

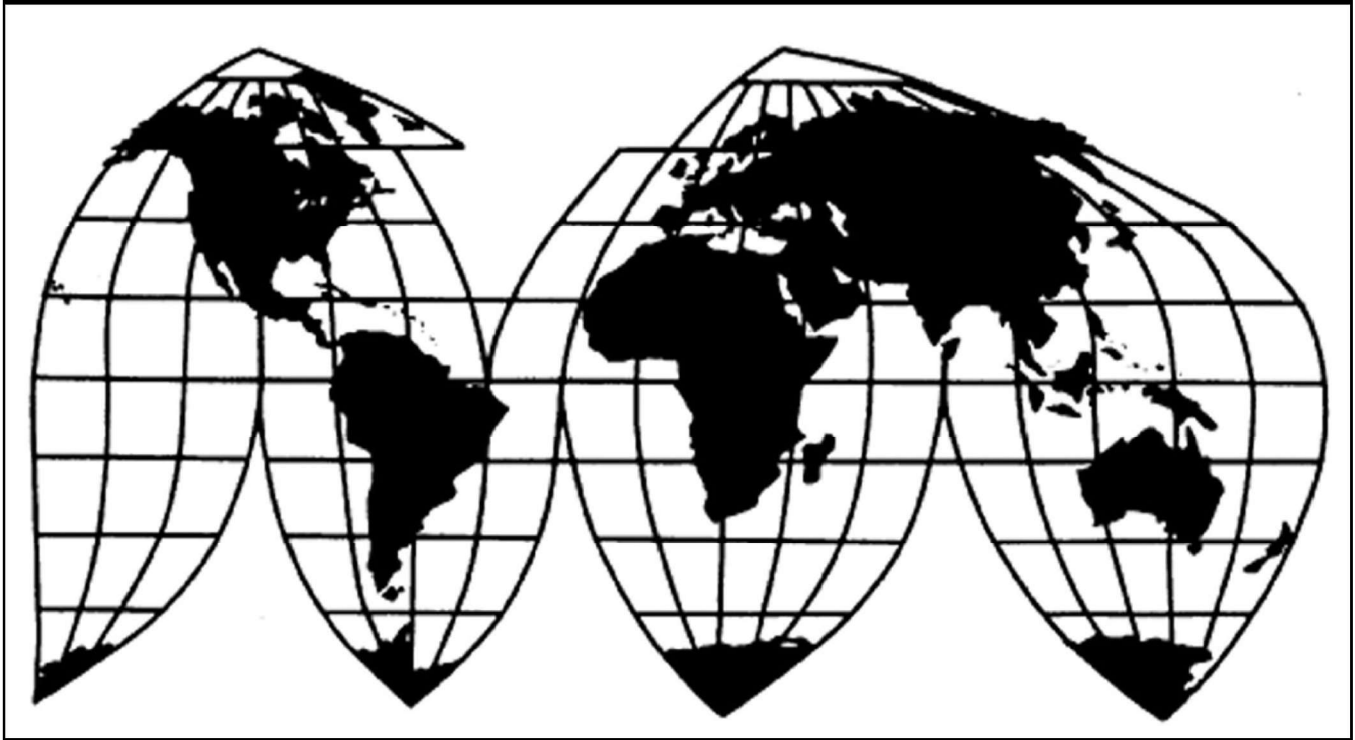
Emulsion Styrene-Butadiene Rubber from Czechia and Russia

Investigation Nos. 731-TA-1575 and 731-TA-1577 (Final)

Publication 5392

January 2023

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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Note.—Information that would reveal confidential operations of individual concerns may not be published.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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 731-TA-1575 and 731-TA-1577 (Final)

Emulsion Styrene-Butadiene Rubber from Czechia and Russia

DETERMINATIONS

On the basis of the record¹ developed in the subject investigations, the United States International Trade Commission (“Commission”) determines, pursuant to the Tariff Act of 1930 (“the Act”), that an industry in the United States is not materially injured or threatened with material injury, and the establishment of an industry in the United States is not materially retarded by reason of imports of emulsion styrene-butadiene rubber (“ESBR”) from Czechia and Russia, provided for in statistical reporting numbers 4002.19.0015 and 4002.19.0019 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce (“Commerce”) to be sold in the United States at less than fair value (“LTFV”).^{2 3}

BACKGROUND

The Commission instituted these investigations effective November 15, 2021, following receipt of petitions filed with the Commission and Commerce by Lion Elastomers LLC (Port Neches, Texas). The Commission scheduled the final phase of the investigations following notification of preliminary determinations by Commerce that imports of ESBR from Czechia and Russia were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. 1673b(b)). Notice of the scheduling of the final phase of the Commission’s investigations and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of July 15, 2022 (87 FR 42498). The Commission conducted its hearing on November 8, 2022. All persons who requested the opportunity were permitted to participate.

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

² 87 FR 68998 and 69002, November 17, 2022.

³ Commissioner Randolph J. Stayin not participating.

Views of the Commission

Based on the record in the final phase of these investigations, we determine that an industry in the United States is not materially injured or threatened with material injury by reason of imports of emulsion styrene-butadiene rubber (“ESBR”) from Czechia and Russia found by the U.S. Department of Commerce (“Commerce”) to be sold in the United States at less than fair value (“LTFV”).¹

I. Background

Lion Elastomers LLC (“Lion” or “Petitioner”), a domestic producer of ESBR, filed the petitions in these investigations on November 15, 2021.² The petitions alleged that an industry in the United States is materially injured and threatened with material injury by reason of LTFV imports of ESBR from Czechia, Italy,³ and Russia.⁴ Petitioner appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs and final comments.

Two groups of subject producers and exporters and one importer/purchaser of subject merchandise participated as respondents in these final phase investigations. Synthos Kralupy a.s., a Czech producer and exporter of ESBR, and PJSC Tatneft, a Russian producer and exporter of ESBR (“Joint Respondents”) appeared at the hearing accompanied by counsel and submitted joint prehearing and posthearing briefs and final comments.⁵ Russian producers and exporters “SIBUR Holding” (SIBUR), Joint Stock Company “Voronezhskintezkauchuk” (VSK), and SIBUR International GmbH (SI) (collectively, “SIBUR”) submitted joint prehearing and posthearing briefs. Finally, Michelin North America, Inc. (“Michelin”), an importer and purchaser of subject merchandise, appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs.

U.S. industry data are based on the questionnaire responses of two producers, accounting for all U.S. production of ESBR during the period of investigation (“POI”) (January

¹ Material retardation is not an issue in these investigations.

² Confidential Report, Memorandum INV-UU-119 (Nov. 30, 2022) (“CR”) at I-1; Public Report, *Emulsion Styrene-Butadiene Rubber from Czechia and Russia*, Inv. Nos. 731-TA-1575 and 731-TA-1577 (Final), USITC Pub. 5392 (Jan. 2023) (“PR”) at I-1.

³ On May 2, 2022, Petitioner filed a letter with the Commission and the U.S. Department of Commerce (“Commerce”) withdrawing the petition with respect to imports of ESBR from Italy. The Commission and Commerce subsequently terminated their respective investigations with respect to ESBR from Italy. CR/PR at Table I-1.

⁴ CR/PR at Table I-1.

⁵ Representatives from U.S. importer Intertex World Resources Inc. and purchaser Mountville Rubber Company also appeared at the Commission’s hearing on behalf of Joint Respondents.

2019-June 2022).⁶ U.S. import data are based on the questionnaire responses of 19 firms that represented *** percent of U.S. imports from subject sources and *** percent of U.S imports from nonsubject sources in 2021 based on official import statistics.⁷

The Commission also received a response to its foreign producer questionnaire from one producer and exporter in Czechia that accounted for *** production of ESBR in Czechia and *** subject exports from Czechia.⁸ Three producers and exporters of ESBR in Russia provided responses to the Commission’s foreign producer questionnaire. They estimated that they accounted for *** percent of production of ESBR in Russia and *** percent of exports of ESBR from Russia to the United States in 2021.⁹

II. Domestic Like Product

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the “domestic like product” and the “industry.”¹⁰ Section 771(4)(A) of the Tariff Act of 1930, as amended (“the Tariff Act”), defines the relevant domestic industry as the “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”¹¹ In turn, the Tariff Act defines “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation.”¹²

By statute, the Commission’s “domestic like product” analysis begins with the “article subject to an investigation,” *i.e.*, the subject merchandise as determined by Commerce.¹³ Therefore, Commerce’s determination as to the scope of the imported merchandise that is

⁶ CR/PR at III-1. Lion and Goodyear Tire & Rubber Company (“Goodyear”) were the only known producers of ESBR in the United States during the POI. CR/PR at III-1.

⁷ CR/PR at I-4 and IV-1 n.2.

⁸ CR/PR at VII-3.

⁹ CR/PR at VII-9.

¹⁰ 19 U.S.C. § 1677(4)(A).

¹¹ 19 U.S.C. § 1677(4)(A).

¹² 19 U.S.C. § 1677(10).

¹³ 19 U.S.C. § 1677(10). The Commission must accept Commerce’s determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *See, e.g., USEC, Inc. v. United States*, 34 Fed. App’x 725, 730 (Fed. Cir. 2002) (“The ITC may not modify the class or kind of imported merchandise examined by Commerce.”); *Algoma Steel Corp. v. United States*, 688 F. Supp. 639, 644 (Ct. Int’l Trade 1988), *aff’d*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

subsidized and/or sold at less than fair value is “necessarily the starting point of the Commission’s like product analysis.”¹⁴ The Commission then defines the domestic like product in light of the imported articles Commerce has identified.¹⁵ The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of “like” or “most similar in characteristics and uses” on a case-by-case basis.¹⁶ No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.¹⁷ The Commission looks for clear dividing lines among possible like products and disregards minor variations.¹⁸

B. Product Description

Commerce defined the imported merchandise within the scope of these investigations as:

cold-polymerized emulsion styrene-butadiene rubber (ESB rubber). The scope of the investigation includes, but is not limited to, ESB rubber in primary forms, bales, granules, crumbs, pellets, powders, plates, sheets, strip, etc. ESB rubber consists of non-pigmented rubbers and oil-

¹⁴ *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); see also *Hitachi Metals, Ltd. v. United States*, 949 F.3d 710, 717 (Fed. Cir. 2020) (the statute requires the Commission to start with Commerce’s subject merchandise in reaching its own like product determination).

¹⁵ *Cleo*, 501 F.3d at 1298 n.1 (“Commerce’s {scope} finding does not control the Commission’s {like product} determination.”); *Hosiden Corp. v. Advanced Display Mfrs.*, 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); *Torrington Co. v. United States*, 747 F. Supp. 744, 748–52 (Ct. Int’l Trade 1990), *aff’d*, 938 F.2d 1278 (Fed. Cir. 1991) (affirming the Commission’s determination defining six like products in investigations where Commerce found five classes or kinds).

¹⁶ See, e.g., *Cleo*, 501 F.3d at 1299; *NEC Corp. v. Dep’t of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int’l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington*, 747 F. Supp. at 749 n.3 (“every like product determination ‘must be made on the particular record at issue’ and the ‘unique facts of each case’”). The Commission generally considers a number of factors, including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. See *Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int’l Trade 1996).

¹⁷ See, e.g., S. Rep. No. 96-249 at 90-91 (1979).

¹⁸ *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49; see also S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in “such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not ‘like’ each other, nor should the definition of ‘like product’ be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.”).

extended non-pigmented rubbers, both of which contain at least one percent of organic acids from the emulsion polymerization process.

ESB rubber is produced and sold in accordance with a generally accepted set of product specifications issued by the International Institute of Synthetic Rubber Producers (IISRP). The scope of the investigation covers grades of ESB rubber included in the IISRP 1500 and 1700 series of synthetic rubbers. The 1500 grades are light in color and are often described as “Clear” or “White Rubber.” The 1700 grades are oil-extended and thus darker in color, and are often called “Brown Rubber.”

Specifically excluded from the scope of this investigation are products which are manufactured by blending ESB rubber with other polymers, high styrene resin master batch, carbon black master batch (*i.e.*, IISRP 1600 series and 1800 series) and latex (an intermediate product).

The products subject to this investigation are currently classifiable under subheadings 4002.19.0015 and 4002.19.0019 of the Harmonized Tariff Schedule of the United States (HTSUS). ESB rubber is described by Chemical Abstracts Services (CAS) Registry No. 9003–55–8. This CAS number also refers to other types of styrene butadiene rubber. Although the HTSUS subheadings and CAS registry number are provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.¹⁹

ESB rubber or ESBR is a copolymer synthetic rubber produced by a cold emulsion process from styrene and butadiene that contains approximately 25 percent styrene and 75 percent butadiene by weight.²⁰ The ESBR products covered by the scope of these investigations consist of the 1500 and 1700 series of ESBR synthetic rubber copolymers as defined by the International Institute of Synthetic Rubber Producers (“IISRP”), and generally recognized by the international industry.²¹ These series are mostly used in the production of car and light truck

¹⁹ Emulsion Styrene-Butadiene Rubber From the Czech Republic: Final Affirmative Determination of Sales at Less Than Fair Value, 87 Fed. Reg. 68998, 68999 (Nov. 17, 2022); Emulsion Styrene-Butadiene Rubber From the Russian Federation: Final Affirmative Determination of Sales at Less Than Fair Value and Classification of the Russian Federation as a Non-Market Economy, 87 Fed. Reg. 69002, 69004 (Nov. 17, 2022).

²⁰ CR/PR at I-8.

²¹ CR/PR at I-11.

tires in the replacement market, and to a lesser extent in “technical goods” such as conveyor belts, soles of shoes, certain hoses, and flooring.²²

C. Analysis

In the preliminary phase of these investigations, respondents did not dispute the definition of the domestic like product and the Commission defined a single domestic like product coextensive with the scope. The Commission found that two types of out-of-scope synthetic rubbers, carbon black master batch (“CBMB”) and solution SBR (“SSBR”), differed from in-scope ESR in several respects, and therefore, it was not appropriate to include either CBMB or SSBR in the definition of the domestic like product.²³

The record in the final phase of the investigations contains no new information that would warrant revisiting the definition of the domestic like product from the preliminary determinations.²⁴ Moreover, no party in the final phase of these investigations has argued for a definition of the domestic like product different from that in the preliminary determinations.²⁵ Accordingly, we again define a single domestic like product consisting of ESR, coextensive with the scope of the investigations.

²² CR/PR at I-8 to I-9.

²³ *Emulsion Styrene-Butadiene Rubber from Czechia, Italy, and Russia*, Inv. Nos. 731-TA-1575-1577 (Preliminary) USITC Pub. 5274 (Jan. 2022) (“*Preliminary Determinations*”) at 10-14. The Commission stated that while CBMB and SSBR are similar to ESR in some respects, namely use in tire production and channels of distribution, they differ with respect to physical characteristics; manufacturing facilities, production processes, and employees; producer and customer perceptions; level of interchangeability; and pricing with respect to SSBR. It observed that different grades of in-scope ESR, on the other hand, share similar physical characteristics and uses; channels of distribution; manufacturing facilities, production processes, and employees; producer and customer perceptions; and pricing. *Preliminary Determinations*, USITC Pub. 5274 at 11. The Commission also observed that its definition of the domestic like product was consistent with the Commission’s prior treatment of ESR in investigations in 1999 and 2017, which involved substantially the same scope definitions. *Id.* at 8 n.27.

²⁴ See generally CR/PR at I-8 to I-15.

²⁵ Petitioner argues that the Commission should define a single domestic like product, coextensive with Commerce’s scope, the 1500 and 1700 series of ESR, as it did in its preliminary determinations and that the Commission has found in previous investigations. Petitioner’s Prehearing Brief at 5 (citing *Certain Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland*, Inv. Nos. 731-794-796, USITC Pub. 3190 (May 1999) (Final) at 3-10). Joint Respondents indicate that they do not dispute the definition of the domestic like product, as determined in the preliminary phase of these investigations. Joint Respondents’ Prehearing Brief at 3.

III. Domestic Industry

The domestic industry is defined as the domestic “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”²⁶ In defining the domestic industry, the Commission’s general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

In its preliminary determinations, the Commission found that the record raised no domestic industry issues and defined the domestic industry as all U.S. producers of ESBR.²⁷ The record in the final phase of these investigations likewise raises no issues pursuant to the related party provision or any other domestic industry issues,²⁸ and no party has argued for a definition of the domestic industry different from that in the preliminary determinations. Accordingly, we again define the domestic industry as all U.S. producers of ESBR.

IV. Cumulation²⁹

For purposes of evaluating the volume and effects for a determination of material injury by reason of subject imports, section 771(7)(G)(i) of the Tariff Act requires the Commission to cumulate subject imports from all countries as to which petitions were filed and/or investigations self-initiated by Commerce on the same day, if such imports compete with each other and with the domestic like product in the U.S. market. In assessing whether subject imports compete with each other and with the domestic like product, the Commission generally has considered four factors:

²⁶ 19 U.S.C. § 1677(4)(A).

²⁷ *Preliminary Determinations*, USITC Pub. 5274 at 11.

²⁸ Neither of the two U.S. producers reported being related to foreign producers, exporters, or U.S. importers of the subject merchandise. Additionally, neither U.S. producer reported any imports or purchases from subject sources. *See* CR/PR at III-2.

²⁹ Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than three percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition shall generally be deemed negligible. 19 U.S.C. §§ 1673d(b), 1677(24)(A)(i).

Subject imports from Czechia and Russia accounted for *** percent and *** percent, respectively, of total U.S. imports of ESBR in the 12-month period (November 2020 through October 2021) preceding the filing of the petitions. CR/PR at Table IV-4. As imports from each subject country exceed the statutory negligibility threshold, we find that subject imports from each country are not negligible.

- (1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;
- (2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;
- (3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and
- (4) whether the subject imports are simultaneously present in the market.³⁰

While no single factor is necessarily determinative, and the list of factors is not exclusive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.³¹ Only a “reasonable overlap” of competition is required.³²

A. Arguments of the Parties

Petitioner argues that the Commission should cumulatively assess subject imports from Czechia and Russia for purposes of present material injury because there is a reasonable overlap in competition between ESBR produced in the subject countries and between ESBR from each subject country and the domestic product. Petitioner contends that ESBR is a commodity product manufactured to international IISRP specifications for 1500 and 1700 series products. As a result, it submits that ESBR from subject and domestic sources is largely interchangeable, as confirmed by market participants’ questionnaire responses. It maintains imports from each of the subject countries compete with imports from the other subject country and with the domestic like product in almost all regions of the United States, are sold through overlapping channels of distribution to tire manufacturers and other end users, and

³⁰ See *Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-280 (Final), USITC Pub. 1845 (May 1986), *aff’d*, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int’l Trade), *aff’d*, 859 F.2d 915 (Fed. Cir. 1988).

³¹ See, e.g., *Wieland Werke, AG v. United States*, 718 F. Supp. 50 (Ct. Int’l Trade 1989).

³² The Statement of Administrative Action (SAA) to the Uruguay Round Agreements Act (URAA), expressly states that “the new section will not affect current Commission practice under which the statutory requirement is satisfied if there is a reasonable overlap of competition.” H.R. Rep. No. 103-316, Vol. I at 848 (1994) (*citing Fundicao Tupy, S.A. v. United States*, 678 F. Supp. at 902; *see Goss Graphic Sys., Inc. v. United States*, 33 F. Supp. 2d 1082, 1087 (Ct. Int’l Trade 1998) (“cumulation does not require two products to be highly fungible”); *Wieland Werke, AG*, 718 F. Supp. at 52 (“Completely overlapping markets are not required.”)).

have been simultaneously present in the U.S. market during the POI.³³ Respondents do not address cumulation.

B. Analysis

We consider subject imports from Czechia and Russia on a cumulated basis because the statutory criteria for cumulation are satisfied. As an initial matter, Petitioner filed the antidumping duty petitions with respect to both countries on the same day, November 15, 2021.³⁴ There also is a reasonable overlap of competition between subject imports from Czechia and Russia, and among subject imports from each source and the domestic like product, as discussed below.

