ***, May 23, 2019.

²⁸ ***. Email from ***, May 24, 2019.

²⁹ *** reported negative other income in January-March 2019. ***. Email from ***, May 15, 2019. ***. Email from ***, May 14, 2019.

³⁰ Appendix C presents, table C-1 additional data breakouts for the three continuously operating producers and the two new entrants.

Capital expenditures and research and development expenses

Table III-16 presents capital expenditures and research and development (“R&D”) expenses by U.S producers. The industry’s capital expenditures increased from 2016 to 2018 but were lower in January-March 2019 than January-March 2018. ***.³¹

The industry’s R&D expenses declined from 2016 to 2018 and were somewhat lower in January-March 2019 compared to January-March 2018. ***.³²

Table III-16

LRWs: Capital expenditures and research and development expenses for U.S. producers, by firm, 2016-18, January to March 2018, and January to March 2019

* * * * *

Assets and return on assets

Table III-17 presents data on the U.S. producers’ total assets and their operating return on assets.³³ Total assets increased from 2016 to 2018. The return on assets was negative throughout the reporting period, but improved irregularly from 2016 to 2018. In 2018, *** accounted for the largest share of total assets (**% percent), followed by *** (**% percent), *** (**% percent), *** (**% percent), and *** (**% percent).³⁴ 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.

Table III-17

LRWs: Value of assets used in production, warehousing, and sales, and return on assets for U.S. producers, by firm, 2016-18

* * * * *

³¹ ***. U.S. producers’ questionnaire responses of ***, question III-13.

³² ***. U.S. producers’ questionnaire responses of ***, question III-13.

³³ With respect to a company’s overall operations, staff notes that a total asset value (i.e., the bottom line number on the asset side of a company’s balance sheet) reflects an aggregation of a number of assets which are generally not product specific. Accordingly, high-level allocation factors were required in order to report a total asset value for washers.

³⁴ ***. Email from ***, May 23, 2019. ***. Email from ***, May 24, 2019.

U.S. IMPORTS

Table III-18 and figure III-3 present information on U.S. imports of residential washers, including LRWs and out-of-scope residential washers, based on responses to the Commission’s questionnaires. Total U.S. imports of LRWs decreased by *** percent by quantity and by *** percent by value from 2016 to 2018. Total U.S. imports of residential washers decreased by *** percent by quantity and by *** percent by value from 2016 to 2018. The quantities of U.S. imports of LRWs and residential washers were *** and *** percent higher, respectively, in January-March 2019 than in January-March 2018, and were *** and *** percent higher by value.³⁵ The average unit value of imports of LRWs declined by *** percent from 2016 to 2018, while the average unit value of total imports of residential washers increased by *** percent over the same period. The average unit value of LRWs and residential washers were *** and *** percent lower, respectively, in January-March 2019 than in January-March 2018.

Table III-18

Residential washers: U.S. imports by source, 2016-18, January to March 2018, and January to March 2019

* * * * *

Figure III-3

Residential washers: U.S. imports, 2016-18, January to March 2018, and January to March 2019

* * * * *

U.S. imports of LRWs from China declined by *** percent between 2016 and 2017, after the issuance of an antidumping order on LRWs from China on February 6, 2017, and were *** percent lower in 2018 than in 2017. U.S. imports of LRWs from China were *** units in January-March 2019 compared to *** in January-March 2018. After 2016, only covered LRW parts were imported from China. U.S. imports of LRWs from Korea increased by *** percent between 2016 and 2017, and then declined by *** percent in 2018, but were *** percent higher in January-March 2019 than in January-March 2018. There were no imports of LRWs from Mexico.³⁶ U.S. imports of LRWs from Thailand increased by *** between 2016 and 2017 and then declined by

³⁵ LG described the substantial increase in imports in interim 2019 as a result of the annually set in-quota amount. LG stated that “there’s a quota, and we’re competing to consume it with another major manufacturer. And if we don’t get there, we don’t get our share of it before they do, then we have to wait another 12 months. And that can be extremely damaging to the investments we’ve made, and our brand, and with our customer relationships, and with consumers if we didn’t have some way to maintain our presence in the market continuously for each 12-month period. And we don’t know how the factory ramp up is going to come. So, you know, it’s just, as I said before, we don’t like uncertainty. We like flexibility. So, yeah, we made sure to get some product imported quickly. And I think Samsung did the same thing. And between the two of us, we filled the entire quota by the end of April.” Hearing transcript, pp. 185-186 (Toohey).

³⁶ ***. Email from ***, June 26, 2019.

*** percent in 2018, but were *** percent higher in January-March 2019 than in January-March 2018. Similarly, imports of LRWs from Vietnam increased approximately *** in 2017 and then declined by *** percent in 2018, but were *** percent higher in January-March 2019 than in January-March 2018. There were no imports of LRWs or covered parts from any other sources during January 2016-March 2019.

The average unit value of imports from Korea, which were the highest of LRWs imported from any source, decreased by *** percent from 2016 to 2018, increasing by *** percent between 2016 and 2017 and then decreasing by *** percent in 2018. The average unit value of imports from Korea were *** percent lower in January-March 2019 than in January-March 2018. The average unit value of imports from Thailand, which were the lowest of LRWs from any source, increased by *** percent from 2016 to 2018, declining by *** percent between 2016 and 2017 and then increasing by *** percent in 2018. The average unit value of imports from Thailand was *** percent lower in January-March 2019 than in January-March 2018. The average unit value of imports from Vietnam increased by *** percent from 2016 to 2018, increasing by *** percent between 2016 and 2017 and by *** percent in 2018. The average unit value of imports from Vietnam was *** percent higher in January-March 2019 than in January-March 2018.³⁷

*** imported top load PSC/belt/clutch washers from *** and *** imported front load CIM/belt washers from ***. *** imports of front load CIM/belt washers from *** increased from *** units in 2016 to *** units in 2018, or by more than *** percent, and were *** units in January-March 2019, or *** percent higher than in January-March 2018. *** imports of front load CIM/belt washers from *** increased from *** units in 2016 to *** units in 2018, or by *** percent, and were *** units in January-March 2019, or *** percent lower than in January-March 2018. Participants in this proceeding generally agree that these washers compete with in-scope washers, but differed regarding potential responses to imports.³⁸

³⁷ Whirlpool argues that although there are a range of data sources available for understanding trends in pricing for the time period before and after the imposition of safeguard relief, the average unit value data and the quarterly pricing data contained in the Commission's report "are the most probative evidence for understanding pricing trends." Whirlpool's posthearing brief, p. II-10.

³⁸ LG argues that imports of front load CIM/belt washers from China and Mexico compete with LRWs and undermine the effectiveness of the safeguard measures. Furthermore, LG contends that GE Appliances has shifted production of front load washers from the United States to China. LG's prehearing brief, pp. 49-52 and hearing transcript, pp. 152-154 (Anderson). LG further argues that the current remedy should be revised to include both front load CIM/belt washers and top load PSC/belt/clutch washers, which it argues are largely being imported from China, in order "to prevent the circumvention that has occurred since the safeguard measures were imposed." LG's posthearing brief, pp. 11 and 15-16. Whirlpool contends that front load CIM/belt washers compete with LRWs. Whirlpool's posthearing brief, pp. I-32-I-33 and II-28-II-30 and hearing transcript, p. 103 (Levy). GE Appliances argues that its sourcing of front load CIM/belt washers from China, which are not subject to the safeguard import relief, "goes back almost 15 years and has recently grown from a very modest level to a modest level" and that these imports "have minimally impacted the market." GE Appliances' posthearing brief, p. 4. GE Appliances further argues that the safeguard remedy, "with its existing product coverage, is

U.S. imports of covered parts

Table II-19 presents U.S. imports and commercial U.S. shipments of covered parts by source during January 2016-March 2019, reported by ***.

Table III-19

LRWs: U.S. imports and commercial U.S. shipments of covered parts, by source, 2016-18, January to March 2018, and January to March 2019

* * * * *

U.S. imports of non-covered extra-wide washers

Table III-20 presents U.S. imports of non-covered extra-wide washers,³⁹ the vast majority of which were imported from Korea by ***, with the remainder imported from China by ***.

Table III-20

LRWs: U.S. imports of non-covered extra-wide washers, 2016-18, January to March 2018, and January to March 2019

* * * * *

Monthly imports

Table III-21 presents monthly U.S. imports of residential washers (LRWs and excluded washers) by source during January 2016-April 2019. During this timeframe, U.S. imports peaked in November-December 2018 and February-March 2019. The first peak preceded the U.S. safeguard measure, while the second followed the opening of the second TRQ period.

functioning well and allowing recovery from serious injury albeit more slowly than would be ideal. It is not failing due to what LG alleges to be circumvention.”

It is unclear how imports of washers expressly excluded from the scope of the safeguard investigation and therefore not part of the Commission’s serious injury determination, and thus excluded from the scope of the safeguard measure, can be considered to be circumventing the measure.

³⁹ The Commission collected data based on large residential washers consistent with the scope of the safeguard remedy. The Commission also collected data for three forms of residential washers excluded from the scope of the safeguard remedy. The first two residential washers (top load PSC/belt/clutch washers and front load CIM/belt washers), were found by the Commission to be like or directly competitive with LRWs. The third type of residential washers (extra-wide washers) was included in the scope of prior proceedings covering similar products from Korea and Mexico.

Table III-21
Residential washers: U.S. imports by month, January 2016 through April 2019

Item	U.S. imports						
	China	Korea	Mexico	Thailand	Vietnam	All other sources	All import sources
Quantity (units)							
2016.--							
January	***	7,870	21,739	894	---	378	***
February	***	14,293	22,991	509	---	723	***
March	***	14,961	33,581	615	---	11,509	***
April	***	9,341	26,808	1,880	---	6,730	***
May	***	10,648	42,233	792	---	8,178	***
June	***	11,164	36,305	1,566	---	3,570	***
July	***	8,536	24,086	6,361	1,560	1,337	***
August	***	11,594	29,022	46,737	25,281	3,916	***
September	***	27,784	27,592	85,021	62,699	707	***
October	***	24,376	32,082	135,758	144,883	3,699	***
November	***	35,232	31,134	77,568	149,606	6,251	***
December	***	31,260	16,536	24,107	113,326	12,800	***
2017.--							
January	***	19,462	21,944	27,240	166,092	7,289	***
February	***	32,702	25,434	48,569	121,784	14,020	***
March	***	27,030	24,591	61,131	104,791	7,426	***
April	***	29,576	23,980	87,151	132,105	9,478	***
May	***	32,983	28,149	123,536	110,441	7,522	***
June	***	39,188	33,896	136,626	127,704	15,398	***
July	***	23,207	31,399	123,679	145,168	8,754	***
August	***	24,565	32,258	116,706	123,401	17,190	***
September	***	23,151	22,203	125,100	128,940	5,338	***
October	***	31,915	22,052	236,600	152,819	4,416	***
November	***	93,512	23,546	211,086	160,440	9,199	***
December	***	76,256	28,703	268,313	210,951	7,236	***
2018.--							
January	***	23,756	19,815	170,362	123,246	1,270	***
February	***	13,298	31,673	15,793	19,108	3,622	***
March	***	12,302	30,626	8,189	7,085	12,611	***
April	***	12,367	27,160	25,291	42,029	5,361	***
May	***	16,889	31,471	70,787	66,040	5,060	***
June	***	13,233	25,422	67,922	71,076	3,606	***
July	***	21,397	31,300	105,305	80,717	5,690	***
August	***	40,930	34,904	122,466	121,753	2,038	***
September	***	51,088	24,057	132,455	144,035	4,876	***
October	***	17,592	34,108	14,561	19,770	3,918	***
November	***	11,190	51,086	43	156	2,541	***
December	***	10,134	53,179	107	2,806	3,928	***

Table continued on next page.

**Table III-21--Continued
Residential washers: U.S. imports by month, January 2016 through April 2019**

Item	U.S. imports						
	China	Korea	Mexico	Thailand	Vietnam	All other sources	All import sources
Quantity (units)							
2019.-- January	***	10,331	56,858	266	1,686	2,671	***
February	***	41,002	57,013	208,576	255,423	2,052	***
March	***	48,234	68,498	196,418	155,432	6,463	***
April	***	37,783	53,617	152,041	124,570	3,635	***

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

Note.--Imports may be overstated due to the inclusion of out-of-scope residential washers, such as extra-wide washers.

Source: Official U.S. import statistics and ***, as adjusted ***, using HTS reporting numbers 8450.20.0040 and 8450.20.0080, accessed July 3, 2019.

U.S. importers' commercial U.S. shipments by product type

Table III-22 and figure III-4 present U.S. importers' commercial U.S. shipments of LRWs by product type. Commercial U.S. shipments of imports of both front load and top load LRWs increased between 2016 and 2017 and then declined in 2018, and were lower in January-March 2019 than in January-March 2018. As a share of total commercial shipments of U.S. imports of LRWs, top load LRWs increased from *** percent in 2016 to *** percent in 2018, whereas front load LRWs' share of total commercial U.S. shipments of imported LRWs decreased from *** percent in 2016 to *** percent in 2018. Energy Star rated LRWs accounted for more than *** percent of commercial U.S. shipments of imported LRWs during 2016-18, January-March 2018, and January-March 2019. Virtually all commercial U.S. shipments of imported front load LRWs had the Energy Star rating. Energy Star rated top load LRWs without an agitator accounted for the bulk of commercial U.S. shipments of imported top load LRWs, whereas there were no import shipments of top load LRWs with an agitator.