Fungibility. The record in the final phase of these investigations indicates that ESBR is at least moderately fungible, regardless of source.³⁵ ESBR is made to an IISRP standard for each grade. Reporting U.S. producers indicated that ESBR from each subject country is either *** interchangeable with the domestic product and that ESBR from each subject country is either *** interchangeable with ESBR from the other subject country.³⁶ A majority of purchasers also reported that the domestic like product is always or frequently interchangeable with subject imports from Czechia and Russia and that ESBR from both subject countries is always or frequently interchangeable.³⁷

U.S. importers reported somewhat less interchangeability. A majority of importers indicated that the domestic product is always or frequently interchangeable with subject imports from Czechia, and half of the importers indicated that subject imports from Czechia are always or frequently interchangeable with subject imports from Russia.³⁸ However, a majority of importers reported that the domestic product is sometimes or never interchangeable with subject imports from Russia,³⁹ since the addition of aromatic oils to 1700 series grades of ESBR, as well as the use of alphas-methyl styrene in ESBR production (instead of bound styrene) can limit the interchangeability of ESBR from Russia with ESBR from other sources.⁴⁰

³³ Petitioner's Prehearing Brief at 6-9.

³⁴ CR/PR at I-1. None of the statutory exceptions to cumulation applies.

³⁵ As further discussed below, the Commission finds that ESBR of the same IISRP grade is highly substitutable.

³⁶ CR/PR at Table II-13.

³⁷ CR/PR at Table II-13.

³⁸ CR/PR at Table II-13.

³⁹ CR/PR at Table II-13.

⁴⁰ See CR/PR at Tables II-12 and II-14, II-1 n.8. Alphas-methyl styrene is a styrene derivative. CR/PR at I-13 n.40. It has a strong odor and some customers will not use the ESBR if it contains alphas-methyl styrene. CR/PR at Table II-14, IV-13 n.12.

In response to questions concerning the significance of non-price differences between ESBR from different sources, the two U.S. producers disagreed; one reported there were *** important differences and the other indicated there were *** such differences.⁴¹ Importers' responses were also mixed, but a majority said non-price differences are sometimes or never important when comparing the subject imports and the domestic product.⁴² Purchasers most frequently reported that non-price differences are sometimes important.⁴³ Most purchasers also reported that the domestic product and subject imports from Czechia are comparable with respect to 14 of 17 purchase factors.⁴⁴ When comparing the domestic product and subject imports from Russia, a majority of purchasers indicated that they are comparable with respect to 12 of 17 purchase factors.⁴⁵ Finally, most purchasers indicated that the subject imports from Czechia and Russia are comparable with respect to all purchase factors other than price.⁴⁶

The Commission's shipment data indicate that 1500 series and 1700 series ESBR were available from the domestic industry and importers of the subject merchandise from both subject countries.⁴⁷ In 2021, the majority of shipments from all three sources was 1500 series ESBR.⁴⁸ Further, as reflected in the pricing data, commercially significant quantities of product 1 (grade 1502) and product 3 (grade 1712) were sold by domestic producers and importers of subject imports from Czechia and Russia during the POI.⁴⁹

The Commission collected information from domestic producers and importers concerning the presence of three categories of extenders used in 1700 series ESBR grades: 1) aromatic oils, 2) aromatic extracts, and 3) "other additives."⁵⁰ The record indicates that the domestic product and subject imports from Czechia and Russia showed substantial similarities in the use of both aromatic extracts and "other additives" in 1700 series ESBR.⁵¹ On the other hand, *** percent of U.S. shipments of subject imports from Russia contained aromatic oils

⁴¹ CR/PR at Table II-15.

⁴² CR/PR at Table II-15.

⁴³ CR/PR at Table II-15.

⁴⁴ CR/PR at Table II-10.

⁴⁵ CR/PR at Table II-10.

⁴⁶ CR/PR at Table II-10.

⁴⁷ See CR/PR at Table IV-5.

⁴⁸ See CR/PR at Table IV-5.

⁴⁹ See CR/PR at Table V-9.

⁵⁰ CR/PR at I-15, II-27 to II-28, IV-16 to IV-24. The 1500 series does not contain extenders. CR/PR at I-11.

⁵¹ More specifically, the majority of U.S. shipments in 2021 of the domestic product and subject imports from Czechia and Russia did not contain aromatic extracts. See CR/PR at Table IV-7, Fig. IV-4. Further, substantial portions of U.S. shipments during 2021 of the domestic product and subject imports from both Czechia and Russia did not contain "other additives." See CR/PR at Table IV-9, Fig IV-6.

while nearly all U.S. shipments of the domestic product and subject imports from Czechia did not contain aromatic oils.⁵²

As noted above, purchasers reported interchangeability was limited by the presence of aromatic oils in subject imports from Russia.⁵³ On the other hand, most of the ESBR from both subject countries and the domestic producers was 1500 series grades with no aromatic oils or other extenders.⁵⁴ Further, despite reports that subject imports from Russia are not suitable for tire production due to the presence of aromatic oils, an increasing portion of subject imports from Russia were shipped to tire producers in the United States.⁵⁵

The use of different types of styrene for production of ESBR is also claimed to limit the interchangeability of ESBR to some degree.⁵⁶ A majority of purchasers reported that ESBR produced with these two different types of styrene was sometimes or never interchangeable, though their responses were mixed.⁵⁷ All of the shipments of the domestic like product and subject imports from Czechia, and nearly half (***) percent) of the subject imports from Russia were produced using bound styrene in 2021.⁵⁸

In sum, although the record shows that there were some differences in the types of ESBR shipped from domestic producers and subject sources during the POI, there was an overlap in the ESBR series and use of different oils, extracts, additives and types of styrene in ESBR from domestic and subject sources. This overlap, as well as questionnaire responses from market participants concerning the general interchangeability and comparability of ESBR from domestic and subject sources indicate that the domestic product and subject imports have a reasonable and sufficient degree of fungibility for purposes of cumulation.

Channels of Distribution. Most ESBR is used to produce tires and subject imports are often imported directly by tire manufacturers.⁵⁹ *** shipments of subject imports from Czechia, and a *** of the domestic producers' shipments were to tire manufacturers.⁶⁰ During 2019 and 2020, only a small percentage of U.S. shipments of subject imports from Russia were

⁵² See CR/PR at Table IV-8, Fig. IV-5.

⁵³ See CR/PR at Tables II-12 and II-14. Aromatic oils are generally not used in domestic tire production because they are banned in Europe due to environmental concerns. CR/PR at II-27-28, II-27 n.63, IV-19.

⁵⁴ See CR/PR at Table IV-5.

⁵⁵ See CR/PR at Table II-1 (***) percent of subject imports from Russia went to tire manufacturers in the first six months of 2022 ("interim 2022"), compared to *** percent in 2019).

⁵⁶ See, e.g., Joint Respondents' Prehearing Brief at 30-31.

⁵⁷ CR/PR at Table II-11. A majority of importers also reported that it was sometimes or never interchangeable. *Id.*

⁵⁸ See CR/PR at Table IV-6.

⁵⁹ CR/PR at V-11 and Table IV-1.

⁶⁰ CR/PR at Table II-1.

to tire manufacturers.⁶¹ However, almost a quarter of U.S. shipments of subject imports from Russia went to tire manufacturers in 2021, and approximately *** percent of subject imports from Russia went to tire manufacturers in interim 2022.⁶² As such, we find that subject imports from each subject country and the domestic like product are sold in the same channels of distribution.

Geographic Overlap. During the POI, U.S. producers reported selling ESBR to all regions of the contiguous United States.⁶³ Imports of subject imports from Russia were sold in all regions except the *** regions.⁶⁴ The one reporting importer of subject imports from Czechia reported selling in the *** regions.⁶⁵ As such, we find that subject imports from each subject country and the domestic like product are present in overlapping geographic markets.

Simultaneous Presence in Market. The record indicates that subject imports from each subject country and the domestic like product were present in the U.S. market throughout the POI.⁶⁶

Conclusion. Because the relevant antidumping duty petitions were filed on the same day, and because the record indicates that there is a reasonable overlap of competition between and among imports from each subject country and the domestic like product, we cumulate subject imports from Czechia and Russia for purposes of our analysis of whether the domestic industry is materially injured by reason of subject imports.

V. No Material Injury by Reason of Subject Imports

Based on the record in the final phase of these investigations, we find that an industry in the United States is not materially injured by reason of imports of ESBR from Czechia and Russia that Commerce has found to be sold at LTFV.

⁶¹ Subject imports from Russia primarily went to “other end users,” producers of “technical goods” such as conveyor belts, soles of shoes, some hoses, and flooring. CR/PR at II-1, II-3, and Table II-1.

⁶² CR/PR at Table II-1.

⁶³ CR/PR at Table II-2.

⁶⁴ CR/PR at Table II-2. Importers did not report sales in Alaska, Hawaii, Puerto Rico or the U.S. Virgin Islands. *Id.* In 2021, the majority of imports from each subject country also entered the United States in the Eastern region. See CR/PR at Table IV-10.

⁶⁵ CR/PR at Table II-2.

⁶⁶ See CR/PR at Table IV-11. Imports from each subject source entered every month from January 2019 through June 2022. *Id.* The pricing data show purchases of the domestic product during each quarter from January-March 2019 to April-June 2022. See CR/PR at Tables V-5 to V-8.

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.⁶⁷ In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.⁶⁸ The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”⁶⁹ In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.⁷⁰ No single factor is dispositive, and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”⁷¹

Although the statute requires the Commission to determine whether the domestic industry is “materially injured or threatened with material injury by reason of” unfairly traded imports,⁷² it does not define the phrase “by reason of,” indicating that this aspect of the injury analysis is left to the Commission’s reasonable exercise of its discretion.⁷³ In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the “by reason of” standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.⁷⁴

⁶⁷ 19 U.S.C. §§ 1671d(b), 1673d(b).

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

⁶⁹ 19 U.S.C. § 1677(7)(A).

⁷⁰ 19 U.S.C. § 1677(7)(C)(iii).

⁷¹ 19 U.S.C. § 1677(7)(C)(iii).

⁷² 19 U.S.C. §§ 1671d(b), 1673d(b).

⁷³ *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) (“{T}he statute does not ‘compel the commissioners’ to employ {a particular methodology}.”), *aff’g*, 944 F. Supp. 943, 951 (Ct. Int’l Trade 1996).

⁷⁴ The Federal Circuit, in addressing the causation standard of the statute, observed that “{a}s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement.” *Nippon Steel Corp. v. USITC*, 345 F.3d 1379, 1384 (Fed. Cir.

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.⁷⁵ In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.⁷⁶ Nor does the “by reason of” standard require that unfairly traded imports be the “principal” cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors,

2003). This was further ratified in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), where the Federal Circuit, quoting *Gerald Metals, Inc. v. United States*, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that “this court requires evidence in the record ‘to show that the harm occurred ‘by reason of’ the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.’” See also *Nippon Steel Corp. v. United States*, 458 F.3d 1345, 1357 (Fed. Cir. 2006); *Taiwan Semiconductor Industry Ass’n v. USITC*, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

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

⁷⁶ SAA at 851-52 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports.”); *Taiwan Semiconductor Industry Ass’n*, 266 F.3d at 1345 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.” (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int’l Trade 2002) (“{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury” or make “bright-line distinctions” between the effects of subject imports and other causes.); see also *Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that “{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e.*, it is not an ‘other causal factor,’ then there is nothing to further examine regarding attribution to injury”), citing *Gerald Metals*, 132 F.3d at 722 (the statute “does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.”).

such as nonsubject imports, which may be contributing to overall injury to an industry.⁷⁷ It is clear that the existence of injury caused by other factors does not compel a negative determination.⁷⁸

Assessment of whether material injury to the domestic industry is “by reason of” subject imports “does not require the Commission to address the causation issue in any particular way” as long as “the injury to the domestic industry can reasonably be attributed to the subject imports.”⁷⁹ The Commission ensures that it has “evidence in the record” to “show that the harm occurred ‘by reason of’ the LTFV imports,” and that it is “not attributing injury from other sources to the subject imports.”⁸⁰ The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed “rigid adherence to a specific formula.”⁸¹

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.⁸² Congress has delegated this factual finding to the Commission because of the agency’s institutional expertise in resolving injury issues.⁸³

⁷⁷ S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

⁷⁸ See *Nippon Steel Corp.*, 345 F.3d at 1381 (“an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the ‘dumping’ need not be the sole or principal cause of injury.”).

⁷⁹ *Mittal Steel*, 542 F.3d at 876 & 78; see also *id.* at 873 (“While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured ‘by reason of’ subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.”), citing *United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission’s causation analysis as comporting with the Court’s guidance in *Mittal*.

⁸⁰ *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 877-79. We note that one relevant “other factor” may involve the presence of significant volumes of price-competitive nonsubject imports in the U.S. market, particularly when a commodity product is at issue. In appropriate cases, the Commission collects information regarding nonsubject imports and producers in nonsubject countries in order to conduct its analysis.

⁸¹ *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); see also *Mittal Steel*, 542 F.3d at 879 (“*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was ‘by reason’ of subject imports.”).

⁸² We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

⁸³ *Mittal Steel*, 542 F.3d at 873; *Nippon Steel Corp.*, 458 F.3d at 1350, citing *U.S. Steel Group*, 96 F.3d at 1357; S. Rep. 96-249 at 75 (“The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.”).

B. Conditions of Competition and the Business Cycle

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

1. Captive Production

The domestic industry captively consumes a portion of its production of ESBR in the manufacture of tires. We therefore consider the applicability of the statutory captive production provision, and whether to focus our analysis primarily on the merchant market when assessing market share and the factors affecting the financial performance of the domestic industry.⁸⁴

In the preliminary phase of these investigations, the Commission found that the captive production provision did not apply.⁸⁵ The threshold criterion was met because both internal consumption and commercial shipments were significant: between *** percent and *** percent of the domestic industry's U.S. shipments were commercial shipments and between *** to *** percent of its U.S. shipments were internally consumed or transfers to related firms.⁸⁶ The Commission also found that the first statutory criterion was satisfied, namely that domestic product that is internally transferred for processing into downstream articles does not

⁸⁴ The captive production provision can be applied only if, as a threshold matter, significant production of the domestic like product is internally transferred and significant production is sold in the merchant market. The captive production provision, 19 U.S.C. § 1677(7)(C)(iv), as amended by the Trade Preferences Extension Act ("TPEA") of 2015, provides:

(iv) CAPTIVE PRODUCTION – If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that-

- (I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product, and
- (II) the domestic like product is the predominant material input in the production of that downstream article.

The SAA indicates that where a domestic like product is transferred internally for the production of another article coming within the definition of the domestic like product, such transfers do not constitute internal transfers for the production of a "downstream article" for purposes of the captive production provision. SAA at 853.

The TPEA eliminated what had been the third statutory criterion of the captive production provision. Pub. L. 114-27, § 503(c).

⁸⁵ *Preliminary Determinations*, USITC Pub. 5274, at 21.

⁸⁶ *Preliminary Determinations*, USITC Pub. 5274, at 20.

enter the merchant market for the domestic like product. However, the Commission found that the second criterion was not satisfied because ESBR was not the predominant material input in the production of the downstream product (tires).⁸⁷ The Commission stated that it would nonetheless consider, as a relevant condition of competition, that a significant portion of domestic production is captively consumed.⁸⁸

a. Arguments of the Parties

While Petitioner does not argue for the application of the captive production provision, it asserts that the Commission should again consider, as a relevant condition of competition, that a significant portion of domestic production is captively consumed, as it did in its preliminary determinations. Petitioner urges the Commission to consider the impact of subject imports on the merchant market because it includes the most direct head-to-head competition between subject imports and the domestic like product, providing an important insight into the impact of subject imports on the industry.⁸⁹ Respondents do not argue that the provision applies in these investigations.

b. Analysis and Conclusion

Threshold Criterion. The domestic industry internally consumed between *** percent and *** percent of its U.S. shipments of ESBR during the POI.⁹⁰ The domestic industry sold between *** percent and *** percent of its U.S. shipments on the merchant market in this period.⁹¹ These ratios indicate that a significant portion of ESBR production is both internally transferred and sold in the merchant market. Accordingly, we find that the threshold criterion is satisfied, as a significant portion of the domestic industry's production is internally consumed, and a significant portion is sold in the merchant market.

First Statutory Criterion. The first criterion of the captive consumption provision focuses on whether any of the domestic like product that is internally transferred for further processing

⁸⁷ *Preliminary Determinations*, USITC Pub. 5274 at 21. *** indicated that internally consumed ESBR accounted for *** percent of the value and *** percent of the quantity of raw materials used to produce tires. *Id.*

⁸⁸ *Preliminary Determinations*, USITC Pub. 5274, at 21.

⁸⁹ Petitioner's Prehearing Brief at 23.

⁹⁰ CR/PR at Table III-8. Goodyear was the only domestic producer to internally consume ESBR during the period of investigation. CR/PR at III-11. Goodyear used the ESBR it internally consumed in the production of tires. It also *** between *** and *** percent of total U.S. ESBR shipments during 2021 and the interim periods to ***. CR/PR at III-13 and Table III-8.

⁹¹ CR/PR at Table III-8.

into downstream articles is in fact sold in the merchant market for the domestic like product.⁹² No domestic producer reported diverting ESBR that was to be internally consumed to the merchant market.⁹³ Thus, we find that this criterion is also satisfied.

Second Statutory Criterion. In applying the second statutory criterion, we generally consider whether the domestic like product is the predominant material input into a downstream product by referring to its share of the raw material cost of the downstream product,⁹⁴ but the Commission has also construed “predominant” material input to mean the main or strongest element, and not necessarily a majority, of the inputs by value.⁹⁵

In these investigations, Goodyear indicated that internally consumed ESBR accounted for *** percent of the value and *** percent of the total weight of raw materials used to produce tires.⁹⁶ We find that these shares are insufficient to satisfy this criterion.⁹⁷

Conclusion. Because the second criterion is not satisfied, we decline to apply the captive production provision in these investigations and will focus on the overall ESBR market in analyzing the market share and financial performance of the domestic industry. We nonetheless consider, as a relevant condition of competition, that a significant portion of domestic production is captively consumed.

2. Demand Conditions

U.S. demand for ESBR depends on the demand for the downstream products in which it is used. Approximately 70 to 80 percent of domestic ESBR is used in the manufacture of tires, with the balance used in the manufacture of technical goods such as conveyor belts, O-rings, hoses, the soles of shoes, and other rubber goods.⁹⁸ ESBR is used more often in replacement

⁹² See, e.g., *Hot-Rolled Steel Products from Argentina and South Africa*, Inv. Nos. 701-TA-404, 731-TA-898, 905 (Final), USITC Pub. 3446 at 15-16 (Aug. 2001); *Certain Cold-Rolled Steel Products from Argentina, Brazil, China, Indonesia, Japan, Russia, Slovakia, South Africa, Taiwan, Turkey and Venezuela*, Inv. Nos. 701-TA-393 and 731-TA-829-40 (Final) (Remand), USITC Pub. 3691 at 2 & n.19 (May 2004).

⁹³ CR/PR at III-13.

⁹⁴ See generally, e.g., *Polyethylene Terephthalate Film, Sheet and Strip from Brazil, China, Thailand, and the United Arab Emirates*, Inv. Nos. 731-TA-1131-1134 (Final), USITC Pub. 4040 at 17 n.103 (Oct. 2008); *Polyethylene Terephthalate Film, Sheet, and Strip from India and Taiwan*, Inv. Nos. 701-TA-415 and 731-TA-933-934 (Final), USITC Pub. 3518 at 11 & n.51 (June 2002).

⁹⁵ See *Polyvinyl Alcohol from Germany and Japan*, Inv. Nos. 731-TA-1015-16 (Final), USITC Pub. 3604 at 15 n.69 (June 2003).

⁹⁶ CR/PR at Table III-9.

⁹⁷ Our conclusion is consistent with the Commission’s treatment of this issue in the previous investigations. See *ESBR from Brazil, Korea, Mexico, and Poland*, USITC Pub. 4717, at 17.

⁹⁸ CR/PR at I-3 n.7, I-8 to I-9.

tires than in OEM tires due to the emphasis on fuel efficiency performance in OEM tires, for which SSBR is increasingly the preferred input.⁹⁹

The parties agree that U.S. demand for ESBR declined beginning in the second quarter of 2020 due to the COVID-19 pandemic, then rebounded later in 2020 into 2021 and interim 2022.¹⁰⁰ Respondents also argue that there has been a long-term decline in demand for ESBR because of the switch from ESBR to SSBR in OEM tires.¹⁰¹ Regarding future demand, Petitioner argues that demand for ESBR will grow modestly, and respondents cite a forecast of one percent growth in consumption of ESBR from 2021 to 2026.¹⁰²

Apparent U.S. consumption by quantity decreased by *** percent from 2019 to 2020, decreasing from *** pounds in 2019 to *** pounds in 2020, before increasing by *** percent to *** pounds in 2021. Overall, between 2019 and 2021, apparent U.S. consumption declined by *** percent and was *** percent higher in the interim period. It was *** pounds in interim 2021 and *** pounds in interim 2022.¹⁰³

3. Supply Conditions

The domestic industry, consisting of two firms, Lion and Goodyear, was the largest source of ESBR during the POI. Although the industry's market share fluctuated, it maintained its dominant share of the U.S. market for ESBR, ending the POI with approximately the same market share as the beginning of the POI in both the total market and merchant market.¹⁰⁴ The domestic industry's share of apparent U.S. consumption in the total market decreased from *** percent in 2019 to *** percent in 2020 and to *** percent in 2021.¹⁰⁵ Its share was ***

⁹⁹ CR/PR at I-8 to I-9, I-12.

¹⁰⁰ Petitioner's Prehearing Brief at 13 n.56; Joint Respondents' Prehearing Brief at 5; SIBUR's Prehearing Brief at 3. Market participants' responses varied. Domestic producers reported that demand had declined, while importers and purchasers generally indicated that it had fluctuated, increased, or stayed the same. CR/PR at Table II-4.

¹⁰¹ Joint Respondents' Prehearing Brief at 7.

¹⁰² Petitioner's Prehearing Brief at 2 (citing IISRP forecast); Joint Respondents' Prehearing Brief at 10 (citing ***).

¹⁰³ CR/PR at Tables IV-12 and C-1. In the merchant market, apparent U.S. consumption followed a similar trend. It decreased by *** percent from 2019 to 2020, decreasing from *** pounds in 2019 to *** pounds in 2020 before increasing by *** percent to *** pounds in 2021. Overall, between 2019 and 2021, apparent U.S. consumption in the merchant market declined by *** percent and was *** percent lower in the interim period comparison. It was *** pounds in interim 2021 and *** pounds in interim 2022. CR/PR at Tables IV-14 and C-2.

¹⁰⁴ See CR/PR at Table IV-12 and IV-14.

¹⁰⁵ CR/PR at Table IV-12. In the merchant market, the domestic industry's share was *** percent in 2019 and 2020 and *** percent in 2021. CR/PR at Table IV-14.

percent in interim 2021 and *** percent in interim 2022.¹⁰⁶ The domestic industry's production capacity increased from *** pounds in 2019 to *** pounds in 2021.¹⁰⁷

Both Lion and Goodyear are located in the Gulf region near Beaumont, Texas.¹⁰⁸ A series of events, including two hurricanes, a severe winter storm, and an explosion at a butadiene production facility next door to Lion's plant in Port Neches, Texas led to supply disruptions (including shutdowns) that affected much of the POI.¹⁰⁹ The November 2019 explosion at the Texas Petroleum Chemical ("TPC") butadiene plant closed Lion's facility for 20 days and interrupted Lion's butadiene supply for an extended time.¹¹⁰ Lion reopened its plant in December of 2019, but Lion's supply of butadiene was limited and it operated below targeted production rates from December 2019 to March 2020.¹¹¹

In March 2020, the nation's response to the COVID-19 pandemic resulted in shutdowns that impacted the economy generally and the domestic ESBR industry in particular. Goodyear ***.¹¹² Lion did not shut down, but it reported reduced demand in April and May of 2020 from the pandemic; its plant was, however, shut down in August 2020 by Hurricane Laura which also increased butadiene prices when refineries in the Gulf region shut down.¹¹³

In February 2021, Winter Storm Uri caused Lion to shut down its ESBR plant from February 15, 2021 until March 4, 2021 and declare force majeure until April 2021.¹¹⁴ The effects of Winter Storm Uri lasted into the second quarter of 2021, and Lion reports that in most cases it supplied its contracted volumes, but there also were instances when it could only supply 80 to 90 percent of the customers' contracted volumes.¹¹⁵

Goodyear reported ***. Goodyear ***.¹¹⁶

In August 2021, Hurricane Ida struck the region, causing the region to be without electricity for approximately one month and shutting down chemical producers, including Lion,

¹⁰⁶ CR/PR at Table IV-12. In the merchant market, the industry's share was *** in interim 2021 and *** percent in interim 2022. CR/PR at Table IV-14.

¹⁰⁷ CR/PR Tables III-5 and C-1.

¹⁰⁸ CR/PR at Table III-1.

¹⁰⁹ CR/PR at II-9, II-11.

¹¹⁰ CR/PR at II-9; Petitioner's Posthearing Brief Exhibit 10 attachment 1 (***).

¹¹¹ CR/PR at III-5 n.6.

¹¹² CR/PR at III-3. After March 2020, tire and automobile producers shut down facilities due to the COVID-19 pandemic, and demand for ESBR dropped by 50 percent. CR/PR at II-10. ***. CR/PR at Table G-2.

¹¹³ CR/PR at II-9 and V-2; Joint Respondents' Prehearing Brief at 17 and Exhibit 21.

¹¹⁴ CR/PR at II-9.

¹¹⁵ CR/PR at II-10.

¹¹⁶ CR/PR at II-9 to II-10.

in the area.¹¹⁷ Lion, however, reports that it was able to supply the vast majority of its customers from its inventories of ESRB despite these events affecting its operations.¹¹⁸

There have been multiple disruptions in the supply of butadiene during the POI which affected Lion's operations because butadiene is the primary raw material for production of ESRB.¹¹⁹ While the most significant was the aforementioned TPC plant explosion in 2019, Winter Storm Uri in February 2021 and Hurricane Ida in August 2021 also impacted butadiene production in the Gulf region.¹²⁰ Lion indicates that it never ran out of butadiene, but Michelin notes that ***.¹²¹ Lion acknowledged placing customers on allocation in 2021, in part, because it lacked the butadiene needed for ESRB production.¹²²

Numerous purchasers reported problems with the supply of ESRB from the domestic producers.¹²³ Purchasers *** all reported supply problems and limited availability of ESRB in 2021.¹²⁴ Numerous firms that reported purchasing ESRB from the subject countries cited

¹¹⁷ CR/PR at II-11 and II-11 n.33.

¹¹⁸ See Lion's Posthearing Brief, Exhibit 1 at 12-14. Lion acknowledged that it placed customers on allocation from February through April 2021, in part, because it lacked butadiene. Hearing Tr. at 77 (Rikhoff). Lion reported 60-70 percent of its contract customers were on allocation in April 2021. Hearing Tr. at 79 (Rikhoff).

¹¹⁹ CR/PR at II-11 and V-1.

¹²⁰ See Joint Respondents' Posthearing Brief, Exhibit 1 at 36-38. Butadiene producers in the Gulf, such as Shell, shut down operations in advance of the hurricane. Joint Respondents' Prehearing Brief at 18 and Exhibits 26 and 27. Further, Lyondell and ExxonMobil reported the effects of fires on their butadiene production in 2019 and 2021. CR/PR at II-11; Joint Respondents' Posthearing Brief, Exhibit 1 at 36-38. Although butadiene producer TPC has filed for bankruptcy, Lion expects butadiene production to hit a 30-year high in 2022. CR/PR at II-9 and II-10.

¹²¹ Hearing Tr. at 24 (Ballard); CR/PR at II-10 n.27; Michelin's Posthearing Brief at 3-4.

¹²² Hearing Tr. at 77 (Rikhoff) (“{D}uring the month of February, Winter Storm Uri occurred February 14th. Through the month of February we met 100 percent of their forecasted demand that they provided through that period. Through April we did place customers, as I noted earlier, we did place customers on an allocated volume. We did not have enough volume to assure we could provide material to everyone because we were going to be short on butadiene during that period of time. We knew that because a significant number of butadiene producers were down.”) See also Petitioner's Posthearing Brief Exhibit 10, attachment 1 ***.

¹²³ CR/PR at II-9. Firms reported a limited supply ESRB and crises in the availability of butadiene. CR/PR at II-12 to II-13.

¹²⁴ Joint Respondents' Posthearing Brief, Exhibit 1 at 12-13. Citing to questionnaire responses of U.S. purchasers and the Commission's hearing, Joint Respondents note as follows, “how their purchasing patterns reflect the ‘long shadow’ of supply disruptions, and in particular, Winter Storm Uri:

- Commission Staff highlighted purchasers' view ‘that winter storm Uri caused U.S. producers to have supply problems for 4 to 7 months in 2021, and that in August 2020 Lion shut down because of a hurricane.’

- *** explained that ***.

supply, availability, or domestic production issues as the reason they purchased imports.¹²⁵ In addition, most responding purchasers (16 of 24) reported that they intentionally source ESBR from multiple sources for purposes of ensuring availability.¹²⁶

More than half of the responding purchasers (12 of 21) reported that they had experienced supply constraints with the domestic producers during the POI before the filing of the petitions in November 2021.¹²⁷ Only 3 of 21 purchasers reported supply constraints with domestic producers after the filing of the petitions.¹²⁸

During the POI, cumulated subject imports were the second largest source of supply to the U.S. market. Their market share increased in the three full years of the POI, was lower in interim 2022 than in interim 2021, and ended the POI at the same level as it began. Specifically, cumulated subject imports' share of apparent U.S. consumption in the total market increased from *** percent in 2019 to *** percent in 2020 and to *** percent in 2021.¹²⁹ Their share was *** percent in interim 2021 and *** percent in interim 2022.¹³⁰ The vast majority of responding purchasers indicated that they had not experienced supply constraints during the POI, before or after the filing of the petitions, with respect to imports from either subject country. Twelve of 13 responding purchasers reported they had not experienced supply constraints with respect to subject imports from Czechia and 15 of 16 purchasers indicated that they had not for subject imports from Russia.¹³¹

-
- *** cited ***.'
 - *** cited ***.
 - *** , which *** , pointed to a '****' (i.e., without specifying a specific period within the year) '***' .
 - After informing *** that the company was going off allocation on ***, ***, leading the purchaser to, for the first time, source ESBR from Russia for use in tires. In the preliminary phase of the investigation, *** reported to the Commission that it purchased subject ESBR '***' .
 - At the Hearing, Mr. Prior of Michelin stated that the 'interruptions, the tension absolutely continue{d}' from May through November 2021."

Joint Respondents' Posthearing Brief, Exhibit 1 at 12-13 (internal citations omitted).

¹²⁵ See CR/PR at Table V-13 (narratives of ***).

¹²⁶ CR/PR at II-11.

¹²⁷ CR/PR at II-9. In contrast, as noted below, most responding purchasers reported they had not experienced supply constraints for imports from Czechia (12 of 13), and imports from Russia (15 of 16).

¹²⁸ CR/PR at II-9.

¹²⁹ CR/PR at Table IV-12. In the merchant market, their share increased from *** percent in 2019 and 2020 and to *** percent in 2021. CR/PR at Table IV-14.

¹³⁰ In the merchant market, their share was lower at *** percent in interim 2022 than *** percent in interim 2021. CR/PR at Table IV-14.

¹³¹ CR/PR at II-9.

In April 2022, the President suspended normal trade relations with Russia, and ESBR from Russia became subject to 20 percent duties.¹³² The duties increased to 35 percent in July 2022.¹³³

Nonsubject imports were the third largest source of supply to the U.S. market throughout the POI; their market share increased in each year of the period. Specifically, nonsubject imports' share of apparent U.S. consumption in the total market increased from *** percent in 2019 to *** percent in 2020 and to *** percent in 2021.¹³⁴ Their share was *** percent in interim 2021 and *** percent in interim 2022.¹³⁵ Taiwan, Mexico, Spain, and China were the largest sources of nonsubject imports during the POI, accounting for almost two-thirds of nonsubject imports during 2021.¹³⁶ Nonsubject imports from Brazil, Korea, Mexico, and Poland have been subject to antidumping duty orders since September 2017.¹³⁷ ESBR from China has been subject to duties pursuant to Section 301 of the Trade Act of 1974 since September 24, 2018.¹³⁸

4. Substitutability and Other Conditions

The record indicates that ESBR from different sources is highly substitutable when made to the same IISRP grades.¹³⁹ However, factors such as the limited availability of grades from different sources and supply constraints reduced the overall degree of substitutability between subject imports and the domestic like product during the POI.¹⁴⁰

¹³² CR/PR at I-8.

¹³³ CR/PR at I-8.

¹³⁴ CR/PR at Table IV-12. Nonsubject imports' share of apparent U.S. consumption in the merchant market decreased from *** percent in 2019 to *** percent in 2020 and then increased to *** percent in 2021. Their share was *** percent in interim 2021 and *** percent in interim 2022. CR/PR at Table IV-14.

¹³⁵ CR/PR at Table IV-12.

¹³⁶ CR/PR at II-8.

¹³⁷ CR/PR at II-2, VII-26. See *Emulsion Butadiene-Styrene from Brazil, Korea, Mexico, and Poland*, Inv. Nos. 731-TA-1334-1337, USITC Pub. 4717 (August 2017).

¹³⁸ CR/PR at II-2; Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 47,974 (Sept. 21, 2018). The initial duties of 10 percent increased to 25 percent as of June 1, 2019. See Petition at 6 (citing Implementing Modification to Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 84 Fed. Reg. 21,892 (May 15, 2019)).

¹³⁹ CR/PR at II-15.

¹⁴⁰ CR/PR at II-15 to II-16. Two purchasers reported that *** was not available from Lion and one purchaser reported that *** ESBR was not available from Goodyear. CR/PR at II-20. Customers were reporting that Lion was terminating its production of grade 1712 by August 2021. Hearing Tr. at 144-145 (Rybalov).

Both responding domestic producers and a majority of purchasers reported that the domestic like product and subject imports from each country were always or frequently interchangeable.¹⁴¹ In response to questions concerning the significance of non-price differences between ESBR from different sources, one domestic producer reported there were *** important differences and the other indicated there were *** such differences.¹⁴² Purchasers and importers generally reported that non-price differences are sometimes important.¹⁴³ Most purchasers also reported that the domestic product and subject imports from Czechia are comparable with respect to 14 of 17 purchase factors and that the domestic product and subject imports from Russia are comparable with respect to 12 of 17 purchase factors.¹⁴⁴ In view of this record, we find that there is a moderate-to-high degree of substitutability between the domestic like product and subject imports.¹⁴⁵

We find that while price is an important factor in purchasing decisions for ESBR, non-price factors such as availability, reliability of supply, quality and product consistency are also important.¹⁴⁶ Responding purchasers cited quality, availability, and price most frequently as being among the top three factors influencing their purchasing decisions.¹⁴⁷ Availability was most frequently cited as being among the three most important purchasing factors.¹⁴⁸ While price was a factor that many responding purchasers cited as being very important to their purchasing decisions, a greater number of purchasers cited availability, reliability of supply, product consistency, and quality meets industry standards as very important purchasing factors.¹⁴⁹ Half of the responding purchasers (11 of 22) reported that they sometimes purchase the lowest-priced product, ten purchasers reported that they usually purchase the lowest priced product, and one reported that it never purchases the lowest-priced ESBR.¹⁵⁰ ESBR is

¹⁴¹ CR/PR at Table II-13. Importers reported somewhat less interchangeability for the domestic product and subject imports from Russia. CR/PR at Table II-13.

¹⁴² CR/PR at Table II-15.

¹⁴³ CR/PR at Table II-15.

¹⁴⁴ CR/PR at Table II-10.

¹⁴⁵ CR/PR at II-16.

¹⁴⁶ CR/PR at Table II-7.

¹⁴⁷ Twenty-three firms ranked availability as being among the top three factors influencing their purchasing decisions. Nineteen firms ranked price as being among the top three factors influencing their purchasing decisions. CR/PR at Table II-6. Six firms ranked availability the first most important factor and 13 firms ranked quality the first most important factor. CR/PR at Table II-6. Only one firm ranked price the first most important purchasing factor. CR/PR at Table II-6.

¹⁴⁸ CR/PR at Table II-6.

¹⁴⁹ CR/PR at Table II-7.

¹⁵⁰ CR/PR at II-18.

mostly sold from inventory, with lead times averaging *** days for domestic producers and *** days for importers' inventories of the subject merchandise.¹⁵¹

Domestic producers reported selling the *** of their ESBR pursuant to annual contracts.¹⁵² Most subject imports were sold through short-term contracts or on the spot market.¹⁵³ Both domestic producers' sales contracts are ***.¹⁵⁴ Their contract prices adjust based on changes in these indices quarterly or monthly, but contracts generally are not ***.¹⁵⁵

Conversion prices are a portion of the ESBR price that is negotiated with purchasers annually and that is not indexed to raw material prices.¹⁵⁶ Lion indicates that it expects its conversion prices to cover the cost of inputs other than styrene and butadiene, including certain other raw material costs, fixed overhead, and labor costs, in addition to profit margins.¹⁵⁷

The main raw materials used to produce ESBR are butadiene and styrene, with butadiene accounting for the majority of raw material costs.¹⁵⁸ Butadiene accounts for approximately 75 percent of ESBR by weight and is the primary driver of ESBR pricing.¹⁵⁹ As noted earlier, butadiene production was interrupted by a series of shutdowns during the POI.¹⁶⁰ Butadiene prices reflected the problems with the supply of butadiene, fluctuating a great deal during the POI.¹⁶¹ Butadiene prices fell during 2019 to mid-2020 to \$*** per pound; they increased to \$*** per pound in September 2021, declined thereafter until the end of 2021,

¹⁵¹ CR/PR at II-19. U.S. producers reported that *** percent of their commercial shipments were sold from inventories, with lead times averaging *** days. The remaining *** percent of their commercial shipments were produced-to-order, with lead times averaging *** days. Most commercial shipments of imports from subject countries (*** percent) were sold from U.S. inventories, with lead times ranging from 2 to 30 days. The remaining *** percent of importers commercial shipments were sold from foreign inventories, with lead times ranging from 50 to 70 days. *Id.*

¹⁵² CR/PR at V-6, Table V-3.

¹⁵³ CR/PR at Table V-3. Intertex indicates that its ***. Joint Respondents' Posthearing Brief, Exhibit 1 at 1-2. Synthos sells by ***. See Synthos' U.S. Importer Questionnaire Response at III-6; Joint Respondents' Posthearing Brief, Exhibit 14.

¹⁵⁴ CR/PR at V-8.

¹⁵⁵ CR/PR at V-7 to V-8. Respondents noted that because firms mainly sell from inventories, there is a price difference between the monomer price at the time of ESBR production and the monomer price when the ESBR is ultimately sold. CR/PR at V-9.

¹⁵⁶ Lion indicated that its conversion prices are negotiated with purchasers at the end of the year and are then fixed for the year. Goodyear reported ***. See CR/PR at V-8 & Table V-4; Hearing Tr. at 89-90 (Rikhoff); Goodyear Producer QR at IV-2d.

¹⁵⁷ CR/PR at V-8.

¹⁵⁸ CR/PR at V-1.

¹⁵⁹ CR/PR at V-1, V-1 n.2.

¹⁶⁰ CR/PR at II-11.

¹⁶¹ CR/PR at Table V-1; Fig. V-1.

before increasing again until the end of the POI for an overall increase of *** percent over the POI.¹⁶² Total raw materials accounted for *** percent of the domestic industry's total cost of goods sold ("COGS") for ESBR production in 2019, *** percent in 2020, *** percent in 2021, and *** percent in interim 2022, compared to *** percent in interim 2021.¹⁶³

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."¹⁶⁴

The volume of cumulated subject imports decreased from 31.8 million pounds in 2019 to 28.6 million pounds in 2020, and then increased to 47.7 million pounds in 2021, a level 50.0 percent greater than in 2019.¹⁶⁵ Their volume was 21.5 million pounds in interim 2021 and 12.6 million pounds in interim 2022.¹⁶⁶

U.S. importers' U.S. shipments of cumulated subject imports decreased from 32.1 million pounds in 2019 to 25.9 million pounds in 2020, and then increased to 43.4 million pounds in 2021, a level 35.4 percent higher than in 2019.¹⁶⁷ Their volume was 16.9 million pounds in interim 2021 and 15.1 million pounds in interim 2022.¹⁶⁸

Cumulated subject imports' share of apparent U.S. consumption in the total market increased from *** percent in 2019 to *** percent in 2020 and to *** percent in 2021, a level *** percentage points higher than in 2019.¹⁶⁹ Their share was *** percent in interim 2021 and *** percent in interim 2022.¹⁷⁰

In light of the foregoing, we find that the volume of cumulated subject imports both in absolute terms and relative to consumption in the United States, and the increase in that

¹⁶² See CR/PR at Fig. V-1, Table V-1.

¹⁶³ CR/PR at Table VI-1.

¹⁶⁴ 19 U.S.C. § 1677(7)(C)(i).

¹⁶⁵ CR/PR at Table IV-2.