**Table III-22
LRWs: U.S. importers' commercial U.S. shipments by product type, 2016-18, January to March 2018, and January to March 2019**

* * * * *

**Figure III-4
LRWs: U.S. importers' U.S. shipments by product type, 2016-18, January to March 2018, and January to March 2019**

* * * * *

U.S. importers' inventories

Table III-23 presents data for inventories of imports of LRWs held in the United States. *** held the vast majority of inventories of imports from China, *** held the vast majority of inventories of imports from Korea, and *** held the vast majority of inventories of imports from Thailand and from Vietnam. Whirlpool and LG differed regarding the reasons for and the consequences of these inventories.^{40 41}

Table III-23

LRWs: U.S. importers' end-of-period inventories of imports by source, 2016-18, January to March 2018, and January to March 2019

* * * * *

U.S. importers' imports subsequent to March 31, 2019

The Commission requested importers to indicate whether they had imported or arranged for imports of LRWs for delivery after March 31, 2019 (table III-24). Three importers reported arranged imports; *** reported arranged imports from China, *** from Korea, and *** reported arranged imports from both Thailand and Vietnam.⁴²

Table III-24

LRWs: Arranged imports, April 2019 through March 2020

* * * * *

⁴⁰ Whirlpool argued that with the increase in imports in late 2017 and early 2018 to avoid the safeguard measures and supply disruptions, inventories of imports also increased. Thus, it points out that *** LRWs were sold out of inventory in 2018, outside the reach of the safeguard measure. It further argues that, given the carrying costs of this inventory, there was an incentive to "move through it," which affected pricing and delayed the safeguard's remedial effect. Hearing transcript, pp. 38 and 111 (Tubman) and Whirlpool's prehearing brief, pp. 21-23.

⁴¹ LG noted that an inventory buildup occurred in late 2017 and early 2018, prior to the safeguard measure's imposition, for strategic inventory building purposes in order to maintain LG and Samsung LRWs on retail floors. Moreover, LG stated that exporters accelerated their LRW shipments to the United States early in the safeguard quota period in 2019, before the above-quota levels with higher tariff rates were reached. These LRWs were held in inventory to be shipped out over the remainder of the quota period. In addition, LG noted that it increased inventory to be able to supply its customers until it could fully ramp up production at its U.S. facility. Hearing transcript, p. 181 (Anderson), pp. 140 and 186 (Klett), and p. 188 (Toohey).

⁴² At the Commission's hearing, a witness for LG stated that the tariff rate quota limits had been reached in April 2019, and that they did not plan to continue importing this year. Hearing transcript, pp. 185-186 (Toohey).

FACTORS AFFECTING PRICES

Raw material costs

Raw materials used to produce LRWs include cold-rolled and stainless steel, copper, aluminum, plastic, propylene, crude oil, and rubber.⁴³ Raw material costs, as a share of U.S. producers' total COGS, declined from *** percent in 2016 to *** percent in 2018.

The price of steel increased irregularly during January 2016 through April 2019 (figure III-5). Specifically, the price of cold-rolled steel increased irregularly by *** percent from January 2016 to July 2018 before declining approximately *** percent through April 2019. Overall, the price of cold-rolled steel increased by *** percent between January 2016 and April 2019. The price for stainless steel cold-rolled sheet moved similarly to cold-rolled steel, but increased less than the cost for cold-rolled steel, by about *** percent between January 2016 and April 2019.

Figure III-5

Raw material costs: U.S. price indexes of cold-rolled steel coil and stainless steel cold-rolled sheet, monthly, January 2016-April 2019

* * * * *

Impact of section 232 tariffs on steel and aluminum

U.S. producers and importers were asked how the announcement of the section 232 investigations and implementation of the section 232 tariffs on imports of steel and aluminum impacted raw material costs for LRWs. Most firms, with the exception of ***, reported that the implementation of the section 232 tariffs impacted raw material costs for LRWs.⁴⁴ *** stated that prices for cold-rolled steel and stainless steel sheet are significant cost drivers in its LRW operation and that U.S. market prices have increased from all sources.⁴⁵ *** stated that steel and aluminum prices have continued to rise significantly, impacting LRW production costs, and that prices appear to be stabilizing at much higher levels than prior to the tariff implementation. *** stated that the section 232 tariffs on steel have disrupted the availability of imported and domestic steel, leading to significant price increases for steel. *** stated that steel and aluminum raw material prices have increased.

⁴³ *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.

⁴⁴ ***. ***.

⁴⁵ *** reported that it consumes a variety of primary steel inputs, such as cold-rolled steel and stainless steel, and that it ***.

Impact of section 301 tariffs on Chinese-origin products

U.S. producers and importers were asked how the announcement of the section 301 investigations and implementation of the section 301 tariffs on imports of Chinese-origin products impacted raw material costs for LRWs. *** stated that section 301 tariffs have increased the costs for certain electronics and other components, regardless of whether it purchases the Chinese-origin version of such inputs, and that it has paid \$*** in duties though the first quarter of 2019 for the importation of LRW components consumed at the *** plant, representing *** percent of its COGS in 2018. *** stated that there is a direct correlation between the section 301 tariffs and the cost for parts unavailable elsewhere.⁴⁶ *** estimated that it pays ***. *** reported that the section 301 tariffs had not impacted raw material costs for LRWs.

Lead times

During the safeguard investigation, LRWs were primarily sold from inventory, generally with lead times of *** days for U.S. producers and *** days for importers. Importers reported produced-to-order lead times of *** days, and sales from foreign inventory lead times of *** days.⁴⁷ When asked if the average lead times had changed since February 7, 2018, most U.S. producers and importers reported that lead times had not changed. However, *** stated that lead times had changed “to some extent,” especially on *** products.

PRICING PRACTICES

Pricing methods, discounts, and promotional prices

During the safeguard investigation, the Commission found that typical negotiations between LRW suppliers and retailers revolve around prices and margins. Suppliers offer a minimum advertised price (“MAP”) for each LRW model, above which they will support retailers with advertising funds. 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. 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.⁴⁸

Most responding firms have not changed their pricing methods, discount practices, or share of sales on a contract or spot basis since February 7, 2018. *** stated that it ***.

⁴⁶ ***.

⁴⁷ *Large Residential Washers, Investigation No. TA-201-076*, Confidential Staff Report, December 2017, pp. V-15-16.

⁴⁸ *Large Residential Washers, Investigation No. TA-201-076*, USITC Publication 4745, December 2017, p. 26.

PRICE RELATED FACTORS

U.S. producers, importers, and purchasers were asked how 15 specified factors have influenced the price of LRWs in the U.S. market since February 7, 2018. As shown in table III-25, the majority of responding firms reported that changes in the level of competition from imports, the cost of raw materials, and transportation/delivery costs have increased the price of LRWs.⁴⁹ Most U.S. producers, all importers, and 5 of 19 purchasers reported that changes in demand in the U.S. market since February 7, 2018 decreased the price of LRWs, while 12 purchasers reported that changes in demand had no effect on prices. The majority of responding firms reported that the remaining factors generally had no effect on LRW prices.

Table III-25

LRWs: Factors affecting price since February 7, 2018

Factor	Producers			Importers			Purchasers		
	I	D	N	I	D	N	I	D	N
Competition between U.S. producers	2	---	3	1	---	2	6	2	11
Level of competition from substitute products	---	---	5	---	---	3	1	1	17
Level of competition from imports	3	1	1	2	---	1	9	2	8
Cost of raw materials	4	---	1	---	---	3	16	---	3
Energy costs	2	---	3	---	---	3	8	1	8
Domestic production capacity	2	---	3	2	---	1	7	1	10
Allocation of production capacity to alternate products	---	---	5	---	---	3	3	---	15
Productivity of domestic producers	2	---	3	2	---	1	4	2	11
Labor agreements, contracts, etc.	---	---	5	---	---	3	3	---	14
Transportation/delivery cost	2	---	3	2	---	1	10	1	8
Market patterns	---	---	5	---	---	3	3	---	16
Demand in the United States	---	4	1	---	3	---	2	5	12
Demand outside the United States	---	---	5	---	---	2	---	---	15
State and local government incentives	---	---	5	---	---	2	---	---	16
Other	1	1	3	1	---	1	---	---	9

Note.-- I=Increased, D=Decreased, N=No effect.

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

U.S. producers, importers, and purchasers were also asked to rate the importance of the 15 specified factors in explaining trends in the price of LRWs since February 7, 2018. As shown in table III-26, the majority of responding U.S. producers, importers, and purchasers reported that changes in the cost of raw materials and demand in the U.S. market were very important factors affecting the price of LRWs. Most responding U.S. producers and importers reported that the level of competition from imports was a somewhat important factor affecting the price of LRWs, while a plurality of responding purchasers reported that this factor was very important. U.S. producers and importers were split on the importance of

⁴⁹ ***. It continued that ***. GE Appliances' posthearing brief, p. 2.

transportation/delivery costs while the majority of purchasers reported that this factor was very important.

Table III-26

LRWs: Importance of factors affecting price since February 7, 2018

Factor	Producers			Importers			Purchasers		
	V	S	N	V	S	N	V	S	N
Competition between U.S. producers	2	3	---	1	2	---	3	11	4
Level of competition from substitute products	---	2	3	---	1	2	1	5	13
Level of competition from imports	2	3	---	1	2	---	8	6	3
Cost of raw materials	5	---	---	3	---	---	16	2	---
Energy costs	1	2	2	1	2	---	6	5	7
Domestic production capacity	1	2	2	1	2	---	10	4	3
Allocation of production capacity to alternate products	---	1	4	---	1	2	4	1	12
Productivity of domestic producers	1	2	2	1	2	---	8	6	3
Labor agreements, contracts, etc.	---	3	2	---	3	---	2	6	9
Transportation/delivery cost	2	2	1	1	2	---	12	4	2
Market patterns	2	1	2	2	1	1	5	6	7
Demand in the United States	4	---	1	3	---	---	9	4	5
Demand outside the United States	---	---	5	---	---	3	---	1	14
State and local government incentives	---	---	4	---	---	3	---	3	12
Other	2	---	3	1	---	2	---	---	7

Note.-- V=Very important, S=Somewhat important, N=Not important

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

When asked to elaborate, *** stated that restricted supply due to the tariff-rate quota led to price increases. *** also cited increasing material costs. *** stated that Samsung and LG “stockpiled significant import volumes” that undercut the remedial benefit of the safeguard and negatively impacted the timing of domestic producers’ cost-based price increases in 2018. *** stated, with respect to its imports, that rising raw material, component, and transportation costs led to increased costs for manufacturers that affected pricing to retailers. Five purchasers cited increased raw material costs as factors driving price increases. *** stated that it passed on “safeguard penalties” through higher prices on all laundry products, and added that retail prices of laundry appliances were increased by every manufacturer within a 60-day window of the safeguard measure’s implementation.

PRICE DATA⁵⁰

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.

⁵⁰ Price data from the safeguard investigation are contained in Appendix G.

customers during January 2016 to March 2019.^{51 52} As with the price data requested during the safeguard investigation, data were requested net of all discounts, both direct and indirect, and specifications for all SKUs that fell under each product were also requested.

Product 1.— Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 3.7 cubic feet but less than 4.2 cubic feet; 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.

Product 7.— Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 4.7 cubic feet but less than 5.2 cubic feet; water heater included; steam cycle(s) included; no LCD display; white finish.

⁵¹ Firms were requested to report f.o.b. factory and f.o.b. port sales values and were instructed to deduct all U.S.-inland transportation costs from their sales values.

⁵² Pricing products 1-6 are identical to those requested in the safeguard investigation. ***. Email from *** to staff on July 2, 2019.

Product 8.— Front loading, Energy Star rated washer; direct drive; rated DOE capacity greater than or equal to 4.7 cubic feet but less than 5.2 cubic feet; water heater included; steam cycle(s) included; no LCD display; non-white finish.

Four 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.^{53 54 55} Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. shipments of LRWs and approximately *** percent of U.S. shipments of imports in 2018.

Price data for products 1-8 are presented in tables III-27 to III-34 and figures III-6 to III-13. No pricing data was reported for LRWs imported from Mexico, as there were no imports of LRWs from Mexico since 2016.⁵⁶

Table III-27

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarters, January 2016-March 2019

* * * * *

Table III-28

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by quarters, January 2016-March 2019

* * * * *

Table III-29

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by quarters, January 2016-March 2019

* * * * *

Table III-30

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by quarters, January 2016-March 2019

* * * * *

Table III-31

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5, by quarters, January 2016-March 2019

* * * * *

⁵³ 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.

⁵⁴ Producer *** reported ***. Staff ***.

⁵⁵ ***. ***.

⁵⁶ ***.

Table III-32

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6, by quarters, January 2016-March 2019

* * * * *

Table III-33

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 7, by quarters, January 2016-March 2019

* * * * *

Table III-34

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 8, by quarters, January 2016-March 2019

* * * * *

Figure III-6

LRWs: Weighted-average prices and quantities of domestic and imported product 1, by quarters, January 2016-March 2019

* * * * *

Figure III-7

LRWs: Weighted-average prices and quantities of domestic and imported product 2, by quarters, January 2016-March 2019

* * * * *

Figure III-8

LRWs: Weighted-average prices and quantities of domestic and imported product 3, by quarters, January 2016-March 2019

* * * * *

Figure III-9

LRWs: Weighted-average prices and quantities of domestic and imported product 4, by quarters, January 2016-March 2019

* * * * *

Figure III-10

LRWs: Weighted-average prices and quantities of domestic and imported product 5, by quarters, January 2016-March 2019

* * * * *

Figure III-11

LRWs: Weighted-average prices and quantities of domestic and imported product 6, by quarters, January 2016-March 2019

* * * * *

Figure III-12

LRWs: Weighted-average prices and quantities of domestic and imported product 7, by quarters, January 2016-March 2019

* * * * *

Figure III-13

LRWs: Weighted-average prices and quantities of domestic and imported product 8, by quarters, January 2016-March 2019

* * * * *

Price trends

In general, the price data show that LRW prices decreased during January 2016-March 2019. Table III-35 summarizes the price trends, by source and by product. Domestic price decreases ranged from *** to *** percent during January 2016-March 2019 while import price decreases for products 1, 2, 5, and 8 ranged from *** to *** percent and imported price increases for products 3 and 7 were *** percent and *** percent, respectively.⁵⁷ Sales of domestically produced product 4 stopped in the *** quarter of *** while sales of imported product 4 stopped in the *** quarter of ***. Sales of both domestically produced and imported product 6 were sporadic in 2016 and stopped altogether by the *** quarter of ***.

Table III-35

LRWs: Summary of weighted-average f.o.b. prices for products 1-8 from the United States and other countries

* * * * *

As shown in figure III-14, U.S. prices increased during 2018 and were higher in the fourth quarter of 2018 than the first quarter of 2018. Prices began declining in the fourth quarter of 2018 and continued to decline in the first quarter of 2019.

⁵⁷ Whirlpool notes that Samsung and LG began “building up massive inventories of imported LRWs in February 2019 when the safeguard’s tariff-rate quota reset from 50 percent to 18 percent ad valorem and that excess inventory overhang like that created in February and March 2019 can negatively impact LRW pricing.” Whirlpool’s posthearing brief, Part II – Answers to Commission Questions, question 6b, p. II-11.

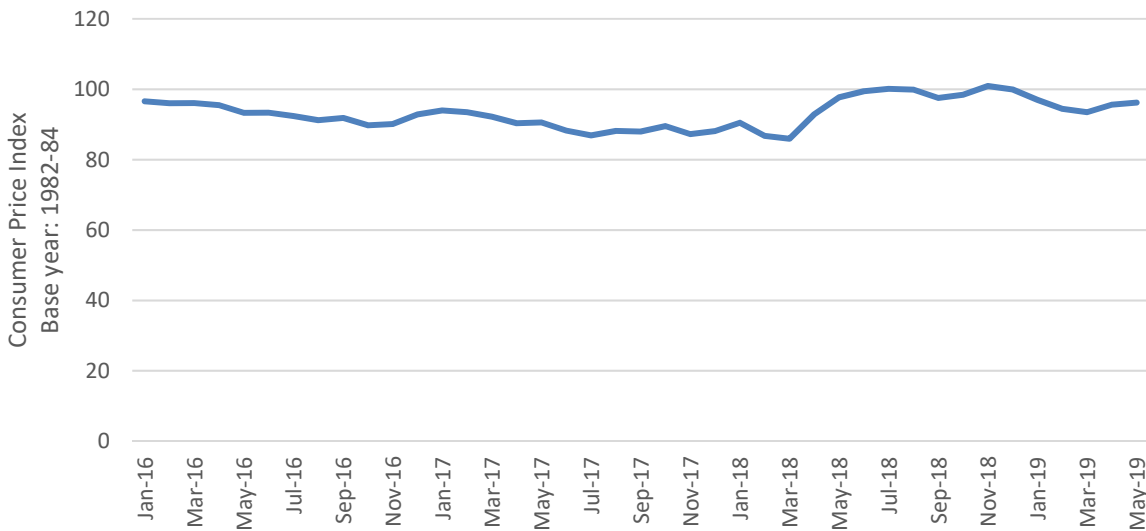
Figure III-14
LRWs: Indexed U.S. producer prices, January 2016 through March 2019

* * * * *

*** prices increased by *** percent and *** percent for products 2 and 8, respectively, and decreased by *** percent, *** percent, and *** percent for products 3, 5, and 7, respectively. *** U.S. prices increased by *** percent for product 7 and *** percent for product 8 while its prices declined by *** for product 3. *** reported data for products 7 and 8, ***. ***. ***.⁵⁸

Public and third-party data indicate that prices for LRWs increased after March 2018. As shown in figure III-15, the consumer price index for laundry equipment, an index of combined washer and dryer prices over time, decreased from January 2016 to March 2018 by 10.6 percent.⁵⁹ Prices then increased by almost seven percent from March to April 2018 and then generally increased before peaking in November 2018. Since the beginning of 2019, prices have generally declined, although there was a small uptick in prices from March to May 2019.

Figure III-15
Consumer price index of laundry equipment in U.S. city average, all urban consumers, seasonally adjusted, monthly, January 2016 to May 2019, base year 1982-84



Source: Bureau of Labor Statistics, https://data.bls.gov/timeseries/CUSR0000SS30021?output_view=pct_3mths, accessed July 2, 2019.

⁵⁸ See Appendix E for a breakout of U.S. producers’ reported sales prices, by product.

⁵⁹ Whirlpool argues that the probative value of this data is “necessarily limited” because the focus of the Commission’s analysis must be on washer (not dryer) pricing. Whirlpool’s posthearing brief, Part II – Answers to Commission Questions, question 6e, pp. II-12-13.

Similarly, *** data provided by LG (figure III-16) also suggest that wholesale AUVs fluctuated but increased overall from 2016 to 2019. The *** data, which reports quantities and wholesale values⁶⁰ of top load clothes washers and front load clothes washers, show that from January 2016 to April 2018, top load washer prices fell by *** percent, from \$*** to \$***. However, from May 2018 to April 2019, prices increased by *** percent, peaking in April 2019 at \$***. Front load washers followed a similar trend at a higher level of prices, with prices falling by *** percent from January 2016 to April 2018, from \$*** to \$***, and then increasing throughout 2018 and peaking in January 2019 at \$***. Since January 2019, prices for front load washers have decreased slightly, but were at a higher price than in 2016 through 2018.

Figure III-16

Washer average unit values for top load and front load clothes washers, monthly, January 2016 to April 2019

* * * * *

In an April 2019 trade policy paper, the National Bureau of Economic Research (“NBER”) found that following the safeguard tariffs, prices on washers increased by 12 percent, or by about \$86 per unit.^{61 62}

⁶⁰ Whirlpool argues that the AHAM AUV data represent a flawed data source for analyzing net wholesale price trends in the LRW industry. It stated that when it reports its own sales values to AHAM, it reports ***. Whirlpool’s posthearing brief, Part II – Answers to Commission Questions, question 6c, p. II-12. LG contends that the AHAM wholesale price data is more appropriate than the Commission’s product-specific pricing data for assessing wholesale price trends. LG’s posthearing brief, Exhibit 1, p. 14. LG also contends that AHAM prices are net prices. LG’s posthearing brief, Exhibit 1, p. 16, and Exhibit 4, p. 6.

AHAM’s instructions state that the total dollar sales to be reported should be the manufacturer’s selling price per unit to U.S. distributors, meaning “published cost...excluding only...freight, regular cooperative advertising, any charges which may be made for warranty, and excise taxes, if imposed.” LG’s posthearing brief, Exhibit 4, p. 6.

⁶¹ Aaron Flaaen, Ali Hortaçsu, and Felix Tintelnot. “The Production Relocation and Price Effects of U.S. Trade Policy: The Case of Washing Machines.” National Bureau of Economic Research. Working Paper 25767 (April 2019). Attached as Exhibit 8 to LG’s prehearing brief.

⁶² According to Flaaen, et al., domestic retail prices will reflect the full impact of the tariffs, including the impact on domestic competitors, relocation of production, and complementary goods. The authors source their data from Gap Intelligence, which made weekly visits to major retailers in 22 metropolitan areas in the United States. The authors use the net retail price, the price after applying promotions or discounts, and they concentrate their analysis on the five national retailers in the United States: JC Penney, Best Buy, Lowe’s, Sears, and Home Depot, which together account for more than 50 percent of observations. The paper attempted to control for external shocks such as an increase in raw material prices by using other appliances as a control, life-cycle effects of appliances, and product features, and also accounted for non-tariff related price movements. The analysis did not include laundry machines with washing and drying functions, and focused on the five major washing machine brands: LG,

In the safeguard investigation, the Commission found that imports were a substantial cause of serious injury to the domestic industry because increasing quantities of low-priced imports depressed and suppressed prices for the domestic like product, causing the industry to experience increasing financial losses.⁶³ In recommending the TRQ remedy ultimately imposed by the President (with some modification), the Commission anticipated that the remedy would result in “a modest increase in the domestic industry’s prices” in the short term.⁶⁴

Samsung, Whirlpool, Maytag, and G.E., which accounted for more than 80 percent of the total observations.

The authors also discussed existing antidumping and countervailing duty orders, concluding that imposition of antidumping and countervailing duties placed on LRWs from Mexico and Korea in 2012, and later on China in 2016, led foreign producers to shift production to other countries, keeping the level of U.S. imports the same. However, after the safeguard tariffs this “country-hopping” behavior was discouraged and led foreign producers, namely LG and Samsung, to open production facilities in the United States. As noted above, in aggregate the price to consumers of washers increased by 12 percent. The paper also found brand-specific price increases following the safeguard tariffs. For example, Whirlpool washer prices to consumers increased by 13 to 17 percent, and imported LG washer prices to consumers increased by about 13 percent. In addition, the authors assert that although 1,800 jobs were created by the safeguard measure (1,600 new production jobs from foreign producers opening plants in the United States and Whirlpool’s 200 additional jobs due to the safeguard tariffs), these jobs came at a consumer cost of \$815,000 per job.

The paper also discusses the effect of the safeguard on dryers, finding that the prices of the complementary good “jumped at the same time by a similar magnitude, despite the fact that these products were not subject to tariffs during this period.” *Ibid*, p. 3.

Whirlpool asserts that the NBER working paper is flawed and unreliable, arguing that the paper relies on a “foundational premise” that the serious injury inflicted on the domestic industry by imports should serve as a “baseline” for economic analysis; relies on incomplete GAP Intelligence retail price data; focuses on retail price trends for washers and dryers even though the safeguard measure only applies to washers; heavily relies on life cycle pricing trend variables even though the Commission has previously found lifecycle pricing inapplicable to LRWs; and ignores the jobs saved by virtue of the safeguard and the indirect jobs preserved and created. Whirlpool estimates the actual cost per job saved or created was between \$14,623 and \$21,723 per job if the errors are corrected. Whirlpool’s posthearing brief, Part II – Answers to Commission Questions, question 17, pp. II-32-34.

⁶³ *Large Residential Washers*, Inv. No. TA-201-076, USITC Pub. 4745, December 2017, p. 67.

⁶⁴ *Large Residential Washers*, Inv. No. TA-201-076, USITC Pub. 4745, December 2017, p. 119. *See also* the estimated economics effects of the TRQ on large residential washers, reproduced in Appendix G.

Price comparisons

As shown in table III-36, prices for imported LRWs were below those for U.S.-produced product in 63 of 71 instances (2.7 million units) and above in 8 instances (148,141 units).⁶⁵

Table III-36

LRWs: Instances of foreign prices above and below U.S. prices, by product, January 2016-March 2019

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	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Product 5	***	***	***	***	***
Product 6	***	***	***	***	***
Product 7	***	***	***	***	***
Product 8	***	***	***	***	***
Total	71	63	2,659,937	8	148,141
Of which,					
Jan 2016 to Dec 2017	46	40	1,884,821	6	70,923
Jan 2018 to Mar 2019	25	23	775,116	2	77,218

In the safeguard investigation, prices for imported LRWs were below those for U.S. produced product in 70 of 92 instances. *Large Residential Washers, Inv. No. TA-201-076*, USITC Publication 4745, December 2017, p. V-28 and Table III-20.

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

⁶⁵ Whirlpool argues that, comparing the pre- and post-safeguard imposition periods, the frequency of import underselling remains nearly the same *** the average margin of underselling is now generally *** and that such *** margins of underselling allowed Legacy Domestic Producers to weather *** costs by ***. Whirlpool's prehearing brief, p. 12 and Attachment 3.

PART IV: ADJUSTMENT EFFORTS AND INTERESTED PARTY COMMENTS ON THE SAFEGUARD MEASURE

ADJUSTMENT PLANS

Following the vote on injury in the Commission's safeguard investigation, two U.S. producers submitted proposed adjustment plans for implementation in the event of appropriate import relief. Those plans by GE and Whirlpool are reproduced in their entirety below.

GE Appliances' adjustment plan

GE Appliances' proposed adjustment plan was classified into three broad categories.

Updated offerings

This includes new platforms, products, feature innovations, and the lines to produce each. It also includes the R&D needed to bring each to market. During the import relief period GE Appliances would plan to invest *** in expanding its range of LRW platforms. This activity would take place concurrently with **. The investment would support a range of functions needed to **, including design, R&D, and manufacturing. GE Appliances would also plan to ** add specific capabilities, as well as ** lines, as appropriate.

Human capital investment

This category breaks further down into two subcategories: (a) training for hourly workers; and (b) training for managerial, supervisory, and design staff. The overall goal is to increase skills toward efficiency gains in production, design, and execution. This category builds upon and expands efficiencies and synergies already in place. As part of the investments discussed in Category 1 above, GE Appliances would need to invest in **. These human capital investments would be focused on delivering the right skills to the right personnel, in order to further drive overall manufacturing efficiency. Some portion of these human capital investments would be targeted toward expanding and further developing the technical staff that drive the design and innovation of new products and features, toward building upon an already competitive position in product offerings.

Business process innovation

Closely tied to Human Capital Investment (Category 2, above), this category focuses on continued and increased innovation toward product design and feature innovation, while continuing to drive out costs at every opportunity. GE Appliances would plan to complement investments in the other two categories with innovation-targeted investments of **. The purpose of these investments is to increase efficiency **. Remaining oriented toward relieving

the tension between the need to innovate and the necessity of controlling costs via developing *** is key to continuing to deliver quality, innovative products in a cost-effective manner.

Whirlpool's adjustment plan

Whirlpool's proposed adjustment plan was classified into two broad categories.

Plans to update and expand product lineup

Revisiting Project Opportunities That Were Canceled or Curtailed During the POI

At the hearing and in its questionnaire responses, Whirlpool described several washer product projects — valued at \$*** — that were canceled, curtailed, or rejected due to the serious injury caused by imports. Whirlpool remains committed to revisiting all of these investment opportunities upon the issuance of safeguard relief.

AMAX Project: In 2016, Whirlpool was forced to abort its plan to produce “jumbo” capacity front load washers. The estimated value of this investment is \$***, and it represents more than *** direct jobs on a new flexible production line. Whirlpool intends to revisit the business case for this project when safeguard relief is granted.

ATLANTIS 2.0 Project: Earlier this year, Whirlpool was forced to reject a \$*** investment proposal for *** — including ***. While the current pricing environment does not support a return on this proposed investment, Whirlpool expects that effective safeguard relief will enable it to revisit the business case for the project, which would facilitate increased production and corresponding job growth.

ADVANTAGE Project: In 2016, Whirlpool was forced to curtail the launch of its “jumbo” capacity top load washers — the most innovative washers in the industry — because the uneconomic pricing environment made it virtually impossible to even floor these models. If safeguard relief is granted, Whirlpool intends to revisit the business opportunity to complete this product launch. The incremental value of this investment is approximately \$*** and will lead to increased capacity utilization.

Evaluating Plans to Launch New Product Platforms and Innovations to Drive Future Competitiveness.