¹⁶⁶ CR/PR at Table IV-2.

¹⁶⁷ CR/PR at Tables IV-12 and C-1.

¹⁶⁸ CR/PR at Tables IV-12 and C-1.

¹⁶⁹ CR/PR at Tables IV-12 and C-1. As further discussed below, nearly all of the gain in market share by cumulated subject imports in the total market (and all of the gain in the merchant market) occurred between 2020 and 2021. Nevertheless, we do not find that the volume of cumulated subject imports between 2020 and 2021 had significant price effects on the domestic industry, as discussed in detail below.

¹⁷⁰ CR/PR at Tables IV-12 and C-1. Cumulated subject imports' share of apparent U.S. consumption in the merchant market increased from *** percent in 2019 and 2020 to *** percent in 2021, a level *** percentage points higher than in 2019. Their share in the merchant market was *** percent interim 2021 and *** percent in interim 2022. CR/PR at Tables IV-14 and C-2.

volume in absolute terms, are significant.^{171 172} For reasons discussed below, however, we do not find that cumulated subject imports had either significant price effects or a significant adverse impact on the domestic industry.

D. Price Effects of the Subject Imports

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

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

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.¹⁷³

As addressed in section V.B.4., the record indicates that there is an overall moderate-to-high degree of substitutability between the domestic like product and subject imports (and a high degree of interchangeability for ESBR of the same IISRP grade), and that while price was a factor that many responding purchasers cited as being very important to their purchasing decisions, a greater number of purchasers cited availability, reliability of supply, product consistency, and quality meets industry standards as very important purchasing factors.

The Commission collected quarterly pricing data from both U.S. producers and five importers for four grades (1502, 1507, 1712, and 1783) of ESBR shipped to unrelated customers during the POI.¹⁷⁴ Pricing data reported by these firms accounted for *** percent of domestic

¹⁷¹ Commissioners Schmidlein and Kearns also find the increase in the volume of cumulated subject imports relative to consumption in the United States is significant. Chairman Johanson and Commissioner Karpel do not find any increase in the volume of cumulated subject imports relative to consumption is significant.

¹⁷² Cumulated subject imports relative to U.S. production increased from *** percent in 2019 to *** percent in 2020 and to *** percent in 2021, a level *** percentage points greater than in 2019. The ratio was *** percent in interim 2021 and *** percent in interim 2022. CR/PR at Table IV-2.

¹⁷³ 19 U.S.C. § 1677(7)(C)(ii).

¹⁷⁴ CR/PR at V-11. The four pricing products are:

Product 1. -- IISRP 1502 grade of ESBR in all forms;

Product 2. -- IISRP 1507 grade of ESBR in all forms;

Product 3. -- IISRP 1712 grade of ESBR in all forms; and

Product 4. -- IISRP 1783 grade of ESBR in all forms.

CR/PR at V-9. Grades 1502 and 1783 are used in tire production. CR/PR at I-15; Hearing Tr. at 173 (Dortch), 229 (Kendler).

producers' commercial U.S. shipments of domestically produced ESRB, all U.S. commercial shipments of subject imports from Czechia and *** U.S. commercial shipments of subject imports from Russia in 2021.¹⁷⁵ The majority of the pricing data volume, both for the domestic product and the subject imports, consisted of prices for product 1, grade 1502 ESRB.¹⁷⁶

The price comparison data show that quarters in which there was underselling accounted for *** percent of the reported volume of cumulated subject import sales (*** pounds), and quarters in which there was overselling accounted for *** percent of the reported volume of cumulated subject import sales (*** pounds).¹⁷⁷ Subject imports undersold the domestic like product in 45 of 80 quarterly comparisons, or 56.2 percent of the time, at margins ranging between *** and *** percent, and averaging *** percent,¹⁷⁸ and oversold the domestic like product in 35 of 80 quarterly comparisons, or 43.8 percent of the time, at margins ranging between *** and *** percent, and averaging *** percent.¹⁷⁹

Thus, in terms of volume, the majority of subject imports oversold the domestic like product, although they undersold the domestic like product in the majority of quarterly comparisons; margins of overselling were slightly higher than margins of underselling. The record also shows that most of the underselling during the POI occurred during 2019 and 2020, while in 2021 and interim 2022 the subject imports mostly oversold the domestic like product.¹⁸⁰

Cumulated subject imports gained *** percentage points between 2019 and 2021 (*** percentage points gain in the merchant market). *** of the gain in market share by subject imports in the total market (*** percentage points) – and *** the gain in the merchant market

¹⁷⁵ CR/PR at V-11. One domestic producer and certain importers consumed the ESRB they produced or imported. Accordingly, pricing data accounted for approximately *** percent of U.S. producers' total U.S. shipments of ESRB and *** percent of ESRB imports from Czechia, and *** percent of ESRB imports from Russia in 2021. CR/PR at V-11.

¹⁷⁶ See CR/PR at Table V-9. Grade 1502 ESRB is used predominantly, but not exclusively, for tire manufacture. CR/PR at I-15; Hearing Tr. at 152 (Layton), 176-77 (Rybalov), 175, 229 (Kendler).

¹⁷⁷ CR/PR Table V-10.

¹⁷⁸ CR/PR at Table V-10.

¹⁷⁹ CR/PR at Table V-10.

¹⁸⁰ CR/PR at Table V-11. We note that, of particular significance to the market share shifts discussed below, shipments of subject imports from Russia *** the domestic like product in *** quarters in 2021 and interim 2022 for pricing product 1, and in *** quarters in 2021 and interim 2022 for pricing product 3 (Russian prices were reported for only these two pricing products). CR/PR at Tables V-5 and Table V-7.

We recognize that U.S. importers' U.S. shipments of subject imports from Czechia undersold the domestic product in some quarters of the 2021/interim 2022 period, while overselling in other quarters. CR/PR at Tables V-5 to V-8. However, subject imports from Czechia *lost* U.S. market share continuously through the POI, including through 2021 and interim 2022, in both the total and merchant markets.

– occurred between 2020 and 2021, and is attributable to an increase in subject imports from Russia (as the market share of subject imports from Czechia decreased throughout the POI, both in the total and merchant markets).¹⁸¹ As subject imports from Russia gained market share in 2021, subject imports from Russia oversold the domestic like product in each quarter of 2021, and the average unit values (“AUVs”) of these shipments steadily increased in each quarter, for both pricing products for which shipments of U.S. imports from Russia were recorded (*i.e.*, pricing products 1 and 3).¹⁸²

Petitioner argues that there is a causal nexus between “low Russian prices” and “captured” U.S. market share and points specifically to prices for subject imports from Russia in the spot market.¹⁸³ In this context, the Commission requested and considered the pricing data for spot sales provided by Petitioner and by Synthos, the second largest importer of ESBR from Czechia, and Intertex, the largest importer of ESBR from Russia.¹⁸⁴ These data indicate that spot sales of the subject imports from Russia were priced lower than spot sales of the domestic product during the second and third quarters of 2021 and the second quarter of 2022, in addition to often being lower-priced in 2019 and 2020.¹⁸⁵ Importantly, however, we note that pricing data for these spot sales are included within the pricing data detailed in Section V of the Confidential Report, and therefore are taken into account as part of our underselling analysis review above. The spot sales data account for a relatively small portion of the domestic producers’ sales. Lion reported making only *** percent of its 2021 sales on the spot market.¹⁸⁶ Lion’s spot market sales of pricing product 1 during 2021 accounted for only *** percent of the reported sales by the domestic producers of this product in the complete pricing data during 2021.¹⁸⁷ Therefore, to the degree that subject imports were priced lower than the domestic like product in certain quarters of 2021 in the spot market, it was only a small fraction of the domestic industry’s total shipments during that year; as reviewed above, the vast

¹⁸¹ CR/PR at Tables C-1 and C-2.

¹⁸² CR/PR at Table V-5 and Table V-7.

¹⁸³ Petitioner’s Posthearing Brief at 8-10.

¹⁸⁴ See CR/PR at V-11 n.36 and Tables IV-1 and H-3 to H-6.

¹⁸⁵ See CR/PR at Table H-3 to H-6. Spot sales of subject imports from Czechia also undersold the domestic like product during the second and third quarters of 2021 as well as in the first quarter of 2021 for pricing product 2. *Id.* The volumes associated with these sales were small and as noted, associated with a decrease in the market share of subject imports from Czechia.

¹⁸⁶ Lion’s U.S. Producer Questionnaires at IV-6.

¹⁸⁷ *Calculated from* CR/PR at Tables V-5 and H-3. We note that U.S. importer *** reported spot prices for its shipments of subject imports from Russia only for pricing products 1 and 3. In 2021, *** shipments of subject imports from Russia of pricing product 3 were *** than the domestic product in the spot market in each quarter of that year. CR/PR at Tables H-3 and H-5.

majority of U.S. producers' U.S. shipments in 2021 were oversold by subject imports.¹⁸⁸ The spot market data also do not include any pricing data provided by Goodyear or by any U.S. importer of subject imports from Russia aside from ***. For these reasons, we find that the complete pricing dataset is the most probative information on the record regarding price competition by subject imports.^{189 190}

The lost sales and lost revenue data are not significant. Although Petitioner accounts for the majority of commercial sales of ESRB in the market, it did not submit any lost sales or lost revenue allegations.¹⁹¹ The Commission nevertheless sent lost sales and lost revenues surveys to 58 purchasers in the final phase of these investigations, and 24 purchasers responded. Ten of 24 purchasers reported purchasing subject imports instead of the domestic product. Five of these purchasers reported that subject import were priced lower than the domestic.¹⁹² Two of these purchasers reported that price was a primary reason for the decision to purchase *** pounds of ESRB imported from Russia rather than domestically priced ESRB.¹⁹³ These confirmed lost sales represent only a tiny fraction – *** percent of the *** pounds – of the

¹⁸⁸ As noted, in 2021, subject imports gained *** percentage points of U.S. market share. This accounts for the large majority of the total market share gain by subject imports between 2019 and 2021 (*** percentage points). All of the market share gain in 2021 was attributable ***. CR/PR at Table C-1.

Moreover, in light of the production and supply challenges faced by the domestic industry during 2021 reviewed above, we find that any shift in market share that could be attributable to lower priced imports from Russia in the spot market was not significant.

¹⁸⁹ The record indicates that spot prices for ESRB typically are below contract prices, but spot prices were above contract prices in 2021, suggesting novel market conditions at times during 2021. Hearing Tr. at 56, 121 (Rikhoff). As noted, both domestic producers faced supply constraints during 2021 as a result of Winter Storm Uri, and butadiene prices rose rapidly during much of the year before falling. See CR/PR at Fig. V-1.

¹⁹⁰ Petitioner did not request that the Commission include separate spot market data for pricing products in the Commission's questionnaires, so spot market pricing data were not supplied until the posthearing briefs; therefore, to a greater extent than pricing product comparisons reported elsewhere, the precision and variation of these figures may be affected by rounding, limited quantities, and firm estimates, nor has it been subjected to the Commission's usual reconciliation processes for ensuring the accuracy of pricing product data. See CR/PR at V-11 n.36. For these reasons, in addition to those discussed above, we do not accord the available spot price comparisons in Appendix H as much weight as we would have if the spot prices were timely collected as an individual pricing product.

¹⁹¹ CR/PR at V-22. Nor did Petitioner supplement the record with persuasive documentation of pricing pressure or lost sales. Hearing Tr. at 122-123 (Pickard, Rikhoff). See also Petitioner's Posthearing Brief at 6-7.

¹⁹² CR/PR at Table V-13. We also note that purchasers either reported that domestically produced ESRB was either comparable to the subject imports with respect to price or superior (lower-priced). CR/PR at Table II-10.

¹⁹³ See CR/PR at Table V-12 and V-13.

reported purchases of subject imports during the POI.¹⁹⁴ Further, several purchasers cited supply-related reasons for their purchases of subject imports.¹⁹⁵ None of the 24 responding purchasers reported that domestic producers had reduced their prices to compete with lower priced subject imports.¹⁹⁶ Based on the volume of underselling over the POI, the increase in overselling at the end of the POI that coincided with reported domestic supply constraints, and the very limited volume of confirmed lost sales, we do not find that there has been significant underselling by cumulated subject imports during the POI. As further discussed in section V.E. below, we find that, to the degree subject imports undersold the domestic product, it did not materially contribute to a gain in U.S. market share.

We have also examined price trends over the POI. The domestic producers' sales prices fluctuated but increased overall for all four pricing products.¹⁹⁷ Their sales prices for pricing products 1, 2, 3, and 4 increased by *** percent, *** percent, *** percent, and *** percent, respectively, over the POI.¹⁹⁸ The sales prices for imports from each subject country likewise increased overall by generally comparable amounts for each pricing product for which data are available.¹⁹⁹

Petitioner contends that the industry's conversion prices, a component of its total prices that is negotiated with purchasers, declined over the POI and were depressed due to subject import competition, even if the industry's sales prices for ESR increased because of increasing butadiene prices.²⁰⁰ However, while data reported by domestic producers show conversion prices declining over the POI,²⁰¹ there is a lack of record evidence to show a causal link between

¹⁹⁴ CR/PR at V-24. The *** pounds of the subject imports from Russia are equivalent to only *** percent of the *** pounds of subject imports the purchasers reported purchasing. See CR/PR at Table V-12 and V-13.

¹⁹⁵ See CR/PR at Table V-13.

¹⁹⁶ CR/PR at V-27. We also note that in both the total market and the merchant market the unit value of subject imports was higher than the unit value of domestically produced product throughout the POI, except that in 2019 they had equal unit values in the total market. CR/PR at Tables C-1 and C-2. While AUVs may be influenced by product mix issues, these data do not contradict other evidence that subject import prices often exceeded domestic industry prices particularly later in the POI.

¹⁹⁷ CR/PR at Table V-9.

¹⁹⁸ CR/PR at Table V-9.

¹⁹⁹ CR/PR at Table V-9. There were no shipments of product 2 or product 4 from Russia. *Id.*

²⁰⁰ Petitioner's Posthearing Brief, Exhibit 1 at 38-39, 40-42; Petitioner's Final Comments at 4-5. As noted above, the two domestic producers report different measures of conversion price. CR/PR at V-8.

²⁰¹ For domestic producer Lion, the reported conversion price *** over the full POI. Lion's reported conversion price *** per pound in 2020 and *** per pound in 2021, before *** in the first and second quarters of 2022; for domestic producer Goodyear, the reported conversion price *** over the

these declines and subject imports. Petitioner cites purchaser documentation, specifically, two “Weekly Flash Sales Reports” and email correspondence, in support of its contention, however, this limited documentation does not reference subject imports.²⁰² Additionally, as noted above, none of the 24 responding purchasers reported that domestic producers had reduced their prices to compete with lower priced subject imports.²⁰³ In view of this and the overall increases in ESBR prices over the POI, we do not find that cumulated subject imports depressed prices for the domestic like product to a significant degree.

Nor do we find that cumulated subject imports prevented price increases which otherwise would have occurred to a significant degree. The domestic industry’s COGS-to-net sales ratio increased overall during the POI, increasing from *** percent in 2019 to *** percent in 2020, before declining to *** percent in 2021.²⁰⁴ The ratio was *** percent in interim 2021 and *** percent in interim 2022.²⁰⁵ Notwithstanding the increase in this ratio from 2019 to 2021, we do not find that subject imports prevented price increases that otherwise would have occurred to a significant degree.

First, factors other than subject imports likely account for the changes in the domestic industry’s COGS-to-net sales ratio during the period. In 2020, when shipments of cumulated subject imports declined *** percent, the domestic industry’s COGS-to-net sales increased *** percentage points compared to 2019.²⁰⁶ During 2020, as a result of the COVID-19 pandemic, there was a *** percent decline in apparent U.S. consumption compared to 2019. This sharp drop in apparent U.S. consumption is more likely to account for the weakness in the domestic industry’s prices than subject imports which declined in 2020.

In 2021, the domestic industry’s COGS-to-net sales ratio declined *** percentage points from 2020 when shipments of cumulated subject imports increased *** percent and subject

full POI, *** in the first quarter of 2019 through the fourth quarter of 2020, before *** per pound in the first and second quarters of 2022, respectively.

²⁰² See Petitioner’s Posthearing Brief at 6-7 and Exhibits 2, 4, and 5. While some customers note “competitors” and “imports” as affecting prices or that Lion’s prices were highest on the relevant call, none specifically reference *subject* imports. Thus, we are unpersuaded that this documentation demonstrates price depression or suppression by reason of subject imports.

²⁰³ CR/PR at V-27.

²⁰⁴ CR/PR at Table VI-1. The domestic industry’s COGS-to-net sales ratio based on merchant market operations increased from *** percent in 2019 to *** percent in 2020, before declining to *** percent in 2021. The ratio was *** percent in interim 2021 and *** percent in interim 2022. CR/PR at Table VI-4.

²⁰⁵ CR/PR at VI-1.

²⁰⁶ CR/PR at Table C-1. The market share of the subject imports held steady at *** percent in the merchant market from 2019 to 2020 though it increased in the total market by *** percentage points during that period. CR/PR at Tables C-1 and C-2.

imports increased their share of the total market and merchant market.²⁰⁷ During 2021 demand rebounded from the effects of the pandemic and apparent U.S. consumption increased by *** percent in the total market.²⁰⁸ In interim 2022, the domestic industry's COGS-to-net sales ratio was again lower as apparent U.S. consumption increased modestly and subject imports were lower.²⁰⁹ Thus, it appears more likely that trends in demand, rather than subject imports, account for changes in the domestic industry's COGS-to-net sales ratio during the POI.²¹⁰

Second, in periods when the domestic industry faced increasing costs during the POI, it was able to increase its prices for ESBP to cover its increasing costs.²¹¹ More specifically, the domestic industry's raw material costs and COGS increased from 2020 to 2021 and were higher in interim 2022 than in interim 2021,²¹² but notwithstanding the presence of the subject imports in the market, the domestic industry was able to increase its net sales values and commercial sales values by a greater amount than the increase in its unit raw material costs

²⁰⁷ CR/PR at Table VI-1. Subject imports gained *** percentage points in the merchant market and *** percentage points in the total market in 2021 compared to 2020. CR/PR at Tables C-1 and C-2.

²⁰⁸ CR/PR at Table C-1. Apparent U.S. consumption increased by *** percent in the merchant market.

²⁰⁹ Apparent U.S. consumption was *** higher in interim 2022 than in interim 2021, and shipments of subject imports were *** percent lower. In interim 2022, the domestic industry's COGS-to-net sales ratio was *** percentage points lower in the total market and *** percentage points lower in the merchant market than in interim 2021. CR/PR at Tables C-1 and C-2.

²¹⁰ Although the preliminary phase of the investigations included data for 2018, the import data were based on different questionnaire data and ESBP from Italy was subject to the investigation. To the extent that Petitioner only asks the Commission to consider 2018 financial data, in particular the industry's COGS-to-net sales ratio, as reported in the preliminary phase as context for evaluating the industry's COGS-to-net sales ratio over the POI, we have considered 2018 information, but do not find it persuasive in establishing that subject imports suppressed domestic producer price increases to a significant degree. Although the industry's COGS-to-net sales ratio reported in the preliminary phase of the investigations was higher in 2019 than 2018, apparent U.S. consumption fell *** percent in 2019 relative to 2018 and the industry's raw material costs and COGS were lower in 2019 than 2018. See Memorandum INV-TT-14 (Dec. 22, 2021) at Tables VI-1 and C-1. We would not normally expect the domestic industry to be able to increase its prices in an environment of weakening demand and declining costs.

²¹¹ See CR/PR at Tables VI-1 and VI-4.

²¹² The industry's costs declined overall from 2019 to 2020. From 2019 to 2020 in the total market, the domestic industry's raw material costs declined from \$*** per pound to \$*** per pound and its COGS fell from \$*** per pound to \$*** per pound. CR/PR at Table VI-1. From 2019 to 2020 in the merchant market, the domestic industry's raw material costs declined from \$*** per pound to \$*** per pound and its COGS fell from \$*** per pound to \$*** per pound. CR/PR at Table VI-4.

and unit COGS.²¹³ Thus, the record shows that although the industry's COGS-to-net sales ratio increased overall during the first three years of the POI, the domestic industry was able to increase its per unit sales prices to cover its increased unit costs.

Third, of the 24 responding purchasers in the final phase of these investigations, none reported that U.S. producers had reduced prices in order to compete with lower-priced imports from Czechia or Russia.²¹⁴ In addition, as referenced above, Petitioner did not present any lost sales or lost revenue allegations in the preliminary phase of these investigations, nor did Petitioner supplement the record with persuasive documentation of pricing pressure by, or lost sales to, subject imports.