If an appropriate safeguard remedy is implemented, Whirlpool stands ready to evaluate new product platform investments totaling more than ***. These platform investments — which would ensure that *** — would promote Whirlpool's continued future competitiveness in the washer industry and lead to greater choice with respect to washer features and innovation.

*** Projects: At the hearing, Samsung touted the uniqueness of its “FlexWash” model, which was launched in March 2017, i.e., the last month of the safeguard investigation's POI. Whirlpool has ***. First, Whirlpool has ***. Second, Whirlpool is also ***.

*** Washers: At the hearing, LG touted the purported uniqueness of its “SideKick” pedestal washer model. But Whirlpool ***. Import competition at uneconomic price levels has ***.

*** Washers: Whirlpool expects that, with the benefit of safeguard relief, it should be able to *** to develop new designs and tooling. This investment would likely add up to *** direct jobs and significantly increase ***.

*** Platform: Finally, if safeguard relief is granted, Whirlpool will review a ***.

Plans to enhance manufacturing and logistics efficiencies

While the Clyde plant is already the most efficient washer plant in the world — and manufacturers from the auto sector and other industries commonly “benchmark” to Clyde in order to gauge their own efficiency — Whirlpool is always pursuing manufacturing improvements in order to remain as cost competitive as possible. To that end, appropriate safeguard relief will create an environment in which Whirlpool can explore new opportunities for incremental improvements in its manufacturing and logistics that ensure Clyde remains a cutting edge facility in the future.

If safeguard relief is granted, Whirlpool will ***. The details include: ***.

Each aspect of this plan has been deferred as the economics of the washers business has crumbled in the last few years due to increasing volumes of low-priced imports. If safeguard relief is imposed, Whirlpool estimates that ***.¹ These opportunities will also ensure that Clyde manufacturing continues to remain on the cutting edge when it comes to ***. The implementation of these opportunities will itself create American jobs but, more importantly, also ensure Clyde and its employees can deliver sustained manufacturing and product leadership going forward.

Finally, Whirlpool will evaluate the opportunity for a ***. Once again, these opportunities will deliver smart automation and a connected workplace that drives further efficiencies and equips Clyde’s workforce for sustainable success in the future.

COMMENTARY ON ADJUSTMENT PLANS

U.S. producers were asked in the Commission’s questionnaire whether they had submitted adjustment plans to the Commission in connection with the original safeguard investigation on LRWs (Inv. No. TA-201-076), or indicated to USTR since the initiation of the original safeguard investigation that they would make adjustments in their LRW operations that would permit them to compete more effectively with imports of LRWs after relief expires if they were to receive import relief as a result of that investigation. LG and Samsung, both of which commenced production in 2018, and Alliance reported that they had not done so. GE Appliances and Whirlpool each reported that they had submitted such plans, but only

¹ Although not yet in the planning, further efficiencies may potentially be realized through ***.

Whirlpool provided a commentary on implementation of its adjustment plan in response to the questionnaire.

Whirlpool stated ***:

“***.”

On the other hand, Whirlpool stated that imposition of the safeguard measure has ***:

“***.”

TRADE ADJUSTMENT ASSISTANCE FOR WORKERS

On December 19, 2017, the U.S. Department of Labor (“DOL”) submitted a report to the President, pursuant to section 224(b) of the Trade Act of 1974, on the extent to which U.S. workers in the LRW industry are likely be certified as eligible for trade adjustment assistance (“TAA”) and if such workers might be covered by existing U.S. government adjustment programs.² The DOL estimated that 324 workers would likely be eligible for trade adjustment petitions by the end of 2019 and that existing programs would be able to cover such workers.³

For workers eligible for TAA benefits and services, the affected group of workers must be certified by the DOL as eligible to apply for such benefits. To begin this process, a petition must be filed with the DOL, after which the DOL collects information to determine if the group of workers meets the eligibility criteria. As of May 31, 2019 there have been no workers in the U.S. LRW industry that have been certified by the DOL as being eligible to apply for such benefits since 2017.⁴

SIGNIFICANCE OF RELIEF

U.S. producers were asked to describe the significance of the safeguard measure in terms of the measure’s effect on several aspects of their firm’s operations. As shown in table IV-1, four of the five U.S. producers provided a response.

Table IV-1
LRWs: U.S. producers’ reported significance of the safeguard measures

* * * * *

² *Large Residential Washers (LRWs)*, 82 FR 61329, December 27, 2017.

³ Ibid.

⁴ Data on TAA Petitions and Determinations, U.S. Department of Labor, <https://www.doleta.gov/tradeact/taa-data/petitions-determinations-data/>, retrieved on July 9, 2019.

***. Email from ***, July 10, 2019 and email from ***, July 14, 2019.

POST-RELIEF EFFORTS

U.S. producers and importers were asked in questionnaires whether they had made any efforts to increase product availability to customers, either in terms of quantity of products available or by increasing product offerings, since February 7, 2018. *** stated that, in response to the safeguard measure, it invested in new products and expanded capacity to supply its customers. *** stated that it is in the process of upgrading its top load platform and launching models with new features in the first and fourth quarters of 2019, which will bring more value to customers and consumers and affect 90 percent of its current products. It stated that it also has the manufacturing capability to serve the marketplace with very high levels of availability. *** stated it is always making efforts to provide its customers with the most up-to-date and innovative products on the market, and that these efforts are not because of the LRW safeguard measures. *** stated it began U.S. production in January 2018.

Whirlpool and GE Appliances elaborated upon their post-relief efforts during this proceeding. Whirlpool stated that it ***. Through these various investments, Whirlpool stated that it has increased top-end capacity of its agitator-based top loaders from 4.7 to 6.0 cu. ft., and also increased the capacity of its short VMAX impeller-based top loaders from 4.3 to 4.7 cu. ft. It also increased its maximum front load capacity from 4.5 to 5.0 cu. ft. with the launch of its JANUS platform. Whirlpool intends to further increase its JANUS front load capacity up to *** cu. ft. and its VMAX top load capacity to *** cu. ft.⁵

GE Appliances stated that it has invested \$30 million in a new LRW line, increasing top load LRW capacity by 20 percent. In 2019, GE Appliances plans new product launches and the addition of new features to existing products. In this regard, GE Appliances stated that it has worked to offer 5 to 10 percent more machine capacity at lower price bands and developed unique features, including ***, enhancements to its top load Smart Dispense system, and ***.⁶

Purchasers were asked if domestic producers had introduced new or innovative products, improved product quality, expanded marketing efforts, improved customer service, or made other efforts to make a positive adjustment to import competition since February 7, 2018. A majority of purchasers reported that domestic producers had introduced new products; a minority reported improved product quality, expanded marketing, improved customer service, and other actions, as shown in table IV-2.

⁵ Whirlpool's posthearing brief, Part II – Answers to Commission Questions, question 5, p. II-9.

⁶ GE Appliances' posthearing brief, p. 2.

Table IV-2

LRWs: Purchasers' reported experience with domestic producers' actions taken since February 7, 2018

Action	Taken by domestic producers?	
	No	Yes
Introduction of new product	8	11
Improved product quality	12	6
Expansion of marketing	12	5
Improvements in customer service	15	3
Other efforts at positive adjustment ¹	14	3

¹Other efforts purchasers described include LG's and Samsung's new U.S factories and GE Appliances has minimized price increases to stay competitive with other brands.

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

Of the eleven purchasers reporting that domestic producers had introduced new products, four purchasers (including ***) cited Whirlpool's introduction of a new platform (front load), two cited GE Appliances' launching of an auto-disperse detergent feature, one cited GE Appliances' launching of larger tub agitator top load washers, one cited the launching of new products by all four large U.S. producers, one cited LG's and Samsung's production of new models in their new {U.S.} facilities in addition to current models, and one stated that "manufacturers generally refresh their product ranges as part of normal business."

Of the six purchasers (including ***) reporting that domestic producers improved product quality, one reported that product quality from GE Appliances has remained high, and one stated that all manufacturers continually test for quality assurance.

Of the five purchasers reporting that domestic producers expanded their marketing efforts, three stated that Whirlpool launched a direct-to-consumer sales network on April 16, 2019, and two stated that GE Appliances has been aggressively marketing to retailers and consumers.

Of the three purchasers reporting that domestic producers improved their customer service, one stated that GE Appliance's customer service continues to be "outstanding" in dealing with customer issues.

INTERESTED PARTY COMMENTS ON THE EFFECTIVENESS OF THE SAFEGUARD MEASURE

Whirlpool and GE Appliances argue that the safeguard measure is producing positive effects for the domestic industry and supporting their ongoing efforts to fully implement their adjustment plans.⁷ As import volumes and underselling margins declined under the safeguard, Whirlpool contends, the domestic industry including LG and Samsung gained market share and the continuously operating domestic producers, specifically, were able to cover their increased costs through higher prices, significantly improving their profitability.⁸ In Whirlpool's view, the safeguard has also preserved and created more than *** direct and indirect jobs associated with the domestic industry, including *** new jobs at LG's and Samsung's U.S. plants.⁹ Through the positive effects of the safeguard measure, Whirlpool and GE Appliances claim to have also made significant progress in executing their respective adjustment plans, having increased their capacity and R&D expenditures in January-March 2019 relative to January-March 2018, by *** percent and *** percent respectively.¹⁰

Whirlpool argues that although the safeguard remedy has begun to produce positive effects for the U.S. industry, it has fallen short of delivering the intended remedial benefits to the continuously operating U.S. producers due to several unanticipated developments in the U.S. market. First, Samsung and LG's pre-safeguard import stockpiling in late 2017 led to higher than anticipated U.S. shipments of imports in the first year of the safeguard measure, which suppressed the existing domestic producers' 2018 production and sales and delayed the remedial benefits of the safeguard.¹¹ Second, Samsung and LG's tariff absorption, or willingness to pay the cost of tariffs without passing them through to customers in the form of higher prices, resulted in import prices *** the 20 percent in-quota tariff.¹² Third, declining demand limited the safeguard's remedial benefit.¹³ And fourth, increased costs, including increased inbound transportation expenses and raw material costs, as well as higher fixed unit costs resulting from lower production levels, reduced profitability.¹⁴ Given these unanticipated challenges, Whirlpool argues that continuation of the safeguard measure for the full safeguard period is needed so that the continuously operating domestic producers can continue to "recover from their injury, continue implementing their adjustment plans, and realize a return on their investments."¹⁵ Whirlpool adds that the full safeguard remedy will continue to

⁷ Whirlpool's prehearing brief, pp. 10-17; GE Appliances' prehearing brief, pp. 3-4.

⁸ Whirlpool's prehearing brief, pp. 11-14.

⁹ Whirlpool's prehearing brief, pp. 15-17.

¹⁰ Whirlpool's prehearing brief, pp. 17-18; GE Appliances' prehearing brief, p. 4.

¹¹ Whirlpool's posthearing brief, pp. I-14-I-16.

¹² Whirlpool's posthearing brief, p. I-16.

¹³ Whirlpool argues that demand decreased in 2018 and the first quarter of 2019 primarily due to a decline in the replacement cycle and weak housing activity, although it notes that the increase in market prices for LRWs in 2018 was a contributing factor to the decline in demand. Whirlpool's posthearing brief, pp. I-17-I-18.

¹⁴ Whirlpool's posthearing brief, pp. I-3 and I-14-I-15.

¹⁵ Whirlpool's posthearing brief, p. I-19.

incentivize new domestic producers Samsung and LG to complete their plans to transition production to the United States as quickly as possible.¹⁶

Whirlpool also argues that the safeguard remedy's effectiveness is undermined by the absence of (1) an "anti-bunching" mechanism and (2) country-specific volume allocations. It explains that after the safeguard quota reset on February 7, 2019, Samsung and LG quickly imported LRWs into the United States in order to fill the 1.2 million unit base quota in two months' time, resulting in a stockpile of inventories which led to a distortion of the market and downward price pressure. Whirlpool argues that the safeguard remedy and domestic industry relief would have been more effective if the base quota volume had been allocated by time period and on a country basis, such that inventory stockpiling of imports and resulting market distortion would have been avoided.¹⁷

LG argues that the effectiveness of the safeguard remedy has been impaired in that it "restricts LG and Samsung as U.S. producers" by restraining the imports necessary "to keep their market position" at the level necessary to sustain their U.S. facilities.¹⁸ It argues further that, in order to achieve the objective of restructuring the domestic industry to be more competitive in the future,¹⁹ the following modifications to the safeguard remedy should be made:²⁰

¹⁶ Whirlpool's posthearing brief, pp. I-19, I-24, and I-28.

¹⁷ Whirlpool's posthearing brief, pp. II-2-II-3 and II-23-II-26.

¹⁸ LG's posthearing brief, p. 5.

¹⁹ LG's posthearing brief, p. 1.

²⁰ LG noted that it does not support subdividing the annual quota amount into quarterly allocations. LG's posthearing brief, exh. 1, p. 8.

- Terminate the safeguard import restrictions early;²¹ or
- Increase the tariff-rate quota level to 1.7 million units;²² and/or
- Exclude all imports of LRWs from Korea;²³ and/or
- Exclude Sidekick™ Pedestal washers from LG;²⁴ and/or
- Modify the scope to include out-of-scope belt-drive washers.²⁵

²¹ LG argues that early termination of the safeguard measures is warranted as the domestic industry undergoes fundamental changes with new LG and Samsung factories ramping up in the United States. It adds that such imports of LRWs would serve to complement and facilitate the transition to U.S. production and, therefore, enhance the restructuring of the domestic industry. LG's posthearing brief, pp. 1 and 5.

²² LG argues that the current quota level is too restrictive and that either increasing the quota level or lowering the tariff somewhat would moderate domestic price increases that it argues have been counterproductive, suppressing consumer demand, and limiting domestic shipment volumes. LG's posthearing brief, p. 8. LG also argues that the original quotas recommended by the Commission were accompanied by recommendations that Korea and Mexico not be subject to the remedy but that the actual safeguard measure includes both countries and is therefore more restrictive. Id.