We also have considered Petitioner's argument that domestic producers' declining conversion price from 2019 to 2021 demonstrates that subject imports prices were suppressed.²¹⁵ However, the record shows that the largest decline in Lion's conversion price during the POI (***) was from 2019 to 2020 when subject imports and demand declined.²¹⁶ Likewise for Lion's sales of grade 1502, the largest volume grade, the biggest decline in Lion's conversion price during the POI was from \$*** per pound in 2019 to *** per pound in 2020.²¹⁷ From 2020 to 2021 when subject imports showed their largest increase, Lion's overall conversion price fell \$*** per pound and its conversion price for grade 1502 only fell from \$*** per pound to \$*** per pound.²¹⁸ As for Goodyear, its conversion prices fell to a period low of \$*** per pound in the fourth quarter of 2020, as subject imports and demand declined in 2020,

²¹³ From 2020 to 2021 in the total market, the domestic industry's raw material costs increased from \$*** per pound to \$*** per pound and its COGS increased from \$*** per pound to \$*** per pound. CR/PR at Table VI-1. The industry increased its net sales by a greater amount however, from \$*** per pound to \$*** per pound. CR/PR at Table VI-1.

In the merchant market the numbers were similar. From 2020 to 2021 in the merchant market, the domestic industry's raw material costs increased from \$*** per pound to \$*** per pound and its COGS increased from \$*** per pound to \$*** per pound while the industry's commercial sales values rose by a greater amount, from \$*** per pound to \$*** per pound. CR/PR at Table VI-4.

In the interim period comparison, in the total market the industry's raw materials costs and unit COGS were *** per pound and *** per pound higher, respectively, in interim 2022 than interim 2021 while the industry's net sales values were \$*** per pound higher. CR/PR at Table VI-2. In the merchant market the industry's raw materials costs and unit COGS were *** per pound and *** per pound higher, respectively, in interim 2022 than interim 2021 while the industry's commercial sales values were \$*** per pound higher. CR/PR at Table VI-5.

²¹⁴ CR/PR at Table V-15. Of these 24 purchasers, 7 reported that U.S. producers had not reduced prices, and 17 reported that they did not know regarding subject sources.

²¹⁵ Petitioner's Prehearing Brief at 33-34; Petitioner's Posthearing Brief, Exhibit 1 at 36-39.

²¹⁶ See CR/PR at Table V-4 and C-1.

²¹⁷ See Petitioner's Prehearing Brief at 34.

²¹⁸ See Petitioner's Prehearing Brief at 34.

and then increased irregularly through the fourth quarter of 2021 to ***, as subject imports and demand increased in 2021.²¹⁹ Thus, neither Lion’s nor Goodyear’s conversion price data corollate well to trends in subject import volumes. Further undermining Petitioner’s claims that the conversion price data support its claims of price suppression, is the absence of evidence that domestic producer prices would have otherwise increased as demand declined overall during the POI.

In a market where domestic (and subject imports’) prices were increasing (as reflected in the unit net sales data as well as the pricing data) but apparent U.S. consumption declined overall between 2019 and 2021, there is no compelling evidence of record that would indicate that domestic producers would have been in a position to increase sales prices even further. Accordingly, we do not find that the cumulated subject imports prevented price increases, which otherwise would have occurred, to a significant degree.²²⁰

In sum, we find that cumulated subject imports did not have significant price effects on the domestic like product during the POI.

E. Impact of the Subject Imports²²¹

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission “shall evaluate all relevant economic factors which have a bearing on the state of the industry.”²²² These factors include output, sales, inventories, capacity

²¹⁹ See CR/PR at Tables V-4 and C-1.

²²⁰ We also reject Petitioner’s argument that subject imports’ underselling in 2020 “locked in” injurious pricing in contracts for 2021. See Petitioner’s Posthearing Brief at 5-7. As explained, the record indicates that ESBR prices increased in 2021 to a greater extent than the industry’s costs.

²²¹ The statute instructs the Commission to consider the “magnitude of the dumping margin” in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determinations, Commerce found dumping margins of 8.04 percent for subject imports from Czechia and margins ranging from 8.15 to 17.47 percent for subject imports from Russia. See CR/PR at Tables I-2 and I-3; *Emulsion Styrene-Butadiene Rubber From the Czech Republic: Final Affirmative Determination of Sales at Less Than Fair Value*, 87 Fed. Reg. 68998 (Nov. 17, 2022); *Emulsion Styrene-Butadiene Rubber From the Russian Federation: Final Affirmative Determination of Sales at Less Than Fair Value and Classification of the Russian Federation as a Non-Market Economy*, 87 Fed. Reg. 69002 (Nov. 17, 2022). We also take into account in our analysis the fact that Commerce has made final findings that all subject merchandise from Czechia and Russia is dumped. In addition to this consideration, our impact analysis has considered other factors affecting domestic prices as reviewed above.

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

utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development (“R&D”), and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”²²³

The industry’s condition weakened during the three full years of the POI, reflecting the *** percent decline in apparent U.S consumption, as well as a series of natural disasters that interfered with the industry’s ability to make and sell ESBR. Most measures of the domestic industry’s performance declined from 2019 to 2020, coinciding with a *** percent decline in apparent U.S. consumption generally due to the COVID-19 pandemic.²²⁴ As shutdowns resulting from the pandemic ended, and apparent U.S. consumption rebounded *** percent in 2021, measures of the domestic industry’s performance recovered somewhat despite the industry’s documented weather-related and other production and supply issues. The domestic industry’s condition also improved in interim 2022 period relative to interim 2021.

The domestic industry’s recovery also continued into interim 2022 when apparent U.S. consumption was higher than in interim 2021. By some measures at the end of the POI, the industry’s condition was comparable to that at the beginning of the POI, notwithstanding the impact of the COVID-19 pandemic on apparent U.S. consumption and the industry’s other challenges.²²⁵

The domestic industry’s capacity increased from *** pounds in 2019 to *** pounds in 2020 and then declined to *** pounds in 2021.²²⁶ It was *** pounds in interim 2021 and *** pounds in interim 2022.²²⁷ Its production decreased from *** pounds in 2019 to *** pounds in 2020, before increasing to *** pounds in 2021. It was higher at *** pounds in interim 2022 than *** pounds in interim 2021.²²⁸ The domestic industry’s capacity utilization followed the same trend as its production, declining from *** percent in 2019 to *** percent in 2020, and then increasing to *** percent in 2021.²²⁹ It was *** percent in interim 2021 and *** percent in interim 2022.²³⁰

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

²²⁴ CR/PR at Tables C-1 and C-2. The parties have acknowledged that the COVID-19 pandemic reduced demand for ESBR in 2020. See CR/PR at II-10 and Appendix G.

²²⁵ See CR/PR at Tables C-1 and C-2.

²²⁶ CR/PR at Tables III-5 and C-1.

²²⁷ CR/PR at Tables III-5 and C-1.

²²⁸ CR/PR at Tables III-5 and C-1.

²²⁹ CR/PR at Tables III-5 and C-1.

²³⁰ CR/PR at Tables III-5 and C-1.

The domestic industry's U.S. shipments followed a similar trend as its production. Its U.S. shipments declined from *** pounds in 2019 to *** pounds in 2020, and then increased to *** pounds in 2021.²³¹ U.S. shipments were higher at *** pounds in interim 2022 than at *** pounds in interim 2021.²³² Commercial shipments to the merchant market declined from *** pounds in 2019 to *** pounds in 2020, and then increased to *** pounds in 2021.²³³ They were *** pounds in interim 2021 and *** pounds in interim 2022.²³⁴

The domestic industry's share of apparent U.S. consumption in the total market decreased from *** percent in 2019 to *** percent in 2020 and to *** percent in 2021.²³⁵ The domestic industry's share of apparent U.S. consumption in the merchant market remained unchanged at *** percent in 2019 and 2020 and then declined to *** percent in 2021. The domestic industry primarily lost market share in both the merchant and total market in 2021. This loss of market share occurred at a time when the domestic industry suffered documented supply constraints discussed in detail above in Section V.B.3.²³⁶ By the end of the POI, its market share rebounded to 2019 levels, with the domestic industry's market share in interim 2022 reaching *** percent in the total market and *** percent in the merchant market.²³⁷

The domestic industry's end-of-period inventories fluctuated but increased overall from 2019 to 2021.²³⁸ Its end-of-period inventories as a share of total shipments decreased from 2019 to 2020, and then increased from 2020 to 2021, as it rebuilt inventories that it had drawn down during 2021 to meet sales commitments when its production operations were impaired.²³⁹

²³¹ CR/PR at Tables III-7 and C-1.

²³² CR/PR at Tables III-7 and C-1.

²³³ CR/PR at Table III-8.

²³⁴ CR/PR at Table III-8.

²³⁵ CR/PR at Table IV-12. The domestic industry's share in the total market was *** percent in interim 2021 and *** percent in interim 2022. CR/PR at Table IV-12. In the merchant market, the domestic industry's share was *** percent in 2019 and 2020 and *** percent in 2021. CR/PR at Table IV-14. In the merchant market, the domestic industry's share was *** percent in interim 2021 and *** percent in interim 2022. *Id.*

²³⁶ CR/PR at Tables IV-12, IV-14, C-1, and C-2.

²³⁷ CR/PR at Tables C-1 and C-2.

²³⁸ CR/PR at Tables III-10 and C-1. The domestic industry's end-of-period inventories decreased from *** pounds in 2019 to *** pounds in 2020 and then increased to *** pounds in 2021. CR/PR at Table C-1. They totaled *** pounds in interim 2021 and *** pounds in interim 2022. *Id.*

²³⁹ CR/PR at Tables III-10 and C-1. The domestic industry's end-of-period inventories as a share of total shipments decreased from *** percent in 2019 to *** percent in 2020, before increasing to *** percent in 2021. *Id.* The ratio was *** percent in interim 2021 and *** percent in interim 2022. *Id.*

Most of the domestic industry's employment-related indicators declined from 2019 to 2020 before improving in 2021 and in interim 2022.²⁴⁰ Hours worked and wages paid decreased irregularly from 2019 to 2021 while hourly wages increased in each year of the POI.²⁴¹ The industry's productivity decreased from 2019 to 2020 and then increased from 2020 to 2021.²⁴²

The industry's financial performance declined from 2019 to 2020, and then recovered somewhat from 2020 to 2021; it also improved in interim 2022 compared to interim 2021. The industry's net sales revenues in the total market declined from \$*** in 2019 to \$*** in 2020, and then increased to \$*** in 2021.²⁴³ They were \$*** in interim 2021 and \$*** in interim 2022. The industry's gross losses increased from \$*** in 2019 to \$*** in 2020, and then decreased to \$*** in 2021.²⁴⁴ They were \$*** in interim 2021 and \$*** in interim 2022.²⁴⁵

The industry's operating loss in the total market increased from \$*** in 2019 to \$*** in 2020, and then decreased to \$*** in 2021.²⁴⁶ Its operating loss was \$*** in interim 2021 and \$*** in interim 2022.²⁴⁷ The industry's operating loss margin in the total market increased

²⁴⁰ The industry's employment was *** PRWs in 2019, *** PRWs in 2020, and *** PRWs in 2021. CR/PR at Tables III-11 and C-1. It employed *** PRWs in interim 2021 and *** PRWs in interim 2022. *Id.*

²⁴¹ CR/PR at Tables III-11 and C-1. The industry's total hours worked decreased from *** hours in 2019 to *** hours in 2020 and then increased to *** hours in 2021. *Id.* They totaled *** in interim 2021 and *** in interim 2022. *Id.*

CR/PR at Tables III-11 and C-1. The industry's wages paid were \$*** in 2019, \$*** in 2020, and \$*** in 2021; they were \$*** in interim 2021 and \$*** in interim 2022. *Id.*

The industry's hourly wages paid to PRWs increased from \$*** in 2019 to \$*** in 2020 and to \$*** in 2021; hourly wages were \$*** in interim 2021 and \$*** in interim 2022. *Id.*

²⁴² CR/PR at Table III-11. The industry's productivity declined from *** pounds per hour in 2019 to *** pounds per hour in 2020, and then increased to *** pounds per hour in 2021; productivity was *** pounds per hour in interim 2021 and *** pounds per hour in interim 2022. *Id.*

²⁴³ CR/PR at Table VI-1. Commercial sales revenues in the merchant market declined from \$*** in 2019 to \$*** in 2020, and then increased to \$*** in 2021. They were \$*** interim 2021 and \$*** in interim 2022. CR/PR at Table VI-4.

²⁴⁴ CR/PR at Tables VI-1 and C-1.

²⁴⁵ CR/PR at Tables VI-1 and C-1. The industry's gross profits on its merchant market operations were \$*** in 2019. It reported a gross loss of \$*** in 2020, that decreased to \$*** in 2021. Its gross loss was \$*** in interim 2021 and \$*** in interim 2022. CR/PR at Tables VI-4 and C-2.

²⁴⁶ CR/PR at Tables VI-1 and C-1.

²⁴⁷ CR/PR at Tables VI-1 and C-1. The industry's operating loss on its merchant market operations increased from \$*** in 2019 to \$*** in 2020, and then decreased to \$*** in 2021. It was \$*** in interim 2021 and \$*** in interim 2022. CR/PR at Table VI-4 and C-2.

from *** percent in 2019 to *** percent in 2020, and then decreased to *** percent in 2021.²⁴⁸ It was *** percent in interim 2021 and *** percent in interim 2022.²⁴⁹

The industry's net loss increased from \$*** in 2019 to \$*** in 2020, and then decreased to \$*** in 2021.²⁵⁰ Its net income was \$*** in interim 2021 and \$*** in interim 2022.²⁵¹ The industry's net loss margin increased from *** percent in 2019 to *** percent in 2020, and then decreased to *** percent in 2021.²⁵² It was *** percent in interim 2021 and *** percent in interim 2022.²⁵³

The domestic industry's capital expenditures and R&D expenses declined irregularly from 2019 to 2021, but R&D expenses were higher in interim 2022 than interim 2021.²⁵⁴ Its return on assets declined from *** percent in 2019 to *** percent in 2020, and then increased to *** percent in 2021.²⁵⁵ *** also reported actual and anticipated negative effects on investment, growth, and development due to subject imports.²⁵⁶ However, we note that while *** negative effects of imports on the market, ***²⁵⁷

The record in the final phase of the investigations does not indicate that subject imports had a significant adverse impact on the domestic industry during the POI. We have found that

²⁴⁸ CR/PR at Tables VI-1 and C-1.

²⁴⁹ CR/PR at Tables VI-1 and C-1. The industry's operating income loss margin on merchant market operations increased from *** percent in 2019 to *** percent in 2020, and then decreased to *** percent in 2021. It was *** percent in interim 2021 and *** percent in interim 2022. CR/PR at Tables VI-4 and C-2.

²⁵⁰ CR/PR at Tables VI-1 and C-1.

²⁵¹ CR/PR at Tables VI-1 and C-1. The industry's net loss based on merchant market operations increased from \$*** in 2019 to \$*** in 2020, and then decreased to \$*** in 2021. Its net loss based on merchant market operations was \$*** in interim 2021 and \$*** in interim 2022. CR/PR at Tables VI-4 and C-2.

²⁵² CR/PR at Tables VI-1 and C-1.

²⁵³ CR/PR at Tables VI-1 and C-1. The industry's net loss margin on merchant market operations increased from *** percent in 2019 to *** percent in 2020, and then decreased to *** percent in 2021. It was *** percent in interim 2021 and *** percent in interim 2022. CR/PR at Table VI-4.

²⁵⁴ CR/PR at Table VI-7. The industry's capital expenditures decreased from \$*** in 2019 to \$*** in 2020, and then increased to \$*** in 2021; they were \$*** in interim 2021 and \$*** in interim 2022. CR/PR at Tables VI-7 and C-1.

The industry's R&D expenses decreased from \$*** in 2019 to \$*** in 2020, and then increased to \$*** in 2021; they were \$*** in interim 2021 and \$*** in interim 2022. CR/PR at Tables VI-9 and C-1.

²⁵⁵ CR/PR at Table VI-12.

²⁵⁶ CR/PR at Tables IV-14 and VI-15. The negative effects that the Petitioner describes include, among other things, ***. CR/PR at Table VI-15. As discussed in section V.D. above, the record does not indicate that the domestic industry lost a significant volume of sales due to subject import pricing, or that subject imports depressed or suppressed prices for the domestic like product to a significant degree.

²⁵⁷ CR/PR at Table VI-15.

the volume of cumulated subject imports in absolute terms and relative to consumption, and the increase in that volume in absolute terms, were significant.²⁵⁸ Nonetheless, subject imports did not cause significant price effects. As discussed above, subject import underselling generally does not correlate with a shift in market share from domestic producers to subject imports, and the record does not show significant lost sales or lost revenues to the subject imports due to low prices or that subject imports depressed or suppressed domestic producer prices. Further, as we have described above in section V.B.3 above, the domestic industry faced a series of events, such as Winter Storm Uri and Hurricane Ida, as well as a limited supply of butadiene during 2021 that caused the domestic producers to shut down or reduce production and shipments for varying periods. With domestic producers declaring force majeure and disruptions in the supply of butadiene during 2021, purchasers looked to secure alternative sources of supply despite the industry using its inventories to supply the market. This is reflected in purchasers' questionnaire responses describing ESBR and butadiene supply problems as well as their responses to the Commission's questionnaire concerning lost sales and lost revenues.^{259 260}

²⁵⁸ Commissioners Schmidlein and Kearns also have found the increase in the volume of cumulated subject imports relative to consumption was significant.

²⁵⁹ See CR/PR at Table V-13; Joint Respondents' Posthearing Brief, Exhibit 1 at 12-13.

²⁶⁰ Petitioner argues that the Commission should reduce the weight it affords to the post-petition data in these investigations because subject imports declined after the filing of the petitions in November 2021 and the domestic industry performed better in interim 2022 than in interim 2021. See Petitioner's Posthearing Brief at 13-15, Exhibit 1 at 46-49; 19 U.S.C. § 1677(7)(I).

The record shows that cumulated subject imports initially increased in January 2022 and then decreased thereafter. Cumulated subject imports in December 2021, January 2022, and February 2022 were all higher than in the same month the prior year. See CR/PR at Table IV-11 and Fig. IV-8. Subject imports, however, were lower in interim 2022 at *** pounds than interim 2021 at *** pounds. CR/PR at Table IV-2.

While the filing of the petitions may have led to a decline in subject imports in interim 2022, that alone does not explain the improvements in the performance of the domestic industry in that period, relative to the interim 2021 period. We note that during the interim 2021 period, as discussed in detail above, the domestic industry was affected by several challenges, including, most notably, Winter Storm Uri and resulting production shutdowns and supply disruptions. In this sense, the interim 2022 period reflects a reversion to more normalized market conditions.

Further, we observe that subject import prices began increasing in 2020 (long before the filing of the petitions) for product 1, the largest volume pricing product, and did not show a clear trend in interim 2022. See CR/PR at Fig. V-2. Subject imports also began overselling the domestic product in 2021, before the filing of the petitions. See CR/PR at Table V-11 and Fig. V-2. As we have noted, the condition of the industry began improving in 2021 before the filing of the petition and correlates with trends in apparent U.S. consumption rather than the volume of subject imports.

Petitioner has emphasized that purchasers rated domestic supply and the subject imports comparable with respect to availability and reliability of supply.²⁶¹ Petitioner also emphasizes that the domestic industry had available capacity during the POI, had inventories to supply its customers, and sufficient butadiene to produce additional ESBR.²⁶² The record shows, however, that both producers shut down at times during 2021, and ***. Petitioner acknowledges that it was short of butadiene and placed customers on allocation through April of 2021 after Winter Storm Uri hit in February 2021.²⁶³ Further, the fact that purchasers rated the domestic product as generally comparable to subject imports with respect to availability and reliability of supply during the POI does not undermine the other specific evidence on the record pertaining to supply constraints in 2021.²⁶⁴

The record also does not show a clear causal nexus between trends in the volume of subject imports and the domestic industry's performance during the POI. The domestic industry's performance generally declined from 2019 to 2020 despite a decline in subject import volume, and then improved from 2020 to 2021, despite an increase in subject import volume.²⁶⁵

As discussed above, cumulated subject imports gained *** percentage points between 2019 and 2021 (*** percentage points gain in the merchant market). *** of the gain in market share by subject imports in the total market (*** percentage points) – and *** the gain in the merchant market – occurred between 2020 and 2021 and is attributable to an increase in subject imports from Russia (as subject imports from Czechia's market share decreased throughout the POI, both in the total and merchant markets). As subject imports from Russia gained market share in 2021, subject imports from Russia oversold the domestic like product in each quarter of 2021, and the AUVs of these shipments increased, for both pricing products for which shipments of U.S. imports from Russia were recorded (*i.e.*, pricing products 1 and 3).²⁶⁶

While, as stated, we acknowledge that the filing of the petitions may have contributed to a decline in the volume of subject imports during the interim 2022 period, we do not find a sound basis to discount relevant data for that period as a post-petition effect.

²⁶¹ See, e.g., Petitioner's Prehearing Brief at 12-13.

²⁶² Petitioner's Prehearing Brief at 12-13.

²⁶³ See CR/PR at II-9 to II-10; Hearing Tr. at 77 (Rikhoff).

²⁶⁴ We also observe that shipments of subject imports were only marginally higher to the tire portion of the market in 2021 at *** pounds compared to 2019 at *** pounds. CR/PR at Table E-10. The increase in subject imports shipments in 2021 mostly went to other end users, producers of technical goods. See Table E-9. Technical goods producers generally purchase on the spot market where Petitioner has acknowledged that domestic supply was limited in 2021. Hearing Tr. at 54, 83, 127 (Rikhoff). See also CR/PR at II-8 (***).

²⁶⁵ CR/PR at Tables IV-2, VI-1, VI-4.

²⁶⁶ CR/PR at Tables V-5 and V-7.

In other words, during the period (*i.e.*, 2021) when subject imports recorded the great majority of U.S. market share gain over the POI, subject imports *** the domestic like product with ***. This was also the period when, as detailed above, the domestic industry was facing production and supply challenges from a number of fronts, which prompted U.S. purchasers to turn to an alternative source.

The industry's performance during the POI instead generally correlates with trends in apparent U.S. consumption, weakening when the COVID-19 pandemic caused apparent U.S. consumption to decline from 2019 to 2020 and then improving modestly when apparent U.S. consumption increased from 2020 to 2021, as lockdowns ended.²⁶⁷ This modest improvement in the industry's condition continued into interim 2022 when apparent U.S. consumption was higher in the total market.

For the reasons discussed above, we find that subject imports did not have a significant adverse impact on the domestic industry. Accordingly, we find that an industry in the United States is not materially injured by reason of subject imports of ESBR from Czechia and Russia.

VI. No Threat of Material Injury by Reason of Subject Imports

A. Legal Standard

Section 771(7)(F) of the Tariff Act directs the Commission to determine whether the U.S. industry is threatened with material injury by reason of the subject imports by analyzing whether "further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted."²⁶⁸ The Commission may not make such a determination "on the basis of mere conjecture or supposition," and considers the threat factors "as a whole" in making its determination whether dumped or subsidized imports are imminent and whether material injury by reason of subject imports would occur unless an order is issued.²⁶⁹ In making our

²⁶⁷ See CR/PR at II-14, Tables C-1 and C-2. Because of the nexus between apparent U.S. consumption and the domestic industry's condition, we reject Petitioner's argument that the industry's relatively high COGS-to-net sales ratio over the POI indicates that the domestic industry's prices were suppressed over the entire POI. See Petitioner's Posthearing Brief, Exhibit 1 at 40-42. As we have explained the domestic industry was able to increase its prices sufficiently to cover its costs when they increased during the POI. Further, contrary to Petitioner's argument, apparent U.S. consumption was not flat over the POI. There were swings in apparent U.S. consumption and it fell overall during the years 2019-2021. Accordingly, the record does not support Petitioner's argument that a high COGS-to-net sales ratio is evidence of price suppression in these investigations.

²⁶⁸ 19 U.S.C. § 1677(7)(F)(ii).

²⁶⁹ 19 U.S.C. § 1677(7)(F)(ii).

determination, we consider all statutory threat factors that are relevant to these investigations.²⁷⁰

B. Cumulation for Threat

Under section 771(7)(H) of the Tariff Act, the Commission may “to the extent practicable” cumulatively assess the volume and price effects of subject imports from all countries as to which petitions were filed on the same day if the requirements for cumulation in the material injury context are satisfied.²⁷¹

Petitioner argues that given the reasonable overlap of competition between the subject imports and domestically produced ESBR, the Commission should exercise its discretion and cumulate subject imports for purposes of the Commission’s threat analysis. It also contends that subject imports from Czechia and Russia held the same share of the merchant market at

²⁷⁰ These factors are as follows:

(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement) and whether imports of the subject merchandise are likely to increase,

(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,

(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,

(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices and are likely to increase demand for further imports,

(V) inventories of the subject merchandise,

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

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

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

19 U.S.C. § 1677(7)(F)(i). To organize our analysis, we discuss the applicable statutory threat factors using the same volume/price/impact framework that applies to our material injury analysis. Statutory threat factors (I), (II), (III), (V), and (VI) are discussed in the analysis of subject import volume. Statutory threat factor (IV) is discussed in the analysis of subject import price effects. Statutory factors (VIII) and (IX) are discussed in the analysis of impact. Statutory factor (VII) concerning agricultural products is inapplicable to this investigation.

²⁷¹ 19 U.S.C. § 1677(7)(H).

the end of the POI and exhibited the same trends in AUVs over the POI.²⁷² Respondents did not address cumulation for purposes of the Commission's threat analysis.

In section IV.B. above, we found a reasonable overlap of competition between and among subject imports from Czechia and Russia and the domestic like product. There is no information or argument on the record indicating that the reasonable overlap we have found will change in the imminent future.

We also find no differences in the likely conditions of competition pertaining to subject imports from Czechia and Russia in the imminent future that would warrant the consideration of subject imports from the countries separately for purposes of our threat analysis.

Based on the likely reasonable overlap of competition between subject imports and the domestic like product, and the absence of any likely differences in the conditions of competition between imports from different subject countries in the imminent future, we exercise our discretion to cumulate subject imports from Czechia and Russia for purposes of our threat analysis.

C. Analysis

1. Likely Volume

In section V.C. above, we found the volume and increase in volume of cumulated subject imports to be significant during the POI, both absolutely and relative to consumption and production in the United States. Both U.S. shipments of cumulated subject imports and their market share increased overall from 2019 to 2021.²⁷³ However, subject imports from Czechia declined overall from 2019 to 2021, and imports from both subject countries were lower in interim 2022 than in interim 2021.²⁷⁴ While we have recognized that the pendency of the investigations may have led to reduced subject imports after November 2021 when the petitions were filed, the record also indicates that subject imports from Russia are now subject to duties that make any imminent increase in their volume unlikely.²⁷⁵

As noted above, in April 2022, the President suspended normal trade relations with Russia, and ESR from Russia became subject to 20 percent duties that were then increased to 35 percent in July 2022.²⁷⁶ The volume of subject imports from Russia was dramatically lower in June through September of 2022 after the duties were in place.²⁷⁷ Subject imports from Russia

²⁷² Petitioner's Prehearing Brief at 42-43.

²⁷³ CR/PR at Tables IV-2, IV-12, IV-14, C-1 and C-2.

²⁷⁴ See CR/PR at Table IV-2.

²⁷⁵ See CR at I-8 n.22, Table IV-11 and Figs. IV-7 and IV-8.

²⁷⁶ CR/PR at I-8 n.22.

²⁷⁷ CR/PR at IV-11.

totaled over 2.0 million pounds in May 2022, but that total fell to 56,000 pounds in June 2022, 333,000 pounds in July 2022 and zero in August and September of 2022.²⁷⁸ The record does not indicate that this trend in subject imports from Russia is likely to change in the imminent future, or that a significant increase in subject import volume from Russia is likely absent relief.²⁷⁹ With respect to subject imports from Czechia, they are not subject to 35 percent duties, but the record does not show that they are likely to substantially increase in the imminent future.

The record indicates that subject producers in Czechia and Russia are unlikely to substantially increase their exports to the United States in the imminent future. The capacity of the subject industries declined over the POI, and it is not projected to increase in 2022 or 2023.²⁸⁰ ²⁸¹ Moreover, the capacity utilization rate of the subject industries increased from *** percent in 2019 to *** percent in 2021.²⁸² Although subject producers possessed excess capacity of *** pounds in 2021,²⁸³ equivalent to *** percent of apparent U.S. consumption that year, only *** pounds of excess capacity or *** percent of that total, was in Czechia.²⁸⁴ The sole producer in Czechia, Synthos, also reported *** and *** to the United States along with increasing home market shipments from 2019 to 2021.²⁸⁵ The record does not indicate that the subject producer in Czechia will behave differently in the imminent future, or use its excess capacity to significantly increase its exports to the U.S. market. Further, as noted, subject imports from Russia currently face duties of 35 percent that make a substantial increase in

²⁷⁸ CR/PR at IV-11.

²⁷⁹ One Russian producer, ***, noted the **. CR/PR at Table VII-6. At the hearing, a representative from Intertex World Resources, the largest importer of subject imports from Russia, testified that it makes no commercial sense to import ESBR from Russia with the 35 percent duties in place. Hearing Tr. at 142-143 (Rybalov).

²⁸⁰ CR/PR at Table VII-11. Combined capacity is projected to decline from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023. *Id.* Approximately *** pounds of that total capacity is in Czechia, and that capacity is projected by the only producer in Czechia to **. CR/PR at Table VII-3.

Three producers in Russia responded to the Commission's questionnaire in the final phase. A fourth producer in Russia, ***, reported in its preliminary phase questionnaire that it had *** pounds of capacity in 2020. CR/PR at Table VII-8.

²⁸¹ Petitioner argues that production capacity in Czechia will increase by 50 percent but the responding producer Synthos projected *** in its capacity in its certified questionnaire response. CR/PR at Table VII-3. Synthos explained that the news article cited by Petitioner refers to capacity either outside of Czechia or that is not for production of ESBR. See Joint Respondents' Posthearing Brief at 15 (citing Petitioner's Prehearing Brief at 54, n.217 and Exhibit 10).

²⁸² CR/PR at Table VII-11.

²⁸³ The fourth Russian producer, ***, reported in its preliminary phase questionnaire that it had *** pounds of excess capacity in 2020. CR/PR at Table VII-8.

²⁸⁴ CR/PR at Tables VII-3 and VII-11.

²⁸⁵ See CR at Tables VII-3 and VII-11.

subject imports from Russia unlikely, and the record does not indicate that the duties are likely to be removed in the imminent future.

The end-of-period inventories of the subject industries increased over the POI to *** million pounds in June of 2022, but again, only a small portion, *** pounds, were in Czechia.²⁸⁶ While U.S. importers' inventories of cumulated subject imports increased over the POI to *** pounds in June 2022,²⁸⁷ most of the increase occurred in 2021 when the domestic industry reported production problems.²⁸⁸ Further, U.S. importers' inventories in June 2022 were lower than they had been in June 2021, when they totaled *** pounds.²⁸⁹ Importers also reported arranging a relatively small volume of cumulated subject imports in 2023, *** pounds, and there were no arranged subject imports from Russia.²⁹⁰

Moreover, only *** reported an ability to shift production from out-of-scope products to in-scope ESBR.²⁹¹ Its out-of-scope production on the same equipment used to produce ESBR accounted for only *** percent of total production in Russia.²⁹² Synthos in Czechia ***.²⁹³

While we recognize that the United States was the second largest export market for the ESBR industry in Czechia during the POI²⁹⁴ and that there are antidumping measures on ESBR from Czechia in place in India,²⁹⁵ we note that these factors did not result in a significant increase in subject imports from Czechia during the POI. Rather, subject imports from Czechia and their share of the U.S. market declined overall. Finally, although the record indicates that subject imports from Russia increased during the POI and that subject producers in Russia have excess capacity, they currently face duties that make it unlikely subject imports from Russia will increase substantially in the imminent future.²⁹⁶

²⁸⁶ CR/PR at Tables VII-3 and VII-11. Synthos' inventories also declined from *** pounds in 2021 to *** pounds in interim 2022. CR/PR at Table VII-3.

²⁸⁷ CR/PR at Tables VII-12 and C-1. U.S. importers' inventories of cumulated subject imports decreased from *** pounds in 2019 to *** pounds in 2020 and increased to *** pounds in 2021. *Id.*

²⁸⁸ CR/PR at Table VII-12.

²⁸⁹ CR/PR at Table VII-12.

²⁹⁰ CR/PR at Table VII-13.

²⁹¹ CR/PR at VII-17 and Table VII-9.

²⁹² See CR/PR at Table VII-9.

²⁹³ CR/PR at VII-6.

²⁹⁴ CR/PR at Table VII-4.

²⁹⁵ ESBR from Czechia became subject to antidumping duties in India in 2017. CR/PR at VII-26.

²⁹⁶ We note that Petitioner argues that the domestic industry is threatened with material injury by reason of subject imports from Russia, but Petitioner's argument is premised on the assumption that the duties are removed. Petitioner's Prehearing Brief at 57 (arguing that subject imports from Russia have only been "temporarily forestalled" by the duties). See *also* Hearing Tr. at 114 (Rikhoff) (stating that the domestic industry will be materially injured if the duties come off). Petitioner, does not however, argue that their removal is imminent.

For all the foregoing reasons, we find that cumulated subject import volume is not likely to increase significantly in the imminent future.

2. Likely Price Effects

In section V.D. above, we found that, although the pricing data show that subject imports undersold the domestic like product during portions of the POI, primarily 2019 and 2020, the domestic industry did not lose a significant volume of sales or market share to subject imports on the basis of price.²⁹⁷ We also found that cumulated subject imports neither depressed nor suppressed prices for the domestic like product during the POI to a significant degree.

The record does not indicate that subject imports are likely to undersell the domestic like product to a significant degree in the imminent future. As described above, cumulated subject imports predominantly oversold the domestic like product during 2021 and interim 2022.²⁹⁸ Domestic prices for ESBR also increased through most of 2021 and interim 2022, driven upwards by rising butadiene prices.²⁹⁹ Nor is there any evidence of a likely imminent change in conditions of competition that would result in cumulated subject imports having price depressive or suppressive effects on domestic industry prices. We consequently find that cumulated subject imports are not likely to enter at prices that would be likely to have significant depressing or suppressing effects on domestic prices, or that would be likely to increase demand for further subject imports in the imminent future.

3. Likely Impact

In section V.E. above, we found that the domestic industry's performance over the POI generally correlated with changes in apparent U.S. consumption rather than with subject imports, and that subject imports had not prevented the industry from capitalizing on increased apparent U.S. consumption in 2021 and interim 2022. Indeed, the domestic industry only lost market share in the merchant market in 2021 when it faced supply problems due to weather-related shutdowns and a limited supply of butadiene. The industry's supply problems, however, appear to have abated during interim 2022. Although the domestic industry remained unprofitable in interim 2022, it is positioned to continue to improve its financial performance if apparent U.S. consumption increases.

²⁹⁷ The industry's market share held constant at *** percent in 2019 and 2020 in the merchant market. CR/PR at Table IV-14.

²⁹⁸ See CR/PR at Table V-11.

²⁹⁹ CR/PR at Fig. V-2.

We have also found that cumulated subject import volumes are not likely to increase significantly in the imminent future and that subject imports are not likely to have significant price effects. Given this and the projected modest growth in ESR demand,³⁰⁰ we find that cumulated subject imports will not likely have a significant impact on the domestic industry in the imminent future.

VII. Conclusion

For the reasons stated above, we determine that an industry in the United States is not materially injured or threatened with material injury by reason of imports of ESR from Czechia and Russia found by Commerce to be sold in the United States at LTFV.

³⁰⁰ See Petitioner's Prehearing Brief at 2 (citing IISRP forecast); Joint Respondents' Prehearing Brief at 10 (citing ***).

Part I: Introduction

Background

These investigations result from petitions filed with the U.S. Department of Commerce (“Commerce”) and the U.S. International Trade Commission (“USITC” or “Commission”) by Lion Elastomers LLC (“Lion”), Port Neches, Texas, effective November 15, 2021, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value (“LTFV”) imports of emulsion styrene-butadiene rubber (“ESBR”)¹ from Czechia, Italy, and Russia.² Table I-1 presents information relating to the background of these investigations.³ ⁴

Table I-1
ESBR: Information relating to the background and schedule of this proceeding

Effective date	Action
November 15, 2021	Petitions filed with Commerce and the Commission; institution of Commission investigations (86 FR 66335, November 22, 2021)
December 6, 2021	Commerce’s notice of initiation (86 FR 70447, December 10, 2021)
December 30, 2021	Commission’s preliminary determinations (87 FR 478, January 5, 2022)
April 29, 2022	Commerce’s preliminary antidumping duty determination with respect to Italy (87 FR 25447, April 29, 2022)
May 11, 2022	Commerce’s termination of investigation with respect to Italy (87 FR 28807, May 11, 2022)
May 17, 2022	Commission’s termination of investigation with respect to Italy (87 FR 29877, May 17, 2022)
June 27, 2022	Commerce’s preliminary antidumping duty determinations with respect to Czechia and Russia (87 FR 38057 & 38060, June 27, 2022)
November 8, 2022	Commission’s hearing
November 17, 2022	Commerce’s final determinations (87 FR 68998 & 69002, November 17, 2022)
December 8, 2022	Commission’s vote
January 3, 2023	Commission’s determinations and views

¹ See the section entitled “The subject merchandise” in Part I of this report for a complete description of the merchandise subject in this proceeding.

² On May 2, 2022, counsel for petitioner, Lion Elastomers LLC, filed with the Department of Commerce and the Commission a withdrawal of the petition with respect to imports of ESBR from Italy. The Commission and Commerce subsequently terminated their investigations with respect to Italy.

³ Pertinent Federal Register notices are referenced in appendix A and may be found at the Commission’s website (www.usitc.gov).

⁴ Appendix B is reserved for the witnesses appearing at the Commission’s hearing.

Statutory criteria

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

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

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--⁵

In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant. . . .In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . .(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree. . . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales, market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.

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

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—⁶

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

Organization of report

Part I of this report presents information on the subject merchandise, subsidy/dumping margins, and domestic like product. Part II of this report presents information on conditions of competition and other relevant economic factors. Part III presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. Parts IV and V present the volume of subject imports and pricing of domestic and imported products, respectively. Part VI presents information on the financial experience of U.S. producers. Part VII presents the statutory requirements and information obtained for use in the Commission’s consideration of the question of threat of material injury as well as information regarding nonsubject countries.

Market summary

ESBR is mainly used in the production of rubber tires.⁷ The U.S. producers of ESBR are Lion and The Goodyear Tire & Rubber Company (“Goodyear”). Leading producers of ESBR outside the United States include: Synthos Kralupy a.s. (“Synthos”) of Czechia and JSC Sterlitamak Petrochemical Plant (“Sterlitamak”), Public Joint Stock Company “SIBUR Holding” (“Sibur”), and PJSC TATNEFT (“Tatneft”) of Russia. The leading U.S. importers of ESBR from Czechia include ***, while the leading importers of ESBR from Russia include ***. Leading importers of ESBR from nonsubject sources include *** (Italy); *** (Mexico), *** (Argentina and Brazil), and *** (Germany). U.S. purchasers of ESBR are firms that use ESBR to produce compounds for the

⁶ Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

⁷ Approximately 70-80 percent of domestic ESBR is used to manufacture tires, with the remainder being used to manufacture products such as conveyor belts, O-rings, shoes, and other mechanical rubber goods. Emulsion Styrene-Butadiene Rubber from Czechia, Italy, and Russia, USITC Publication 5274, January 2022 (Preliminary), p. I-3.

production of rubber goods, such as tires. Leading purchasers of ESBR include ***.

In 2021, apparent U.S. total market consumption of ESBR was approximately *** pounds (\$***).⁸ Currently, two firms are known to produce ESBR in the United States. U.S. producers' U.S. total market shipments of ESBR were *** pounds (\$***) in 2021 and accounted for *** percent of apparent U.S. total market consumption by quantity and *** percent by value.⁹ U.S. shipments of imports from subject sources totaled 43.4 million pounds (\$41.7 million) in 2021 and accounted for *** percent of apparent U.S. total market consumption by quantity and *** percent by value.¹⁰ U.S. shipments of imports from nonsubject sources totaled 27.8 million pounds (\$29.6 million) in 2021 and accounted for *** percent of apparent U.S. total market consumption by quantity and *** percent by value.¹¹

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, tables C-1 (U.S. total market) and C-2 (U.S. merchant market). Except as noted, U.S. industry data are based on questionnaire responses of two firms that accounted for all known U.S. production of ESBR during 2021. U.S. import data are based on the questionnaire responses of 19 firms that represented *** percent of U.S. imports from subject sources and *** percent of U.S. imports from nonsubject sources in 2021 based on official import statistics. Foreign industry data are based on the questionnaire responses of one firm representing all known production of ESBR in Czechia in 2021 and three firms representing an estimated *** percent of production of ESBR in Russia in 2021 and an estimated *** percent of exports to the United States of ESBR from Russia in 2021.