²³ LG argues that the low volumes of high-priced, specialized LRWs imported from Korea (consisting only of LG imports) do not compete directly with domestic LRW production, do not undermine the safeguard remedy, and serve to facilitate the beneficial expansion of LG's Tennessee factory. It adds that such imports from Korea have fallen in absolute terms, as well as in terms of U.S. market share. LG's posthearing brief, pp. 13-16.

²⁴ LG's posthearing brief, p. 17. Opposing LG's request that Sidekick washers be excluded from the safeguard measure, Whirlpool argues that the request is without merit because the Commission found the Sidekick washers are directly competitive with domestically produced LRWs. Whirlpool's posthearing brief, p. I-32; *Large Residential Washers, Inv. No. TA-201-076*, USITC Publication 4745, December 2017, pp. 14-15. Whirlpool also contends that maintenance of the measure on Sidekick washers is essential to the economics of its adjustment plan, ***. Whirlpool's posthearing brief, pp. I-31-I-32.

²⁵ LG argues that the remedy should be revised to include both out-of-scope front load CIM/belt washers and out-of-scope top load PSC/belt/clutch washers, which compete directly with domestic LRW production. It explains that the "surging" volume of these imports at low prices, which have largely been from China, have gained U.S. market share, undermined the safeguard remedy, and allowed GE Appliances to avoid producing those washers in the United States. LG's posthearing brief, pp. 11 and 15-16. It is unclear how imports of washers expressly excluded from the scope of the safeguard investigation and therefore not part of the Commission's serious injury determination, and thus excluded from the scope of the safeguard measure, can be considered to be circumventing the measure.

ADDITIONAL COMMENTS OF COMMISSIONER JASON E. KEARNS

ADDITIONAL COMMENTS OF COMMISSIONER JASON E. KEARNS

In monitoring developments with respect to the domestic industry, while it is of course critical to compare the current conditions of the LRW market and domestic industry to their conditions during the original period of the section 201 investigation, in my view it is also useful to compare actual experience under the safeguard measure to what the recommended remedies were expected to achieve. In the section 201 investigation, after assessing various remedies, the Commission recommended particular remedies that were expected to result in certain estimated changes in prices and volumes of imports and domestic product.¹ These estimates supported the Commission's assessment of what remedy was appropriate to address the serious injury it found and to facilitate efforts by the domestic industry to make a positive adjustment to import competition (without unduly restricting competition in the U.S. market) – in other words, what improvements in market conditions would give the industry the breathing space it needed to implement adjustment plans. The estimates of the results of the various remedies under consideration were based on, at least in part, a partial-equilibrium model.

In my view, it is appropriate to compare those estimated economic effects from the first year of the partial-equilibrium model with actual experience under the safeguard measure. The following table provides that comparison.

¹ The Commission presented two separate but similar remedy recommendations; the only difference was whether to include in-quota tariffs (the actual safeguard measure included in-quota tariffs). With the exception of tariff revenue, the estimated results were the same for both recommended remedies.

LRWs: Estimated First-Year Effects of Tariff-Rate Quota on Washers at 1.2 Million Units with In-Quota Rate and Actual Experience

Tariff Rates	Estimated Year 1:	
	50% out-of-quota, 20% in quota	Actual Year 1: 2017-18
% 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 \$)	***	***

Note--While the final safeguard measure imposed by the President was close to the Commission's recommended remedies, the data above account for certain differences. Covered imports for estimated effects do not include imports from Korea and Mexico. Covered imports for 2017-18 include imports from sources actually covered by the measures: China, Korea, Mexico, Thailand, and Vietnam. Non-covered imports for 2017-18 also include top load PSC/belt/clutch washers and front load CIM/belt washers.

Source: Compiled from data submitted in response to Commission questionnaires and *Large Residential Washers, Investigation No. TA-201-076*, USITC Publication 4745, December 2017, p. 128.

In comparing these numbers, it is important to note the limitations of the model used by the Commission, some of which were described in the original section 201 report (p. 125); perhaps most significantly, it assumes that other conditions in the market remain constant. I also note that the baseline data for the model were from 2016, whereas the baseline data for assessing the effects of the safeguard measure (effective February 7, 2018) were from 2017. In addition, the model treated imports from Korea and Mexico as non-covered, but they are covered by the safeguard measure.

I recognize that it is impossible to determine with any precision how much breathing space the domestic industry needs to adjust to import competition. I also recognize that it is difficult to tell how much of the divergence between the estimated effects and actual experience is due to limitations of the model and assumptions made therein, as opposed to the subsequent changes in the marketplace and conditions of competition. Regardless, in my view, a key aspect of monitoring the safeguard relief should be consideration of whether the remedy is addressing the serious injury the Commission found and providing the breathing space the Commission thought was needed for the domestic industry to make positive adjustments to import competition. Comparing actual experience with the previously estimated improvements is, in my view, a useful tool for doing so.

APPENDIX A

***FEDERAL REGISTER* NOTICES**

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, *Federal Register* notices issued by the Commission during the current proceeding.

Citation	Title	Link
84 FR 5715, February 22, 2019	<i>Large Residential Washers: Monitoring Developments in the Domestic Industry</i>	https://www.govinfo.gov/content/pkg/FR-2019-02-22/pdf/2019-03073.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: Monitoring Developments in the Domestic Industry

Inv. No.: TA-204-013

Date and Time: June 25, 2019 - 9:30 a.m.

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

CONGRESSIONAL WITNESSES:

The Honorable Sherrod Brown, United States Senator, Ohio

The Honorable Rob Portman, United States Senator, Ohio

EMBASSY WITNESS:

**Embassy of the Republic of Korea
Washington, DC**

**The Honorable Haekwan Chung, Director-General for Trade Legal Affairs and
Public Relations, Ministry of Trade, Industry and Energy**

OPENING REMARKS:

Panel 1 (**Myles S. Getlan**, Cassidy Levy Kent (USA) LLP)

Panel 2 (**Daniel L. Porter**, Curtis, Mallet-Prevost, Colt & Mosle LLP)

Panel 1:

Cassidy Levy Kent (USA) LLP
Adducci, Mastriani & Schaumberg LLP
Washington, DC
on behalf of

Whirlpool Corporation (“Whirlpool”)

James F. Keppler, Vice President, Integrated Supply Chain and Quality,
Whirlpool

Casey Tubman, General Manager, Laundry, North American Region, Whirlpool

Jack A. Levy)
Myles S. Getlan)
) – OF COUNSEL
Mary Jane Alves)
Deanna Tanner Okun)

TRADEWINS LLC
Gilliland & McKinney International Counselors LLC
Washington, DC
on behalf of

Haier US Appliance Solutions d/b/a GE Appliances

John R. Magnus)
) – OF COUNSEL
Sheridan S. McKinney)

Panel 2:

Curtis, Mallet-Prevost, Colt & Mosle LLP
Washington, DC
on behalf of

LG Electronics USA, Inc.
LG Electronics, Inc.
(collectively, “LGE”)

John Toohey, Director of Strategy, LGEUS

Theodore Myers, Innovation Team Leader, LGEUS-TN

Daniel Klett, Principal, Capital Trade, Inc.

Charles Anderson, Principal, Capital Trade, Inc.

Daniel L. Porter)
James P. Durling)
) – OF COUNSEL
Gina M. Colarusso)
Kimberly A. Reynolds)

CLOSING REMARKS:

Panel 1 (**Jack A. Levy**, Cassidy Levy Kent (USA) LLP)

Panel 2 (**James P. Durling**, Curtis, Mallet-Prevost, Colt & Mosle LLP)

APPENDIX C
SUMMARY DATA

Table C-1
LRWs: Summary data concerning the U.S. market, 2016-18, January to March 2018, and January to March 2019

* * * * *

APPENDIX D
FOREIGN INDUSTRIES

The industry in China

The Commission issued foreign producers' or exporters' questionnaires to four firms believed to produce and/or export LRWs from China. Usable responses to the Commission's questionnaire were received from four firms: Nanjing LG PANDA Appliances Co., Ltd. ("LG China"), Whirlpool (China) Co., Ltd. ("Whirlpool China"), Suzhou Samsung Electronics Co., Ltd. ("Samsung China"), and Suzhou Samsung Electronics Co., Ltd.-Export ("Samsung China Export").¹ In 2016, these four firms produced *** LRWs and exported *** percent of their total shipments to the U.S. market. In 2018, these four firms produced *** LRWs and exported *** percent of their total shipments to the U.S. market. Capacity in China was *** percent higher in January-March 2019 (*** units) compared to January-March 2018 (*** units). Capacity is projected to be *** units in 2019, compared to *** units in 2018.

***. ***.² LG China reported *** in home market shipments from *** units in 2016 to *** units in 2018. LG China projects its home market shipments to be *** units in 2019 and 2020.

Whirlpool China reported that its production of LRWs *** from *** units in 2016 to *** in 2018, and production in January-March 2019 was *** units and *** units in January-March 2018. Whirlpool China also reported that ***, noting that its principal export markets are ***. Whirlpool China reported *** home market shipments from 2016 to 2018, and projects *** in 2019 and 2020.

Samsung China stated that it ***. Samsung China's production of LRWs *** from *** units in 2016 to *** units in 2018. Samsung China reported *** home market shipments from 2016 to 2018 and projects *** in 2019 and 2020. Samsung China Export also stated that ***, noting that its principal export markets are ***. Samsung China Export's production of LRWs *** from *** units in 2016 to *** units in 2018, and it projects to produce *** units in 2019. Samsung China Export also produces ***, and had an overall production capacity of *** units in 2016 and *** units in 2018. In January-March 2019, Samsung China Export had a production capacity of *** units and *** units in January-March 2018. It reported *** in home market shipments from *** units in 2016 to *** units in 2018, and projected *** home market shipments in 2019 and 2020.

¹ In China, other major residential washer producers include Hisense Kelon Electrical Holdings Co. Ltd. of the Hisense Group, Midea Group, TCL Corporation, and the Haier Group.

² LG Electronics stated that after it shifted LRW production for the U.S. market from China to Thailand and Vietnam, the production line space ***. LG's posthearing brief, exh. 1, p. 4.

According to GTA, the leading export markets for washers from China are the United States, Mexico, Brazil, South Africa, South Korea, and Canada. In 2018, the United States was the top export market for washers from China, accounting for 17.9 percent of total exports, followed by Japan, accounting for 9.6 percent, Mexico, accounting for 8.9 percent, and Brazil, accounting for 7.5 percent.³

Tables D-1 through D-5 present data on responding producers and exporters of LRWs in China.⁴

Table D-1
LRWs: Summary data on firms in China, 2018

* * * * *

Table D-2
LRWs: Reported changes in operations by producers in China, since January 1, 2016

* * * * *

Table D-3
LRWs: Data on industry in China, 2016-18, January to March 2018, and January to March 2019 and projection calendar years 2019 and 2020

* * * * *

Table D-4
LRWs: Overall capacity and production on the same equipment as in-scope production by producers in China, 2016-18, January to March 2018, and January to March 2019

* * * * *

³ These GTA data for HS 8450.20, which 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.

⁴ LG China and Samsung China reported production greater than capacity. Staff adjusted capacity to equal production where production exceeded capacity.

Table D-5
Washers: Exports from China by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (units)		
Exports from China to the United States	1,337,921	178,816	310,134
Exports from China to other major destination markets.--			
Mexico	306,334	343,233	494,292
Brazil	151,360	222,456	168,132
South Africa	26,392	90,012	151,524
South Korea	190,535	156,550	140,553
Iraq	177,213	161,360	127,461
Algeria	99,021	28,015	123,518
Colombia	86,663	85,665	106,270
Ecuador	48,764	109,005	102,873
All other destination markets	1,386,106	1,403,141	1,425,775
Total exports from China	3,810,309	2,778,253	3,150,532
	Value (1,000 dollars)		
Exports from China to the United States	424,599	60,551	106,777
Exports from China to other major destination markets.--			
Mexico	34,147	36,668	53,410
Brazil	37,688	55,785	44,571
South Africa	3,081	11,164	19,286
South Korea	60,672	40,107	25,746
Iraq	12,420	18,960	12,220
Algeria	8,069	2,666	18,070
Colombia	15,076	15,197	17,432
Ecuador	4,373	8,927	8,904
All other destination markets	306,473	289,476	290,350
Total exports from China	906,598	539,501	596,765

Table continued on next page.

Table D-5--Continued
Washers: Exports from China by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Unit value (dollars per unit)		
Exports from China to the United States	317	339	344
Exports from China to other major destination markets.--			
Mexico	111	107	108
Brazil	249	251	265
South Africa	117	124	127
South Korea	318	256	183
Iraq	70	118	96
Algeria	81	95	146
Colombia	174	177	164
Ecuador	90	82	87
All other destination markets	221	206	204
Total exports from China	238	194	189
	Share of quantity (percent)		
Exports from China to the United States	35.1	6.4	9.8
Exports from China to other major destination markets.--			
Mexico	8.0	12.4	15.7
Brazil	4.0	8.0	5.3
South Africa	0.7	3.2	4.8
South Korea	5.0	5.6	4.5
Iraq	4.7	5.8	4.0
Algeria	2.6	1.0	3.9
Colombia	2.3	3.1	3.4
Ecuador	1.3	3.9	3.3
All other destination markets	36.4	50.5	45.3
Total exports from China	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.
Note.--Data are likely overstated and include out-of-scope and excluded products (commercial washers and stacked washer-dryers).

Source: Official exports statistics under HS subheading 8450.20 as reported by China Customs in the Global Trade Atlas database, accessed May 9, 2019.

The industry in Korea

The Commission issued foreign producers' or exporters' questionnaires to three firms believed to produce and/or export LRWs from Korea. Usable responses were received from two firms: LG Electronics Inc. ("LG Korea") and Samsung Electronics Co., Ltd. ("Samsung Korea").⁵ In 2016, these two firms produced *** LRWs and exported *** percent of their total shipments to the U.S. market. In 2018, these two firms produced *** LRWs and exported *** percent of their total shipments to the U.S. market. Capacity in Korea decreased from *** units in 2016 to *** units in 2018, a decrease of ***. Capacity utilization decreased from *** percent in 2016 to *** percent in 2018. Capacity in Korea was *** units in January-March 2018 compared to *** units January-March 2019, an increase of *** percent. Capacity is projected to be *** units in 2019 and *** units in 2020. Exports of LRW from Korea to the United States fluctuated during the monitoring period, increasing from *** units 2016 to *** units in 2017, and decreasing to *** units in 2018.