⁸ Apparent U.S. merchant market consumption of ESBR totaled approximately *** pounds (\$***) in 2021.

⁹ U.S. producers' U.S. merchant market shipments of ESBR were *** pounds (\$***) in 2021 and accounted for *** percent of apparent U.S. merchant market consumption by quantity and *** percent by value.

¹⁰ Imports from subject sources accounted for *** percent of apparent U.S. merchant market consumption by quantity and *** percent by value.

¹¹ Imports from nonsubject sources accounted for *** percent of apparent U.S. merchant market consumption by quantity and *** percent by value.

Previous and related investigations

ESBR has been the subject of two prior antidumping duty proceedings in the United States. Effective April 1, 1998, the Commission instituted antidumping duty investigations following receipt of a petition filed by Ameripol Synpol Corp. (Akron, Ohio) and DSM Copolymer (Baton Rouge, Louisiana) alleging that an industry in the United States was materially injured and threatened with material injury by reason of LTFV imports of ESBR from Brazil, Mexico, and South Korea.¹² On May 11, 1999, the Commission determined that an industry in the United States was not materially injured or threatened with material injury by reason of imports of ESBR from Brazil, Mexico, or South Korea.¹³

Effective July 21, 2016, the Commission instituted antidumping duty investigations following receipt of a petition filed with the Commission and Commerce by Lion (Port Neches, Texas) and East West Copolymer, LLC (Baton Rouge, Louisiana) alleging that an industry in the United States was materially injured or threatened with material injury by reason of LTFV imports of ESBR from Brazil, Mexico, Poland, and South Korea.¹⁴ On July 10, 2017, Commerce determined that imports of ESBR from Brazil, Mexico, Poland, and South Korea were being, or were likely to be, sold in the United States at LTFV.¹⁵ On August 25, 2017, the Commission determined that an industry in the United States was materially injured by reason of LTFV imports of ESBR from Brazil, Mexico, Poland, and South Korea.¹⁶ Following affirmative determinations by Commerce and the Commission, effective September 12, 2017, Commerce issued antidumping duty orders on imports of ESBR from Brazil, Mexico, Poland, and South Korea, with final weighted-average dumping margins of 19.61 percent for Brazil, 19.52 percent for Mexico, 25.43 percent for Poland, and ranging from 9.66 to 44.30 percent for South Korea.¹⁷

¹² Certain Emulsion Styrene-Butadiene Rubber from Brazil, Korea, and Mexico, Inv. Nos. 731-TA-749-746 (Final), USITC Publication 3190, May 1999, p. 1.

¹³ 64 FR 27296, May 19, 1999.

¹⁴ Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, Inv. Nos. 731-TA-1334-1337 (Final), USITC Publication 4717, August 2017, p. 1.

¹⁵ 82 FR 33061, 82 FR 33062, 82 FR 33045, and 82 FR 33048, July 19, 2017.

¹⁶ 82 FR 43402, September 15, 2017.

¹⁷ 82 FR 42790, September 12, 2017. Producers and/or importers of ESBR from Brazil, Mexico, South Korea, and Poland appealed the Commission's final determinations to the U.S. Court of International Trade, contesting the Commission's volume, price effects, and impact findings. One respondent also challenged the Commission's finding that subject imports from Poland were not negligible. In May 2019, the Court of International Trade affirmed the Commission's determinations. *Arlanxeo USA v. United States*, 389 F. Supp.3d 1330 (Ct. Int'l Trade 2019). This decision was appealed to the U.S. Court of Appeals for the Federal Circuit, which summarily affirmed the lower court's decision. *Arlanxeo USA v. United States*, 819 Fed. Appx. 925 (Fed. Cir. 2020).

On August 1, 2022, the Commission instituted and Commerce initiated the first five-year reviews of the antidumping duty orders on imports of ESR from Brazil, Mexico, Poland, and South Korea.¹⁸

Nature and extent of sales at LTFV

On November 17, 2022, Commerce issued its final antidumping duty determinations with respect to Czechia¹⁹ and Russia.²⁰ Table I-2 presents Commerce’s dumping margins with respect to imports of ESR from Czechia, and I-3 presents Commerce’s dumping margins with respect to imports of ESR from Russia.

Table I-2
ESR: Commerce’s final weighted-average LTFV margins with respect to imports from Czechia

Exporter/producer	Final dumping margin (percent)
Synthos Kralupy A.S.	8.04
All others	8.04

Source: 87 FR 68998, November 17, 2022.

Table I-3
ESR: Commerce’s final weighted-average LTFV margins with respect to imports from Russia

Exporter/producer	Final dumping margin (percent)
Public Joint Stock Company SIBUR Holding/Joint Stock Company Voronezhskintezkauchuk/SIBUR International GmbH/ SIBUR LLC	17.47
Public Joint Stock Company TATNEFT/ LLC TATNEFT-AZS Center/ LLC Togliattikauchuk/ Tolyattisintez	8.15
All others	11.90

Source: 87 FR 69002, November 17, 2022.

Note: Commerce determined that Public Joint Stock Company SIBUR Holding (SIBUR Holding)/ SIBUR International GmbH (SIBUR International)/ SIBUR LLC/ Joint Stock Company Voronezhskintezkauchuk (VSK) are a single entity and that Public Joint Stock Company TATNEFT LLC TATNEFT-AZS Center/ LLC Togliattikauchuk and Tolyattisintez are a single entity. For this final determination, Commerce has reconsidered Russia’s market economy status and has determined to treat Russia as a nonmarket economy in forthcoming proceedings. Because this determination applies to future proceedings, Commerce has relied on its market economy methodology in determining the antidumping duty margins for this final determination.

¹⁸ 87 FR 47001 and 87 FR 46943, August 1, 2022.

¹⁹ 87 FR 68998, November 17, 2022.

²⁰ 87 FR 69002, November 17, 2022.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:²¹

The products covered by this investigation are cold-polymerized emulsion styrene-butadiene rubber (ESB rubber). The scope of the investigation includes, but is not limited to, ESB rubber in primary forms, bales, granules, crumbs, pellets, powders, plates, sheets, strip, etc.

ESB rubber consists of non-pigmented rubbers and oil-extended non-pigmented rubbers, both of which contain at least one percent of organic acids from the emulsion polymerization process.

ESB rubber is produced and sold in accordance with a generally accepted set of product specifications issued by the International Institute of Synthetic Rubber Producers (IISRP). The scope of the investigation covers grades of ESB rubber included in the IISRP 1500 and 1700 series of synthetic rubbers. The 1500 grades are light in color and are often described as "Clear" or "White Rubber." The 1700 grades are oil-extended and thus darker in color and are often called "Brown Rubber."

Specifically excluded from the scope of this investigation are products which are manufactured by blending ESB rubber with other polymers, high styrene resin master batch, carbon black master batch (i.e., IISRP 1600 series and 1800 series) and latex (an intermediate product).

²¹ 87 FR 68998 & 69002, November 17, 2022.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations is imported under the following provisions of the Harmonized Tariff Schedule of the United States (“HTS”) 4002.19.0015 (“ESBR in bales”) and 4002.19.0019 (“Other”), a residual SBR category including ESBR in forms other than bales. The 2022 general rate of duty is free under HTS subheading 4002.19.00; however, normal trade relations with the Russian Federation were suspended by Public Law 117-110 and the column 2 duty rate of 20 percent ad valorem began to apply. Subsequently, pursuant to that act, that column 2 duty was increased to 35 percent ad valorem effective July 27, 2022.²² Decisions on the tariff classification and treatment of imported goods are otherwise within the authority of U.S. Customs and Border Protection.²³

The product

Description and application

ESBR ranks as the dominant elastomer in global markets. It is a copolymer product of styrene and butadiene petrochemical feedstocks produced by a cold emulsion process. The ESBR rubber polymer contains by weight about 25 percent styrene and 75 percent butadiene, with antioxidant added during the process for protection and storage. There are two major types of styrene-butadiene (“SBR”) elastomeric polymers, ESBR and solution SBR (“SSBR”), each based on different manufacturing processes, and having different properties. ESBR, as covered by the scope of these investigations, is produced in several grades by aqueous emulsion technology, while out-of-scope solution SSBR is produced in an anhydrous organic solution process. Each form has numerous downstream end use applications, but most particularly, about 70 percent or more of in-scope ESBR is used in tire tread compounds in replacement tires

²² On April 8, 2022, the President signed the “Suspending Normal Trade Relations with Russia and Belarus Act” (19 U.S.C. 2434 note) (Suspending NTR Act) which provided for a shift to prevailing column 2 provisional rates. Subsequently, Presidential Proclamation 10420 of June 27, 2022, provided for “Increasing Duties on Certain Articles from the Russian Federation” including all articles under subject 8-digit HTS subheading 4002.19.00. Column 2 “substitute” duty rates of 35 percent ad valorem for all articles of HTS 4002.19.00 on the Russia Federation became effective on July 27, 2022, as detailed in ANNEX A and ANNEX B to this proclamation. Presidential Documents, Proclamation 10420, 87 FR 38875, June 30, 2022.

²³ Nonsubject imports from China continue to be subject to Section 301 duty rates of 25 percent ad valorem under HTS heading 9903.88.03, U.S. endnote 20 (e), as referenced in note 2 to the general rate of duty of HTS subheading 4002.19.00.

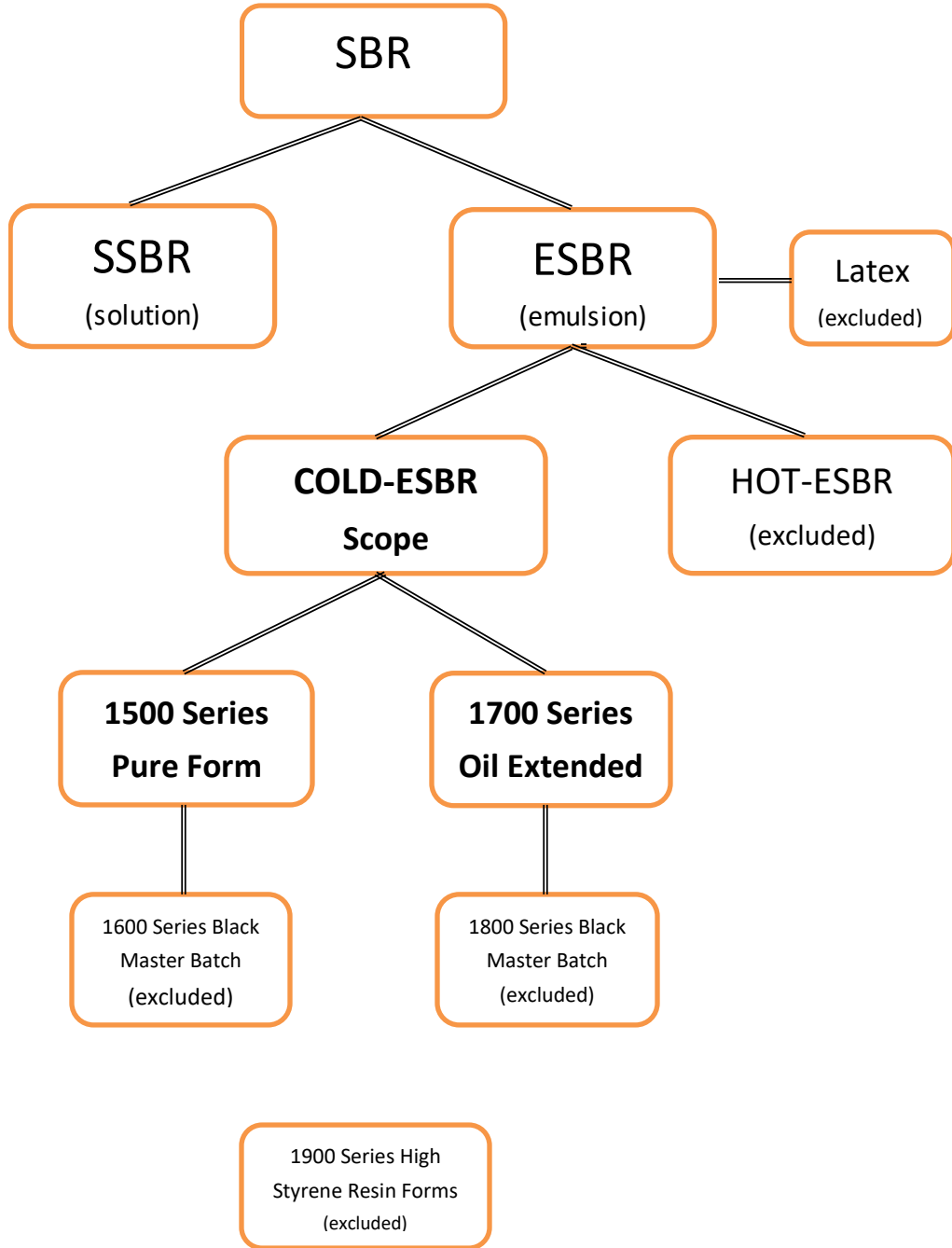
for passenger car and light trucks, and truck tire retreads. ESBR is also used in diverse non-tire applications such as conveyor belting, hoses, o-rings and other mechanical rubber goods, footwear, and flooring, while the more-expensive solution SSBR is better suited for high performance original equipment manufacturer (“OEM”) tire applications and certain other non-tire uses.^{24 25}

Figure I-1 provides a breakout of the various forms of SBR rubber grades (as covered by the scope of these investigations and out-of-scope) as specified on a global basis by the International Institute of Synthetic Rubber Producers (IISRP), Houston, Texas.

²⁴ Emulsion Styrene-Butadiene Rubber from Czechia, Italy, and Russia, Inv. Nos. 731-TA-1575-1577 (Preliminary), USITC Publication 5274, January 2022, p. I-7.

²⁵ Petition, Vol. I, pp. 7-11; “The Synthetic Rubber Manual,” IISRP, 2015; Hearing transcript, p. 16 (Rikhoff).

Figure I-1
ESBR: Styrene-butadiene rubber (SBR) flow diagram



Source: The Synthetic Rubber Manual, IISRP, 2015.

The products as covered by the scope of these investigations consist of the 1500 and 1700 series of ESBR synthetic rubber copolymers as defined by IISRP, and generally recognized by the international industry.^{26 27} Producers of ESBR sell 1500 and 1700 grades to downstream manufacturers of consumer tires and a wide variety of other consumer products. ESBR elastomers produced by the cold aqueous emulsion process at 41-55 degrees Fahrenheit result in the dry 1500 grades, or oil-extended 1700 grades, each primarily compressed into rectangular bales of up to about 80 pounds.²⁸ The 1500 series products are considered a "neat" or pure, light-colored form of ESBR popularly used by producers for multiple applications, while the 1700 series used for tires and other consumer products are darker in color because of petroleum-based extender oil used as an emulsified component of the rubber particle.^{29 30} The 1500 grades are lower in viscosity than the 1700 grades and favorable for use by custom-mix tire manufactures, while the 1700 grades are harder, higher in viscosity and impart favorable tire wear resistance.^{31 32} The styrene content of ESBR can be modified to provide products with special advantages and properties.³³

There are several IISRP SBR series of products that are not covered by the petition. For example, the 1600 and 1800 series are grades of emulsion SBR carbon black masterbatch ("CBMB") produced by a different process using separate production equipment and shipped in solid slabs with a hard rubber consistency. Other categories of emulsion SBR not covered by the

²⁶ "The Synthetic Rubber Manual," IISRP, 2015.

²⁷ The characteristics and uses of the subject ESBR have reportedly not changed materially since the original investigation in 1998-99. Petition, p. 9. Hearing transcript, p. 15 (Rikhoff).

²⁸ Lion technical and safety data sheets, <https://www.lionelastomers.com/products/emulsionsolution-sbr/emulsion-cold-types>, retrieved October 6, 2022.

²⁹ The extender oil content of 1700 grades may vary typically from 26 percent into the 29 percent range and consist of high-aromatic, aromatic extract, and naphthenic types. High-aromatic extender oil types, e.g., 1712 grade, are no longer used by U.S. tire producers owing to its environmental restriction in Europe circa 2010. Hearing transcript, pp. 172-173 (Rybalov); pp. 60-61 (Rikhoff); EU Directive 2005/69/EC.

³⁰ Lion technical and safety data sheets, <https://www.lionelastomers.com/products/emulsionsolution-sbr/emulsion-cold-types>, retrieved October 6, 2022.

³¹ Staff field trip report, Lion Elastomers, September 19, 2022; Conference transcript, p. 51 (Rikhoff).

³² Imports from Czechia included 1500 and 1700 series grades, while Russian imports were predominately non-tire 1700 series grades; some 1500 was imported in late 2021. Conference transcript, p. 103 (Kurilla); p. 91 (Rybalov). Certain Russian ESBR products are produced with various combinations of styrene monomer and its derivative, alphas-methyl styrene. Hearing transcript, pp. 175-176 (Rybalov).

³³ Staff field trip report, Lion Elastomers, September 19, 2022.

scope definition are the 1000 and 1900 series of synthetic rubbers as specified under the IISRP numbering system. Unlike subject cold process ESBR, the 1000 series is a "hot" polymerized series of emulsion SBR produced at about 106 degrees Fahrenheit and employed in different end uses than those which subject ESBR is best suited. The 1900 series of emulsion SBR is a high-styrene synthetic rubber having certain plastic-like resin characteristics employed in a variety of non-tire end uses. The SSBR solution rubber process 1200 series is also excluded as previously noted. ESBR colloidal liquid latex is an intermediate process product used in fabric coatings, carpet backing, paper coatings, and gloves.³⁴

Processing of ESBR by end users begins by breaking down the bales through heating, mixing, and rolling to plasticize the rubber. The time required for breakdown is much less for ESBR than for natural rubber, which is compounded in a similar manner. Many ingredients such as carbon black, oils, antioxidants, processing aids, vulcanizing agents, silica, and zinc oxide are often added to make the various recipes. End users may also formulate compounds by blending subject ESBR with excluded polymer types, including emulsion SBR sources such as CBMB, and with SSBR made by the solution process. SSBR is more expensive to produce, but is used in high performance OEM tire production, primarily because it imparts a lower rolling resistance and tire wear, improved grip, and good hysteresis (ability to dissipate heat) which helps meet mileage and fuel consumption standards both in the United States and Europe.³⁵

Unlike natural rubber, peptides are not needed for breakdown, and less zinc oxide and fatty acid are needed to accelerate the breakdown of ESBR. ESBR has better extrusion properties than natural rubber and has a lesser tendency to scorch, and better tread wear properties than natural rubber, while natural rubber has better grip. Thus, the two may be blended,³⁶ and ESBR can be blended with all diene-type rubbers, including SSBR, in any proportion to adjust the final properties and economy of the finished product. The largest end use application for ESBR is found in the tire treads of passenger vehicle and light truck tires and in truck tire retreads and may require a number of differently formulated compounds depending upon the characteristics desired in each tire component. Tire components such as tire tread, sidewall, bead, and carcass generally use specialized formulations.^{37 38}

³⁴ Conference transcript, pp. 13-17; 78-79 (Rikhoff); Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, Inv. Nos. 731-TA-1334-1337 (Final), USITC Publication 4717, August 2017, p. I-10.

³⁵ "The Synthetic Rubber Manual," IISRP, 2015, pp. 19-20.

³⁶ Conference transcript, pp. 13-17 (Rikhoff).

³⁷ "The Synthetic Rubber Manual," IISRP, August 2012, pp. 1-5.

³⁸ ESBR is used in higher proportions in passenger vehicle and light truck tires relative to heavy-duty truck and bus tires which use higher loadings of polybutadiene rubber (BR) and natural rubber (NR) blends. IHS Markit, ***.