***. Samsung Korea reported that its production of LRWs *** from *** units in 2016 to *** units in 2018, and production in January-March 2019 was *** units and *** units in January-March 2018. Samsung Korea reported that ***. Samsung Korea reported *** in home market LRW shipments from *** units in 2016 to *** units in 2018. In January-March 2019, Samsung Korea reported *** units in home market shipments and to *** units in January-March 2018, and it projects its home market shipments to be *** units in 2019 and *** units in 2020. Samsung Korea reported that ***.

***.⁶ LG Korea reported that its production of LRWs *** from *** units in 2016 to *** units in 2018, and production in January-March 2019 was *** units and *** units in January-March 2018. LG Korea reported that ***. LG Korea reported *** in home market shipments from *** units in 2016 to *** units in 2018. In January-March 2019, LG Korea reported *** units in home market shipments and *** units in January-March 2018, and it projects its home market shipments to be *** units in 2019 and *** units in 2020.

⁵ Daewoo Electronics, the other Korean firm that was issued a questionnaire, did not provide a response. It has not exported any LRWs from Korea to the United States since 2016. In 2016, it produced 5 million front load washers, some of which are covered by the scope. *Daewoo Electronics, History*, http://www.daewoo-elec.com/english/group_23.asp, retrieved May 23, 2019.

⁶ LG Electronics reported that from 2014 to 2016, it closed three of its LRW production lines in Korea. Specifically, in December 2013, it closed a *** line, in October 2014, it closed a ***, and in October 2016, it closed another *** line. LG stated that these closed production lines were converted to manufacture the following products: ***. LG's posthearing brief, exh. 1, p. 4.

According to GTA, the leading export markets for washers from Korea are the United States, Taiwan, Mexico, Saudi Arabia, and China. In 2018, the United States was the top export market for washers from Korea, accounting for 36.8 percent of total exports, followed by Taiwan, accounting for 11.6 percent, Mexico, accounting for 5.5 percent, Saudi Arabia, accounting for 4.0 percent, and China, accounting for 3.3 percent.⁷

Tables D-6 through D-10 present data on responding producers and exporters of LRWs in Korea.⁸

Table D-6
LRWs: Summary data on firms in Korea, 2018

* * * * *

Table D-7
LRWs: Reported changes in operations by producers in Korea, since January 1, 2016

* * * * *

Table D-8
LRWs: Data on industry in Korea, 2016-18, January to March 2018, and January to March 2019 and projection calendar years 2019 and 2020

* * * * *

Table D-9
LRWs: Overall capacity and production on the same equipment as in-scope production by producers in Korea, 2016-18, January to March 2018, and January to March 2019

* * * * *

⁷ These GTA data for HS 8450.20, which 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.

⁸ LG Korea reported production greater than capacity. Staff adjusted capacity to equal production where production exceeded capacity.

Table D-10
Washers: Exports from Korea by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (units)		
Exports from Korea to the United States	234,458	478,103	255,378
Exports from Korea to other major destination markets.--			
Taiwan	84,643	72,688	86,038
Mexico	52,357	28,626	35,530
Saudi Arabia	55,966	45,354	29,342
Colombia	33,807	28,970	25,863
Australia	34,638	24,238	25,304
Canada	5,351	29,835	23,927
Peru	23,262	27,913	22,138
China	37,017	27,414	17,606
All other destination markets	333,310	294,058	195,267
Total exports from Korea	894,809	1,057,199	716,393
	Value (1,000 dollars)		
Exports from Korea to the United States	130,154	263,023	139,828
Exports from Korea to other major destination markets.--			
Taiwan	30,932	29,224	44,263
Mexico	23,708	16,597	20,967
Saudi Arabia	28,712	23,425	15,303
Colombia	15,723	13,030	11,501
Australia	14,648	11,923	11,637
Canada	3,035	14,315	12,087
Peru	9,784	10,447	8,086
China	20,863	18,179	12,683
All other destination markets	155,341	145,578	103,661
Total exports from Korea	432,901	545,742	380,016

Table continued on next page.

Table D-10--Continued
Washers: Exports from Korea by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Unit value (dollars per unit)		
Exports from Korea to the United States	555	550	548
Exports from Korea to other major destination markets.--			
Taiwan	365	402	514
Mexico	453	580	590
Saudi Arabia	513	516	522
Colombia	465	450	445
Australia	423	492	460
Canada	567	480	505
Peru	421	374	365
China	564	663	720
All other destination markets	466	495	531
Total exports from Korea	484	516	530
	Share of quantity (percent)		
Exports from Korea to the United States	26.2	45.2	35.6
Exports from Korea to other major destination markets.--			
Taiwan	9.5	6.9	12.0
Mexico	5.9	2.7	5.0
Saudi Arabia	6.3	4.3	4.1
Colombia	3.8	2.7	3.6
Australia	3.9	2.3	3.5
Canada	0.6	2.8	3.3
Peru	2.6	2.6	3.1
China	4.1	2.6	2.5
All other destination markets	37.2	27.8	27.3
Total exports from Korea	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.
Note.--Data are likely overstated and include out-of-scope and excluded products (commercial washers and stacked washer-dryers).

Source: Official exports statistics under HS subheading 8450.20 as reported by Korea Customs and Trade Development Institution in the Global Trade Atlas database, accessed May 9, 2019.

The industry in Mexico

The Commission issued foreign producers' or exporters' questionnaires to five firms believed to produce and/or export LRWs from Mexico. Usable responses were received from four firms: Electrolux Home Products de Mexico, S.A. de C.V. ("Electrolux Mexico"); Controladora Mabe, S.A. de C.V. ("Mabe"); Samsung Electronics Digital Appliances Mexico, S.A. de C.V. ("Samsung Mexico"); and Whirlpool Overseas Manufacturing Sarl ("Whirlpool Mexico").^{9 10}

In 2016, these four firms produced *** LRWs and exported *** percent of their total shipments to the U.S. market. In 2018, these four firms produced *** LRWs and exported *** percent of their total shipments to the U.S. market. Capacity in Mexico increased from *** units in 2016 to *** units in 2018. Capacity utilization decreased from *** percent in 2016 to *** percent in 2018. Capacity in Mexico was *** units in January-March 2019 and *** units January-March 2018. Capacity is projected to be *** units in 2019 and *** units in 2020. There were no exports of covered LRWs from Mexico to the United States from 2016-2018.

Electrolux Mexico reported that ***. Electrolux Mexico reported that its production of non-covered LRWs¹¹ *** from *** units in 2016 to *** units in 2018, and production in January-March 2019 was *** units and *** units in January-March 2018. Electrolux reported that it also produces ***. Electrolux Mexico reported *** in home market LRW shipments from *** units in 2016 to *** units in 2018. In January-March 2019, Electrolux Mexico reported *** units in home market shipments and *** units in January-March 2018, and it projects its home market shipments to be *** units in 2019 and *** units in 2020.

Whirlpool Mexico reported that ***. Whirlpool Mexico reported that its production of LRWs *** from *** units in 2016 to *** units in 2018, and production in January-March 2019 was *** units and *** units in January-March 2018. Whirlpool Mexico reported *** in home market shipments from *** units in 2016 to *** units in 2018. In January-March 2019, Whirlpool Mexico reported *** units in home market shipments and *** units in January-March 2018, and it projects its home market shipments to be *** units in 2019 and *** units in 2020. ***.

Samsung Mexico reported that its production of LRWs *** from *** units in 2016 to *** units in 2018, and production in January-March 2019 was *** units and *** units in January-March 2018. Samsung Mexico reported that ***. Samsung Mexico reported *** in home

⁹ Daewoo México, the other Mexican firm that was issued a questionnaire, did not provide a response.

¹⁰ LG Electronics reported that it completely closed its only washer production line in Mexico in April 2016. The factory space was then converted to produce ***. LG's posthearing brief, exh. 1, p. 3.

¹¹ ***. Email from ***, July 1, 2019.

market LRW shipments from *** units in 2016 to *** units in 2018. In January-March 2019, Samsung Mexico reported *** units in home market shipments and *** units in January-March 2018, and it projects its home market shipments to be *** units in 2019 and 2020.

Mabe is a subsidiary company of Chinese company Qingdao Haier Shareholding Co. Ltd., which is also the owner of Haier USA (GE Appliances). Mabe stated that its ***. Mabe reported that ***. Mabe reported that its production of LRWs *** from *** units in 2016 to *** units in 2018, and production in January-March 2019 was *** units and *** units in January-March 2018. Mabe also reported producing ***. Mabe reported *** in home market shipments from *** units in 2016 to *** units in 2018. In January-March 2019, Mabe reported *** units in home market shipments and *** units in January-March 2018, and it projects its home market shipments to be *** units in 2019 and *** units in 2020.

According to GTA, the leading export markets for washers from Mexico are the United States, Canada, and Colombia. In 2018, the United States was the top export market for washers in value from Mexico, accounting for 50.9 percent of total exports, followed by Canada, accounting for 12.9 percent, and Colombia, accounting for 9.2 percent.¹²

Tables D-11 through D-15 present data on responding producers and exporters of LRWs in Mexico. Data do not include Electrolux Home Products de Mexico, SA de CV (“Electrolux Mexico”). During 2016-18 and projected 2019, Electrolux Mexico’s overall capacity was *** units and the firm did not ***. In 2018, *** percent of Electrolux’s production was *** , while *** accounted for *** percent of production.

Table D-11
LRWs: Summary data on firms in Mexico, 2018

* * * * *

Table D-12
LRWs: Reported changes in operations by producers in Mexico, since January 1, 2016

* * * * *

Table D-13
LRWs: Data on industry in Mexico, 2016-18, January to March 2018, and January to March 2019 and projection calendar years 2019 and 2020

* * * * *

¹² These GTA data are for HS 8450.20, which 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 D-14

LRWs: Overall capacity and production on the same equipment as in-scope production by producers in Mexico, 2016-18, January to March 2018, and January to March 2019

* * * * *

Table D-15

Washers: Exports from Mexico by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Quantity (units)		
Exports from Mexico to the United States	488,753	460,158	322,704
Exports from Mexico to other major destination markets.--			
Canada	61,556	110,866	126,137
Colombia	162,951	121,375	110,633
Chile	110,709	73,505	85,247
Peru	107,630	47,399	68,723
Ecuador	27,204	55,638	38,429
Guatemala	24,758	27,992	31,525
Panama	16,306	21,703	24,425
El Salvador	14,990	23,818	20,381
All other destination markets	113,668	94,866	76,923
Total exports from Mexico	1,128,525	1,037,320	905,127
	Value (1,000 dollars)		
Exports from Mexico to the United States	240,877	222,898	158,969
Exports from Mexico to other major destination markets.--			
Canada	20,994	33,112	40,135
Colombia	35,139	29,091	28,617
Chile	22,215	37,531	17,388
Peru	21,390	9,934	14,768
Ecuador	5,657	12,254	10,079
Guatemala	5,292	6,574	8,369
Panama	4,180	5,623	7,319
El Salvador	3,116	5,432	5,313
All other destination markets	49,181	30,695	21,217
Total exports from Mexico	408,041	393,144	312,174

Table continued on next page.

Table D-15--Continued
Washers: Exports from Mexico by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Unit value (dollars per unit)		
Exports from Mexico to the United States	493	484	493
Exports from Mexico to other major destination markets.--			
Canada	341	299	318
Colombia	216	240	259
Chile	201	511	204
Peru	199	210	215
Ecuador	208	220	262
Guatemala	214	235	265
Panama	256	259	300
El Salvador	208	228	261
All other destination markets	433	324	276
Total exports from Mexico	362	379	345
	Share of quantity (percent)		
Exports from Mexico to the United States	43.3	44.4	35.7
Exports from Mexico to other major destination markets.--			
Canada	5.5	10.7	13.9
Colombia	14.4	11.7	12.2
Chile	9.8	7.1	9.4
Peru	9.5	4.6	7.6
Ecuador	2.4	5.4	4.2
Guatemala	2.2	2.7	3.5
Panama	1.4	2.1	2.7
El Salvador	1.3	2.3	2.3
All other destination markets	10.1	9.1	8.5
Total exports from Mexico	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.
Note.--Data are likely overstated and include out-of-scope and excluded products (commercial washers and stacked washer-dryers).

Source: Official exports statistics under HS subheading 8450.20 as reported by INEGI in the Global Trade Atlas database, accessed May 9, 2019.

The industry in Thailand

The Commission issued foreign producers' or exporters' questionnaires to three firms believed to produce and/or export LRWs from Thailand. Usable responses were received from two firms: Thai Samsung Electronics Co., Ltd. ("Samsung Thailand") and LG Electronics Thailand Co., Ltd. ("LG Thailand"). LG Thailand stated that ***. LG Thailand's production of LRWs *** from *** units in 2016 to *** units in 2018, and it projects to produce *** units in 2019 and *** units in 2020. LG Thailand had an overall production capacity of *** units in 2016 and *** units in 2018. In January-March 2018, LG Thailand had a production capacity of *** units, compared to *** units in January-March 2019. LG Thailand reported *** in home market shipments from *** units in 2016 to *** units in 2018. In January-March 2018, LG Thailand reported *** units in home market shipments compared to *** units in January-March 2019, and it projects its home market shipments to be *** units in 2019 and *** units in 2020.

Samsung Thailand reported that ***. Samsung Thailand's production of LRWs *** from *** units in 2016 to *** units in 2018, and it projects to produce *** units in 2019 and *** units in 2020. Samsung Thailand had an overall production capacity of *** units in 2016 and *** to *** units in 2018. In January-March 2018, Samsung Thailand had a production capacity of *** units, compared to *** units in January-March 2019. Samsung Thailand reported *** in home market shipments from *** units in 2016 to *** units in 2018. In January-March 2018, Samsung Thailand reported *** units in home market shipments compared to *** units in January-March 2019, and it projects its home market shipments to be *** units in 2019 and 2020.

According to GTA, the leading export markets for washers from Thailand are the United States, South Korea, Ecuador, and Vietnam. In 2018, the United States was the top export market for washers from Thailand, accounting for 19 percent of total exports, followed by South Korea, accounting for 8.5 percent, and Australia, which accounted for 7.0 percent.¹³

¹³ These GTA data are for HS 8450.20, which 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.

Tables D-16 through D-20 present data on responding producers and exporters of LRWs in Thailand.¹⁴

Table D-16
LRWs: Summary data on firms in Thailand, 2018

* * * * *

Table D-17
LRWs: Reported changes in operations by producers in Thailand, since January 1, 2016

* * * * *

Table D-18
LRWs: Data on industry in Thailand, 2016-18, January to March 2018, and January to March 2019 and projection calendar years 2019 and 2020

* * * * *

Table D-19
LRWs: Overall capacity and production on the same equipment as in-scope production by producers in Thailand, 2016-18, January to March 2018, and January to March 2019

* * * * *

¹⁴ LG Thailand and Samsung Thailand reported production greater than capacity. Staff adjusted capacity to equal production where production exceeded capacity.

Table D-20
Washers: Exports from Thailand by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	Value (1,000 dollars)		
Exports from Thailand to the United States	9,998	183,583	74,514
Exports from Thailand to other major destination markets.--			
South Korea	26,551	27,813	33,413
Australia	6,107	9,625	27,608
Ecuador	10,235	18,399	20,281
Vietnam	45,889	24,490	18,221
Colombia	12,882	17,381	17,987
Mexico	17,847	15,624	15,199
Indonesia	11,027	14,902	14,237
Taiwan	6,339	9,148	13,738
All other destination markets	162,261	114,769	157,547
Total exports from Thailand	309,135	435,734	392,746
	Share of value (percent)		
Exports from Thailand to the United States	3.2	42.1	19.0
Exports from Thailand to other major destination markets.--			
South Korea	8.6	6.4	8.5
Australia	2.0	2.2	7.0
Ecuador	3.3	4.2	5.2
Vietnam	14.8	5.6	4.6
Colombia	4.2	4.0	4.6
Mexico	5.8	3.6	3.9
Indonesia	3.6	3.4	3.6
Taiwan	2.1	2.1	3.5
All other destination markets	52.5	26.3	40.1
Total exports from Thailand	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.
Note.--Data are likely overstated and include out-of-scope and excluded products (commercial washers and stacked washer-dryers).

Source: Official exports statistics under HS subheading 8450.20 as reported by Thai Customs Department in the Global Trade Atlas database, accessed May 9, 2019.

The industry in Vietnam

The Commission issued foreign producers' or exporters' questionnaires to two firms believed to produce and/or export LRWs from Vietnam. Usable responses were received from two firms: LG Electronics Vietnam Haiphong Co., Ltd. ("LG Vietnam") and Samsung Electronics HCMC CE Complex Co., Ltd. LG Vietnam notes that ***.¹⁵ LG Vietnam stated that ***. LG Vietnam reported *** in home market shipments from *** units in 2016 to *** units in 2018. In January-March 2018, LG Vietnam reported *** units in home market shipments compared to *** units in January-March 2019, and it projects its home market shipments to be *** units in 2019 and *** units in 2020.

Samsung's production of LRWs in Vietnam ***. Samsung Vietnam's capacity ***. Samsung Vietnam also reported that its production of LRWs in January-March 2019 was *** units, compared to *** units in January-March 2018. Samsung Vietnam reported *** in home market shipments from *** units in 2016 to *** units in 2018. In January-March 2018, Samsung Vietnam reported *** units in home market shipments compared to *** units in January-March 2019, and it projects its home market shipments to be *** units in 2019 and 2020.

According to GTA, the leading export markets for washers from Vietnam are the United States, Canada, and South Korea. In 2017, the United States was the top export market for washers from Vietnam, accounting for 80.9 percent of total exports, followed by Canada, accounting for 7.3 percent, and South Korea, which accounted for 7.0 percent.¹⁶

¹⁵ LG Electronics stated that LG Vietnam is still producing washers for the U.S. market, albeit at a much reduced rate. Following the shift of LRW production from Vietnam to the United States, LG Vietnam is planning to ***. LG reported that ***. LG's posthearing brief, exh. 1, p. 4.

¹⁶ Comprehensive export data for Vietnam in 2018 are not available. These GTA data are for HS 8450.20, which covers household- or laundry-type washing machines, each with a dry linen capacity exceeding 10kg. This heading includes LRWs, non-covered washers, including stacked washer/dryer units having an integral frame, washing machines with payment systems for vended laundry operations, and washing machines for commercial laundry operations.

Tables D-21 through D-25 present data on responding producers and exporters of LRWs in Vietnam.¹⁷

Table D-21
LRWs: Summary data on firms in Vietnam, 2018

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Table D-22
LRWs: Reported changes in operations by producers in Vietnam, since January 1, 2016

* * * * *

Table D-23
LRWs: Data on industry in Vietnam, 2016-18, January to March 2018, and January to March 2019 and projection calendar years 2019 and 2020

* * * * *

Table D-24
LRWs: Overall capacity and production on the same equipment as in-scope production by producers in Vietnam, 2016-18, January to March 2018, and January to March 2019

* * * * *

¹⁷ LG Vietnam and Samsung Vietnam reported production greater than capacity. Staff adjusted capacity to equal production where production exceeded capacity.

Table D-25
Washers: Exports from Vietnam by destination market, 2016-17

Destination market	Calendar year	
	2016	2017
	Value (1,000 dollars)	
Exports from Vietnam to the United States	261,477	607,546
Exports from Vietnam to other major destination markets.--		
Canada	---	54,597
Korea	85	52,538
Colombia	---	7,083
Mexico	---	4,984
Peru	---	4,881
Chile	---	3,714
Jamaica	---	3,041
France	---	2,285
All other destination markets	1,134	10,000
Total exports from Vietnam	262,696	750,669
	Share of value (percent)	
Exports from Vietnam to the United States	99.5	80.9
Exports from Vietnam to other major destination markets.--		
Canada	---	7.3
Korea	0.0	7.0
Colombia	---	0.9
Mexico	---	0.7
Peru	---	0.7
Chile	---	0.5
Jamaica	---	0.4
France	---	0.3
All other destination markets	0.4	1.3
Total exports from Vietnam	100.0	100.0

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.
Note.--Data are likely overstated and include out-of-scope and excluded products (commercial washers and stacked washer-dryers).

Source: Official exports statistics under HS subheading 8450.20 as reported by UN comtrade in the Global Trade Atlas database, accessed May 16, 2019.

Other residential washer industries

Whirlpool, LG, Samsung, and Electrolux are global producers of LRWs. These companies export residential washers from various production facilities to markets that include the United States, Canada, Mexico, Latin America, Australia, 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 major producers of LRWs also compete in other countries against regional producers of 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 European residential washer production has relocated from Western Europe to Eastern Europe (principally to Poland, Slovakia, and Serbia). 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.¹⁸

Tables D-26 through D-28 present data on responding producers and exporters of LRWs in all other countries (namely Brazil and Colombia).¹⁹ None of the responding producers reported changes in operations.

Table D-26
LRWs: Summary data on firms in all other sources, 2018

* * * * *

Table D-27
LRWs: Data on industry in all other sources, 2016-18, January to March 2018, and January to March 2019 and projection calendar years 2019 and 2020

* * * * *

Table D-28
LRWs: Overall capacity and production on the same equipment as in-scope production by producers in all other sources, 2016-18, January to March 2018, and January to March 2019

* * * * *

¹⁸ *Large Residential Washers from Korea and Mexico, Inv. No. 701-TA-488 and 731-TA-1199-1200 (Review)*, USITC Publication 4882, April 2019.

¹⁹ Brazil is listed as a developing country, while Colombia is not. There is no record of U.S. imports from either country between January 1, 2016 and March 31, 2019.

APPENDIX E

PRICE DATA BY COUNTRY SOURCE AND U.S. PRODUCERS

As noted in Part III, four U.S. producers and two importers provided pricing data, with importers providing data for LRWs from China, Korea, Thailand, and Vietnam.¹ In Part III, 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 III-25 to III-32. Price and quantity data are shown in tables E-1 to E-8 (with domestic and imported sources).

U.S. producers' price data are also provided by firm in tables E-9 to E-15.

Table E-1

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarters, January 2016-March 2019

* * * * *

Table E-2

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by quarters, January 2016-March 2019

* * * * *

Table E-3

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by quarters, January 2016-March 2019

* * * * *

Table E-4

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by quarters, January 2016-March 2019

* * * * *

Table E-5

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5, by quarters, January 2016-March 2019

* * * * *

Table E-6

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6, by quarters, January 2016-March 2019

* * * * *

¹ The importers' questionnaire requested price data from Mexico and received none.

Table E-7

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 7, by quarters, January 2016-March 2019

* * * * *

Table E-8

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 8, by quarters, January 2016-March 2019

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Table E-9

LRWs: U.S. producers' f.o.b. prices and quantities of domestic product 2, by quarters, January 2016-March 2019

* * * * *

Table E-10

LRWs: U.S. producers' f.o.b. prices and quantities of domestic product 3, by quarters, January 2016-March 2019

* * * * *

Table E-11

LRWs: U.S. producers' f.o.b. prices and quantities of domestic product 4, by quarters, January 2016-March 2019

* * * * *

Table E-12

LRWs: U.S. producers' f.o.b. prices and quantities of domestic product 5, by quarters, January 2016-March 2019

* * * * *

Table E-13

LRWs: U.S. producers' f.o.b. prices and quantities of domestic product 6, by quarters, January 2016-March 2019

* * * * *

Table E-14

LRWs: U.S. producers' f.o.b. prices and quantities of domestic product 7, by quarters, January 2016-March 2019

* * * * *

Table E-15

LRWs: U.S. producers' f.o.b. prices and quantities of domestic product 8, by quarters, January 2016-March 2019

* * * * *

APPENDIX F

SECTION 232 AND SECTION 301 PROCEEDINGS

Section 232 investigations (Commerce)

Steel

On April 19, 2017, Commerce initiated an investigation under section 232 of the Trade Expansion Act of 1962 as amended (19 U.S.C. 1862), to assess the impact of steel imports on the national security of the United States.¹ ² Commerce submitted the results of the investigations to the President on January 11, 2018.³ On March 8, 2018, the President announced his decision to impose 25 percent ad valorem duties on specified steel mill products from all U.S. trading partners, except Canada and Mexico.⁴ ⁵

On March 22, 2018, the President authorized the suspension of tariffs on steel and aluminum products of the following countries: Argentina, Australia, Brazil, Canada, Mexico, member countries of the European Union, and Korea.⁶ On April 30, 2018, the President announced that the expiration of exemptions on tariffs on steel and aluminum imports from Canada, the European Union member states, and Mexico would occur on May 31, 2018.⁷ The President also announced the exemptions were extended permanently for Korea in return for

¹ U.S. Department of Commerce website: <https://www.commerce.gov/news/press-releases/2018/01/statement-department-commerce-submission-steel-section-232-report>, retrieved December 11, 2018.

² Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) authorizes the Secretary of Commerce to conduct these investigations.

³ U.S. Department of Commerce website: <https://www.commerce.gov/news/pressreleases/2018/01/statement-department-commerce-submission-steel-section-232-report>, retrieved December 11, 2018.

⁴ *Presidential Proclamation 9705 of March 8, 2018, Adjusting Imports of Steel Into the United States*, 83 FR 11625.

⁵ For the purposes of this proclamation, “articles of iron or steel” are defined at the Harmonized Tariff Schedule (HTS) six-digit level as: 7206.10 through 7216.50, 7216.99 through 7301.10, 7302.10, 7302.40 through 7302.90, and 7304.10 through 7306.90, including any subsequent revisions to these HTS classifications.

⁶ *Presidential Proclamation 9711 of March 22, 2018, Adjusting Imports of Steel Into the United States*, 83 FR 13361.

⁷ *Presidential Proclamation 9740 of April 30, 2018, Adjusting Imports of Steel Into the United States*, 83 FR 20683.

agreeing to product-specific quotas beginning on January 1, 2019.⁸ Exemptions for Argentina, Australia, and Brazil were also extended until alternative restraints could be finalized.⁹

On May 31, 2018, under a Presidential Proclamation issued under Section 232 of the Trade Expansion Act of 1962, the President announced tariffs would no longer be suspended for steel and aluminum imports from Mexico, Canada, and the European Union, effective July 1, 2018. Steel products from these countries became subject to a 25 percent ad valorem duty.¹⁰

A subsequent Presidential proclamation established absolute quotas for Argentina, Brazil, and Korea as an alternate to the 25 percent ad valorem duty for imports of steel mill articles, effective June 1, 2018 (leaving Australia as the only country exempt from both tariffs and quotas).^{11 12} On August 10, 2018, the President authorized adjusting the ad valorem tariff on steel imports from Turkey from 25 percent to 50 percent.¹³

In the President's proclamation establishing the tariff under Section 232, the Secretary of Commerce was authorized to provide relief from the 25 percent ad valorem duties for any steel articles determined "not to be produced in the United States in a sufficient and reasonably available amount or of a satisfactory quality and is also authorized to provide such relief based upon specific national security considerations. Such relief shall be provided for any article only after a request for exclusion is made by a directly affected party located in the United States."¹⁴ Approved exclusions are made on a product specific basis and are limited to the individual or organization that submitted the specific exclusion request, unless Commerce approves a broader application of the product based exclusion request for additional importers.^{15 16}

⁸ *Presidential Proclamation 9740 of April 30, 2018, Adjusting Imports of Steel Into the United States*, 83 FR 20683.

⁹ *Presidential Proclamation 9740 of April 30, 2018, Adjusting Imports of Steel Into the United States*, 83 FR 20683.

¹⁰ *Presidential Proclamation 9759 of May 31, 2018, Adjusting Imports of Steel into the United States*, 83 FR 25857, June 5, 2018.

¹¹ U.S. Customs and Border Protection, "QB 18-126 Absolute Quotas for Steel Mill Articles: Argentina, Brazil and Korea," <https://www.cbp.gov/trade/quota/bulletins/qb-18-126-absolute-quota-aluminum-products-argentina-brazil-south-korea>, retrieved December 11, 2018.

¹² U.S. Customs and Border Protection, "Section 232 Tariffs on Aluminum and Steel," <https://www.cbp.gov/trade/programs-administration/entry-summary/232-tariffs-aluminum-and-steel>, retrieved December 11, 2018.

¹³ *Presidential Proclamation 9772 of August 10, 2018, Adjusting Imports of Steel Into the United States*, 83 FR 40429, August 15, 2018.

¹⁴ *U.S. Department of Commerce, Bureau of Industry and Security, "Section 232 National Security Investigation of Steel Imports Information on the Exclusion and Objection Process,"* <https://www.bis.doc.gov/index.php/232-steel>, retrieved December 11, 2018.

¹⁵ *Requirements for Submissions Requesting Exclusions from the Remedies Instituted in Presidential Proclamations Adjusting Imports of Steel into the United States and Adjusting Imports of Aluminum into*
(continued...)

On June 20, 2018, Commerce announced its first set of product exclusions granted from Section 232 tariffs on steel imports. Forty-two exclusion requests were granted, covering seven companies importing steel products from Japan, Sweden, Belgium, Germany, and China.¹⁷

On May 16, 2019, the President modified proclamation 9705 to remove the higher tariff on steel imports from Turkey imposed by Proclamation 9772, and to instead impose a 25 percent ad valorem tariff on steel imports from Turkey, commensurate with the tariff imposed on such articles by the Section 232 remedy imported from most other countries.¹⁸

On May 19, 2019, the President issued two Proclamations adjusting Proclamations 9704 and 9705 after the United States announced an agreement with Canada and Mexico to remove the Section 232 tariffs for steel imports from those countries.¹⁹

Aluminum

On April 26, 2017, Commerce initiated an investigation under section 232 of the Trade Expansion Act of 1962 as amended (19 U.S.C. 1862), to assess the impact of aluminum imports on the national security of the United States.^{20 21} Commerce submitted the results of the

(...continued)

the United States; and the Filing Objections to Submitted Exclusion request for Steel and Aluminum, 83 FR 12106, March 19, 2018.

¹⁶ Whirlpool ***. Petitioner Whirlpool's posthearing brief, p. II-48.

In its posthearing brief, Samsung states that it has ***. With respect to steel, Samsung ***. Respondent Samsung's posthearing brief, p. 11.

In its posthearing brief, GE states that it ***. GE's posthearing brief, p. 4.

In its posthearing brief, LG states that it utilizes three types of steel that are all subject to Section 232 duties: ***. LG also stated that it ***. LG's posthearing brief, att. A, p. 2. LG also states that it ***. LG's posthearing brief, att. A, p. 3. See also Part V "Impact of Section 232 tariffs on steel and aluminum."

¹⁷ The seven companies receiving the exclusions are: Schick Manufacturing, Inc. of Shelton, Connecticut; Nachi America Inc. of Greenwood, Indiana; Hankev International of Buena Park, California; Zapp Precision Wire of Summerville, South Carolina; U.S. Leakless, Inc. of Athens, Alabama; Woodings Industrial Corporation of Mars, Pennsylvania; and PolyVision Corporation of Atlanta, Georgia. The exempted products were not specified. U.S. Department of Commerce, "Department of Commerce Grants First Product Exclusion Requests from Section 232 Tariffs on Steel Imports," <https://www.commerce.gov/news/press-releases/2018/06/department-commerce-grants-first-product-exclusion-requests-section-232>, retrieved December 11, 2018.

¹⁸ White House website: <https://www.whitehouse.gov/presidential-actions/proclamation-adjusting-imports-steel-united-states/>, retrieved June 6, 2019.

¹⁹ White House website: <https://www.whitehouse.gov/presidential-actions/proclamation-adjusting-imports-steel-united-states-2/>, retrieved June 6, 2019.

²⁰ U.S. Department of Commerce website: <https://www.commerce.gov/issues/trade-enforcement/section-232-aluminum#memo>, retrieved December 19, 2018.

investigations to the President on January 19, 2018.²² On March 8, 2018, the President announced his decision to impose 10 percent ad valorem duties on specified aluminum products from all U.S. trading partners, except Canada and Mexico.^{23 24}

On March 22, 2018, the President authorized the suspension of tariffs on steel and aluminum products of the following countries: Argentina, Australia, Brazil, Canada, Mexico, member countries of the European Union, and Korea.²⁵ On April 30, 2018, the President announced that the expiration of exemptions on tariffs on steel and aluminum imports from Canada, the European Union member states, and Mexico would occur on May 31, 2018.²⁶ Exemptions for Argentina, Australia, and Brazil were also extended until alternative restraints could be finalized.²⁷

On May 31, 2018, under a Presidential Proclamation issued under Section 232 of the Trade Expansion Act of 1962, the President announced tariffs will no longer be suspended for steel and aluminum imports from Brazil, Mexico, Canada, and the European Union, effective July 1, 2018. Aluminum products from these countries will be subject to a 10 percent ad valorem duty.²⁸

A subsequent Presidential proclamation established absolute quotas for Argentina, as an alternate to the 10 percent ad valorem duty for imports of aluminum articles, effective June 1, 2018 (leaving Australia as the only country exempt from both tariffs and quotas).²⁹

(...continued)

²¹ Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) authorizes the Secretary of Commerce to conduct these investigations.

²² White House website: <https://www.whitehouse.gov/presidential-actions/presidential-proclamation-adjusting-imports-aluminum-united-states/>, retrieved December 19, 2018.

²³ *Presidential Proclamation 9704 of March 8, 2018, Adjusting Imports of Aluminum Into the United States*, 83 FR 11619, December 19, 2018.

²⁴ For the purposes of this proclamation, “articles of aluminum” are defined at the Harmonized Tariff Schedule (HTS) as: 7601, 7604, 7605, 7606, 7607, 7608, 7609, 7616.99.51.60, and 7616.99.51.70, including any subsequent revisions to these HTS classifications.

²⁵ *Presidential Proclamation 9710 of March 22, 2018, Adjusting Imports of Aluminum Into the United States*, 83 FR 13355, December 19, 2018.

²⁶ *Presidential Proclamation 9739 of April 30, 2018, Adjusting Imports of Aluminum Into the United States*, 83 FR 20677, December 19, 2018.

²⁷ *Ibid.*

²⁸ *Presidential Proclamation 9758 of May 31, 2018, Adjusting Imports of Steel into the United States*, 83 FR 25849, December 19, 2018.

²⁹ U.S. Customs and Border Protection, “Section 232 Tariffs on Aluminum and Steel,” <https://www.cbp.gov/trade/programs-administration/entry-summary/232-tariffs-aluminum-and-steel>, retrieved December 11, 2018.

In the President's proclamation establishing the tariff under Section 232, the Secretary of Commerce was authorized to provide relief from the 10 percent ad valorem duties for any steel articles determined "not to be produced in the United States in a sufficient and reasonably available amount or of a satisfactory quality and is also authorized to provide such relief based upon specific national security considerations. Such relief shall be provided for any article only after a request for exclusion is made by a directly affected party located in the United States."³⁰ Approved exclusions are made on a product specific basis and are limited to the individual or organization that submitted the specific exclusion request, unless Commerce approves a broader application of the product based exclusion request for additional importers.^{31 32}

On June 20, 2018, Commerce announced its first set of product exclusions granted from Section 232 tariffs on aluminum imports. Sixty-two exclusion requests were granted, with the following companies receiving the exclusions: Ball Metal Beverage Container Corp. of Broomfield, Colorado; Bemis Company, Inc. of Neenah, Wisconsin; Channel Alloys of Norwalk, Connecticut; Constellium-UACJ ABS LLC of Bowling Green, Kentucky; Cornell Dubilier Marketing of Liberty, South Carolina; Garmco, Inc. of Winter Garden, Florida; Generac Power Systems of Waukesha, Wisconsin; International Converter, LLC of Caldwell, Ohio; Mandel Metals, Inc. of Franklin Park, Illinois; ProAmpac Intermediate Inc. of Cincinnati, Ohio; Schluter Systems of Plattsburgh, New York; Trinidad/Benham Corp. of Denver, Colorado.³³ The exempted products include 6020 T8 Cold finished aluminum bars, high purity etched and "formed foil, and cansheet body stock of 3104/H19 alloy.³⁴

³⁰ U.S. Department of Commerce Announces Steel and Aluminum Tariff Exclusion Process <https://www.commerce.gov/news/press-releases/2018/03/us-department-commerce-announces-steel-and-aluminum-tariff-exclusion>, retrieved December 19, 2018.

³¹ *Requirements for Submissions Requesting Exclusions from the Remedies Instituted in Presidential Proclamations Adjusting Imports of Steel into the United States and Adjusting Imports of Aluminum into the United States; and the Filing Objections to Submitted Exclusion request for Steel and Aluminum*, 83 FR 12106, March 19, 2018.

³² LG states that it utilizes *** in its production of LRWs. At present, ***. LG notes that each LG ***, and each ***. LG states that no aluminum producer in the United States can produce the *** so it submitted an exclusion request but the outcome of the exclusion request is still pending. LG's posthearing brief, att. A, p. 3.

³³ U.S. Department of Commerce, *Requirements for Submissions Requesting Exclusions from the Remedies Instituted in Presidential Proclamations Adjusting Imports of Steel into the United States and Adjusting Imports of Aluminum into the United States; and the Filing Objections to Submitted Exclusion request for Steel and Aluminum*, Docket ID BIS-2018-0002, <https://www.regulations.gov/docket?D=BIS-2018-0002>, retrieved December 20, 2018.

³⁴ S&P Global, "US Commerce grants first Section 232 aluminum product exclusion," <https://www.spglobal.com/platts/en/market-insights/latest-news/metals/071318-us-commerce-grants-first-section-232-aluminum-product-exclusions>, retrieved December 20, 2018.

On May 19, 2019, the President issued two Proclamations adjusting Proclamations 9704 and 9705 after the United States announced an agreement with Canada and Mexico to remove the Section 232 tariffs for aluminum imports from those countries.³⁵

Section 301 proceeding

Section 301 of the Trade Act of 1974, as amended (“Trade Act”),³⁶ authorizes the USTR, at the direction of the President, to take appropriate action to respond to a foreign country’s unfair trade practices. On August 18, 2017, the USTR initiated an investigation into certain policies and practices of the Government of China related to technology transfer, intellectual property, and innovation.³⁷ On April 6, 2018, the USTR published its determination that the acts, policies, and practices of China under investigation are unreasonable or discriminatory and burden or restrict U.S. commerce, and are thus actionable under section 301(b) of the Trade Act.³⁸ The USTR determined that it was appropriate and feasible to take action and proposed the imposition of an additional 25 percent duty on products from China with an annual trade value of approximately \$50 billion. The additional duties were initially proposed in two tranches. Tranche 1 covered 818 tariff subheadings, with an approximate annual trade value of \$34 billion.³⁹ Tranche 2 covered 279 tariff subheadings, with an approximate annual trade value of \$16 billion.

On September 21, 2018, the USTR published a notice in the *Federal Register* modifying its prior action in accordance with the specific direction of the President under his authority pursuant to section 307(a)(1) of the Trade Act, determining to include 5,745 full and partial tariff subheadings with an approximate annual trade value of \$200 billion, while maintaining

³⁵ White House website: <https://www.whitehouse.gov/presidential-actions/proclamation-adjusting-imports-aluminum-united-states/>, retrieved June 6, 2019.

³⁶ 19 U.S.C. § 2411.

³⁷ *Initiation of Section 301 Investigation; Hearing; and Request for Public Comments: China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 82 FR 40213, August 24, 2017.

³⁸ *Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 FR 14906, April 6, 2018.

³⁹ *Notice of Action and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 FR 28710, June 20, 2018.

the prior action. The USTR determined that the rate of additional duty is initially 10 percent ad valorem, effective September 24, 2018.^{40 41}

On May 9, 2019, USTR published a Notice of Modification of Action (84 FR 20459) in the Section 301 investigation increasing the duty rate to 25 percent on imports from China on the over 5,700 full and partial eight-digit subheadings of the HTSUS listed in Annex A to the USTR's September 21, 2018 Notice, as amended. The increase in additional import duties for Chinese goods covered by the September 21, 2018 Federal Register notice, as amended, became effective on May 10, 2019, at a rate of additional duties of 25 percent ad valorem.^{42 43}

⁴⁰ *Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 FR 47974, September 21, 2018.

⁴¹ All four U.S. produces source a variety of LRW components that are subject to Section 301 measures. For further details see part III – Raw material costs. Whirlpool and GE ***. Whirlpool's posthearing brief, p. II-48 and att. H. Samsung's posthearing brief, p. 11. GE's posthearing brief, p. 4. LG's posthearing brief, att. A, p. 3 and exh. Q1.

⁴² *Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 84 FR 20459, May 9, 2019.

⁴³ Imports of products – including LRWs and certain parts – provided for in HTS subheadings 8450.11.00, 8450.20.00, 8450.90.20, and 8450.90.60 are included in the fourth list (“Fourth Tranche”) of 3,805 full and partial tariff subheadings for products originating from China, with an annual trade value of approximately \$300 billion, that USTR proposed for additional duties up to 25 percent ad valorem. The President announced, on August 1, 2019, that the United States will impose additional 10 percent duties on these remaining \$300 billion of products imported from China, effective September 1, 2019. See *Request for Comments Concerning Proposed Modification of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, Annex, Section 1, 84 FR 22564, May 17, 2019; The White House, “Remarks by President Trump Before Marine One Departure,” August 1, 2019, <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-marine-one-departure-56/>.

APPENDIX G

Select data from safeguard investigation

Table C-1

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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Table C-4

LRWs: Summary data concerning LRWs, 2012-16, January to March 2016, and January to March 2017

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Table C-5

Covered parts: Summary data concerning covered parts, 2012-16, January to March 2016, and January to March 2017

* * * * *

Table V-13

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 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, by quarters, January 2012-March 2017

* * * * *

Table V-15

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by quarters, January 2012-March 2017

* * * * *

Table V-16

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by quarters, January 2012-March 2017

* * * * *

Table V-17

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5, by quarters, January 2012-March 2017

* * * * *

Table V-18

LRWs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6, by quarters, January 2012-March 2017

* * * * *

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 \$)	***	***	***