Manufacturing processes

Subject ESBR is produced by a continuous cold aqueous emulsion latex process at 41-55 degrees Fahrenheit, known technically as emulsion copolymerization, a free radical mechanism that joins reactive styrene ($C_6H_5-CH=CH_2$) and butadiene ($CH_2=CH-CH=CH_2$) molecules together in lengthy copolymer chains.^{39 40} The continuous manufacturing process is accomplished using five main ingredients which are added through a series of connected reactors: (1) water, (2) the two monomers, styrene and butadiene, (3) soap emulsifier, (4) a polymer “modifier” used to control molecular structure, and (5) an “initiator” designed to drive the polymerization reaction. When about 60 percent of the monomers have been converted to polymer chains of the desired molecular weight and structure, the process is stopped by an “inhibitor” or “short-stop,” designed to prevent large increases in undesirable polymer chain branching and the commencing of polymer crosslinking beyond that point.^{41 42}

The resulting ESBR latex emulsion is next purified by removing unreacted butadiene and styrene for recycle via flash distillation and steam stripping, together with the addition of a stabilizing antioxidant. The 1500 series latex product at this point is ready for transfer to the finishing section, while the oil-extended 1700 series has emulsified process oil added to the purified rubber latex for intimate homogenization.⁴³

The second phase of the continuous process, or finishing line process, is accomplished by first acidifying and coagulating the latex, thus separating the solid ESBR rubber particles from the water of the latex. The coagulated crumb is then washed, dewatered, dried, baled and packaged either as 1500 or 1700 series finished product.⁴⁴

A detailed process flow diagram of the ESBR manufacturing process is presented in Figure I-2.

³⁹ See appendix D for further analysis of ESBR feedstock properties and supply-demand fundamentals.

⁴⁰ Alphamethyl styrene monomer, a styrene derivative, $C_6H_5C(CH_3)=CH_2$, is also used to produce the certified IISRP products by selected producers in Russia.

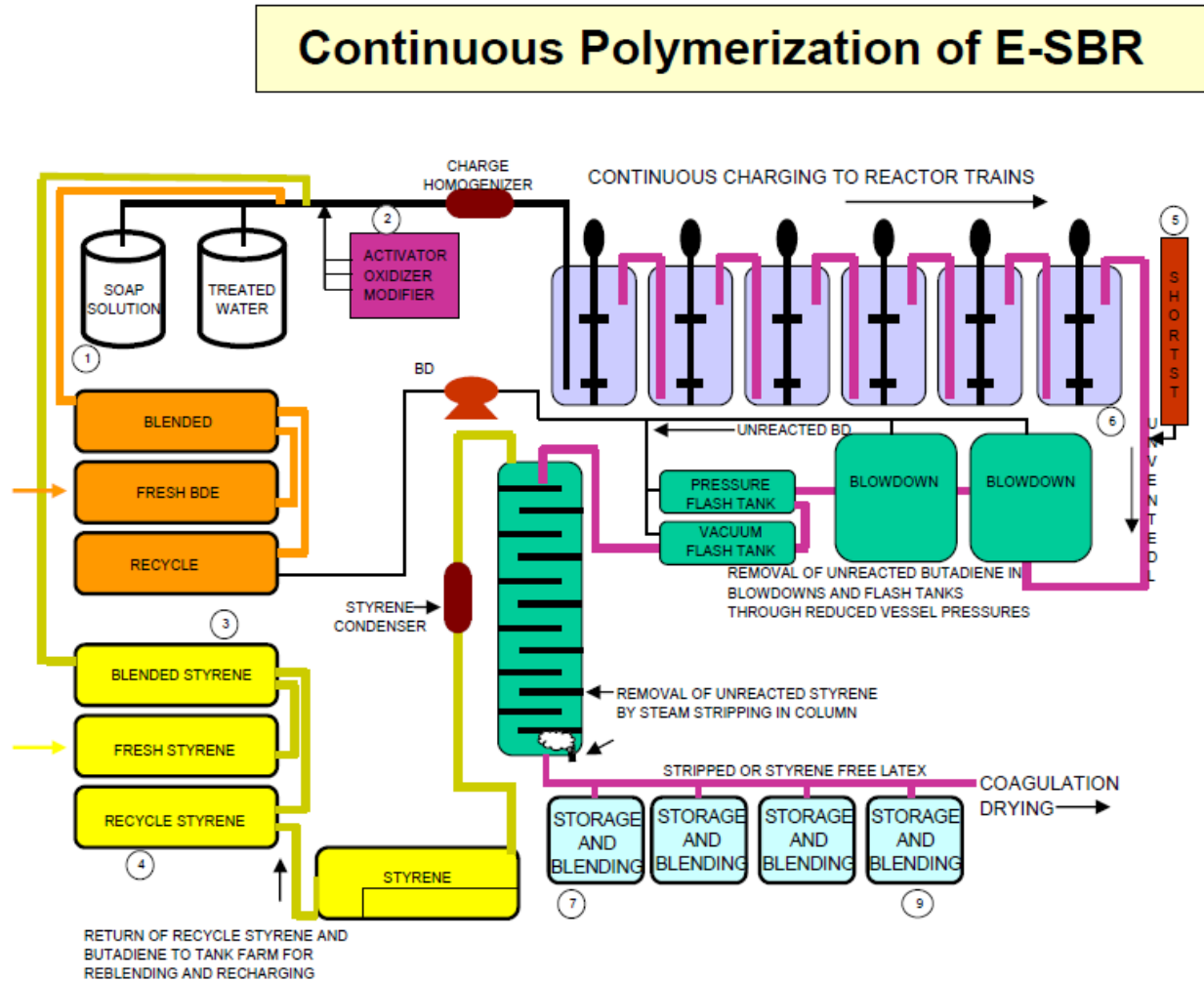
⁴¹ Conference transcript, pp. 13-17, (Rikhoff). “The Synthetic Rubber Manual,” IISRP, 2015, pp. 13-18.

⁴² Petition, pp. 8-10. “The Synthetic Rubber Manual,” IISRP, 2015, pp. 13-18.

⁴³ Staff field trip report, Lion Elastomers, September 19, 2022; Conference transcript, pp. 14-16 (Rikhoff); “Emulsion Styrene-Butadiene Rubber (E-SBR),” IISRP, August 16, 2012, pp. 1-5, <https://iisrp.com/wp-content/uploads/09ESBR16Aug2012.pdf>, retrieved October 6, 2022.

⁴⁴ Nitrile rubber (NBR)—acrylonitrile butadiene rubber—is sometimes produced on similar equipment in certain plants. Conference transcript, p. 16 (Rikhoff).

Figure I-2
ESBR: Continuous production process



Source: "Staff field trip report, Lion Elastomers, September 19, 2022." International Institute of Synthetic Rubber Producers (IISRP).

The emulsion polymerization process has several advantages. It is normally used under mild reaction conditions that tolerate water and requires only the absence of oxygen. The process is relatively robust to impurities and amenable to using a range of functionalized and non-functionalized monomers. Additional benefits include the fact that emulsion polymerization gives high solids contents with low reaction viscosity and is a cost-effective process. The physical state of the emulsion (colloidal) system makes it easy to control the process. Thermal and viscosity problems are much less significant than in bulk polymerization.⁴⁵

⁴⁵ "The Synthetic Rubber Manual," IISRP, 2015, pp. 13-18.

There are four basic types of petroleum derived extender oils employed in IISRP 1700 ESBR grades, designed to promote physical properties and plasticize rubber for ease of process compounding, (1) Hi-Aromatic or Distillate Aromatic Extract (DAE), (2) Residual Aromatic Extract (RAE), (3) Treated Distillate Aromatic Extract (TDAE), and (4) Naphthenic. Hi-Aromatic or DAE oil properties include the highest aromatic content of the four, the highest compatibility and lowest cost with SBR rubbers, but it was banned in 2010 as a toxic product in European tire production and phased-out by U.S. tire producers. The product, however, continues to find use in several smaller non-tire applications.⁴⁶ The remaining three extender oil types in order are considered environmentally friendly and tire compliant. For example, RAE oils are approved for tire use in grade 1783, the U.S. tire-compliant version of grade 1712, and TDAE oils in grade 1723, the European tire-compliant version of 1712. RAE oils are lower cost compared to TDAE types. The polymer structure, production processes and physical properties of IISRP grades 1712, 1723, and 1783 are similar except for the type of extender oils used.^{47 48}

Domestic like product issues

No issues with respect to the domestic like product were raised during the preliminary phase of these investigations. The petitioner proposed that the Commission should find that the domestic like product in this proceeding is 1500 and 1700 series ESBR elastomeric rubbers of styrene and butadiene copolymers, which is substantively identical to the domestic like product adopted by the Commission in its previous ESBR proceedings.⁴⁹ Respondents did not dispute the domestic like product definition proposed by the petitioner during the preliminary phase of these investigations.⁵⁰ No party requested that the Commission collect data or other information concerning further analysis of the domestic like product in their comments on the Commission's draft questionnaires. Lastly, no party disputed the proposed domestic like product definition in their prehearing or posthearing briefs or during the Commission's hearing.

⁴⁶ Hearing transcript, p. 144 (Rikhoff).

⁴⁷ Lion posthearing brief, exh.1, XVI, "Answers to Staff Questions." Q.8, pp. 62-63.

⁴⁸ Alphamethyl styrene monomer as an additive in tires is reported to be restricted to Russia and India. IHS Markit, ***. Its substitution for bound styrene in the ESBR polymer is refused by selective tire customers due to its strong odor, Hearing transcript, p. 137 (Kurilla). Bound styrene is used exclusively by ESBR producers in the United States, Goodyear and Lion technical and safety datasheets, www.goodyearchemical.com/products/emulsion-styrene-butadiene-rubber, www.lionelastomers.com/products/emulsionsolution-sbr/emulsion-cold-types, retrieved November 2022.

⁴⁹ Petitioner's postconference brief, pp. 4-5.

⁵⁰ Respondents Synthos and Tatneft's postconference brief, p. 3.

Part II: Conditions of competition in the U.S. market

U.S. market characteristics

ESBR is a synthetic rubber copolymer that is produced as a dry, crumb-like material and typically sold in bales, with a “normal” styrene content of 23.5 percent.¹ Most (approximately 70 percent)² of ESBR is used for new rubber tires for the replacement market,^{3 4} but ESBR is also used in “technical goods” such as conveyor belts, soles of shoes, some hoses, and flooring.⁵ The 1502 grade is the “most commercially sold ESBR” globally.^{6 7 8} The base polymer for the 1700-series typically has a higher viscosity than the 1500 series.

¹ Petition, p. 7.

² Conference transcript, p. 19 (Rikhoff).

³ Tire components, such as tire tread, sidewalls, and cores use “specialized” formulations. Petition, pp. 8 and 17.

⁴ Solution styrene-butadiene rubber (“SSBR”) is primarily used in OEM tires. SSBR has “reduced rolling resistance, which reduces energy loss and lowers fuel consumption” which OEMs prefer in order to meet average fuel economy standards. ESBR “finds great use” in the replacement tire market. Petition, p. 18.

⁵ Petition, pp. 7-8, and conference transcript, p. 91 (Rybalov).

⁶ The 1500 series is considered a “neat” or pure form of ESBR, while the 1700 series contains added petroleum-based processing oil. Petitioner’s postconference brief, p. 5.

⁷ Conference transcript, pp. 16 (Rikhoff) and 50 (Rikhoff).

⁸ Respondent Intertex argued that ESBR for tire production and technical goods differ, especially for 1700 grade ESBR. It stated that ESBR for technical goods uses aromatic oils, which tire companies will not use. In addition, “styrene with residual aromatic extract” (“RATE”) or “treated distillate aromatic extract” (“TDAE”) is used by tire producers. Conference transcript, pp. 91-92 (Rybalov).

There are two domestic producers of ESBR, which account for all the domestically produced ESBR sold in the United States.⁹ Petitioner Lion produces approximately 40 percent of ESBR produced in the United States, while Goodyear Chemical (“Goodyear”) is responsible for the remaining 60 percent.¹⁰ In 2021, approximately *** percent of Goodyear’s ESBR production was consumed internally or transferred to a related firm for tire production.¹¹ Nine of the 13 responding purchasers that are tire producers also import ESBR.¹² ESBR from Brazil, South Korea, Mexico, and Poland have been subject to antidumping orders since September 2017,¹³ and ESBR from China has been subject to section 301 tariffs since September 2018.¹⁴

Apparent U.S. total market consumption, by quantity, of ESBR fluctuated during 2019-21, decreasing from 2019 to 2020 and then increasing from 2020 to 2021. Overall, apparent U.S. total market consumption in 2021, by quantity, was *** percent lower than in 2019. Apparent consumption was *** percent higher in the first half of 2022 than it had been in the first half of 2021.

⁹ Domestic producer East West went bankrupt in April 2017, and petitioner purchased a “very small amount” of East West’s assets for Lion’s Port Neches, Texas facility. Lion sold the facility to Exxon Mobil Chemical later in 2017. The East West facility no longer produces ESBR and is used as a logistics source. Conference transcript, pp. 40 (Rikhoff) and 62 (Rikhoff).

¹⁰ Petition, exh. I-1, p.1.

¹¹ U.S. producer Goodyear is also an importer. Its questionnaire responses are reported separately throughout this section of the report, unless otherwise noted. ***. ***. In February 2021, Goodyear announced that it was purchasing Cooper Tire and in June 2021 Goodyear announced that it had completed its acquisition of Cooper Tire.

<https://corporate.goodyear.com/us/en/media/news/goodyear-completes-acquisition-of-cooper.html>

***. Respondent Synthos noted that Goodyear purchased Cooper Tire, and Synthos expects that Goodyear’s commercial U.S. shipments of ESBR will shift to Cooper Tires’ production. Conference transcript, p. 89 (Nienaber).

¹² On a quantity basis, importers internally consumed over 40 percent of total U.S. shipments of imported ESBR from all import sources in 2020.

¹³ 82 FR 42790, September 12, 2017.

¹⁴ 84 FR 20459, May 9, 2019, and 83 FR 47974, September 21, 2018.

U.S. purchasers

The Commission received 24 usable questionnaire responses from firms that had purchased ESBR during January 2019-June 2022.^{15 16 17} Thirteen responding purchasers are tire manufacturers, eight are technical goods manufacturers, one is a distributor, and four are other (three were custom rubber mixers and one produced rubber shoe heels and soles).¹⁸ In general, responding U.S. purchasers were headquartered in all regions except the Mountain and West Coast regions. The seven largest responding purchasers were tire producers and these seven firms reported over 80 percent of all purchases, imports, and internal consumption reported by the purchasers. The largest purchaser/consumers of ESBR were ***; these firms' purchases, imports, *** represented most of the purchases, imports, *** reported by all purchasers.

Channels of distribution

U.S. producers and importers of ESBR from Czechia and Italy, sold mainly to tire manufacturers, importers from Russia and from nonsubject sources other than Italy sold mainly to other end users, as shown in table II-1.

¹⁵ The following firms provided purchaser questionnaire responses: ***.

¹⁶ Of the 24 purchasers, 20 purchased domestically produced ESBR, 8 purchased or imported ESBR produced in Czechia, 10 purchased or imported ESBR produced in Russia, and 17 purchased or imported ESBR produced in other countries. No purchasers reported purchases from an unknown source.

¹⁷ Twenty-two purchasers indicated they had marketing/pricing knowledge of the domestically produced product, 10 of imports from Czechia, 11 of imports from Russia, and 15 of imports from nonsubject countries.

¹⁸ *** reported that it was both a technical goods producer and a distributor.

Table II-1
ESBR: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent

Source	Channel	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
United States	Distributors	***	***	***	***	***
United States	Tire manufacturers	***	***	***	***	***
United States	Other end users	***	***	***	***	***
Czechia	Distributors	***	***	***	***	***
Czechia	Tire manufacturers	***	***	***	***	***
Czechia	Other end users	***	***	***	***	***
Russia	Distributors	***	***	***	***	***
Russia	Tire manufacturers	***	***	***	***	***
Russia	Other end users	***	***	***	***	***
Subject sources	Distributors	***	***	***	***	***
Subject sources	Tire manufacturers	***	***	***	***	***
Subject sources	Other end users	***	***	***	***	***
Italy	Distributors	***	***	***	***	***
Italy	Tire manufacturers	***	***	***	***	***
Italy	Other end users	***	***	***	***	***
All other sources	Distributors	***	***	***	***	***
All other sources	Tire manufacturers	***	***	***	***	***
All other sources	Other end users	***	***	***	***	***
Nonsubject sources	Distributors	***	***	***	***	***
Nonsubject sources	Tire manufacturers	***	***	***	***	***
Nonsubject sources	Other end users	***	***	***	***	***
All import sources	Distributors	***	***	***	***	***
All import sources	Tire manufacturers	***	***	***	***	***
All import sources	Other end users	***	***	***	***	***

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

Geographic distribution

U.S. producers reported selling ESBR to all regions in the contiguous United States (table II-2). The importer of ESBR from Czechia reported ***. Importers of ESBR from Russia reported selling to all regions in the contiguous United States except the Mountain region. U.S. producers reported that *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers reported that they sold *** percent of their ESBR within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Table II-2
ESBR: Count of U.S. producers' and U.S. importers' geographic markets

Region	U.S. producers	Czechia	Russia	Subject sources
Northeast	***	***	***	2
Midwest	***	***	***	3
Southeast	***	***	***	5
Central Southwest	***	***	***	1
Mountain	***	***	***	0
Pacific Coast	***	***	***	2
Other	***	***	***	0
All regions (except other)	***	***	***	0
Reporting firms	***	***	***	5

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

Note: Other U.S. markets include AK, HI, PR, and VI.

Supply and demand considerations

U.S. supply

Table II-3 provides a summary of the supply factors regarding ESBR from U.S. producers and from subject countries. While U.S. and Czech producers' capacity utilization were relatively stable, Russian capacity utilization increased markedly. In 2021, over half of both Czech and Russian ESBR production was exported to non-U.S. markets.

Table II-3
ESBR: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in 1,000 pounds; ratio in percent; count is number of “yes” responses

Factor	Measure	United States	Czechia	Russia	Subject
Capacity 2019	Quantity	***	***	***	***
Capacity 2021	Quantity	***	***	***	***
Capacity utilization 2019	Ratio	***	***	***	***
Capacity utilization 2021	Ratio	***	***	***	***
Inventories to total shipments 2019	Ratio	***	***	***	***
Inventories to total shipments 2021	Ratio	***	***	***	***
Home market shipments 2021	Share	***	***	***	***
Non-US export market shipments 2021	Share	***	***	***	***
Ability to shift production (firms reporting “yes”)	Count	***	***	***	***

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

Note: Responding U.S. producers accounted for all of U.S. production of ESBR in 2021. Responding foreign producer/exporter firms accounted for virtually all of U.S. imports of ESBR from Czechia during 2021. Responding foreign producer/exporter firms accounted for over half of U.S. imports of ESBR from Russia during 2021. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Part I, “Summary Data and Data Sources.”

Domestic production

Based on available information, Goodyear and Lion, the two U.S. producers of ESBR have the ability to respond to changes in demand with *** changes in the quantity of shipments of U.S.-produced ESBR to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the ***. Factors mitigating responsiveness of supply include the ***.

From 2019 to 2021, capacity increased by ***, while production decreased by *** percent, leading to the capacity utilization rate declining from *** percent to *** percent. Exports comprise a *** share of total shipments. Exports as a share of total shipments were *** percent in both 2019 and 2021, with U.S. producers reporting *** as major export markets. Domestic producer *** reported that

*** on the same equipment as in-scope ESRB. However, it reported that ***.^{19 20}

To the extent that there is a shortage of inputs or U.S. ESRB plants face force majeure, as described below in the supply constraints section, producers may be less able to respond to changes in demand with increased ESRB production.

Subject imports from Czechia

Based on available information, Synthos, the only producer of ESRB from Czechia, has the ability to respond to changes in demand with *** changes in the quantity of shipments of ESRB to the U.S. market. The main contributing factor to this degree of responsiveness of supply is ***. Factors mitigating responsiveness of supply include *** and an ***.

During 2019-21, Synthos' capacity ***, and production fluctuated but increased overall, resulting in a *** increase in capacity utilization. The Czechian producer's major export markets include ***, and its exports to non-U.S. markets were over *** times higher than its exports to the United States in 2021. Non-U.S. export markets accounted for *** of Synthos' total shipments, and it *** barriers to shifting between markets. Synthos *** on the same equipment as ESRB, noting that it would need ***.

¹⁹ *** added that ***.

²⁰ U.S. producer *** reported that ***.

Subject imports from Russia

Based on available information, the three responding producers of ESRB from Russia have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of ESRB to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of some unused capacity, the ability to shift a substantial quantity of shipments from alternate markets, and some ability to ship from inventories. Factors mitigating the responsiveness of supply include the inability to shift production to or from alternate products.

Russian producers' capacity declined by *** percent from 2019-21, but production increased each year, resulting in a higher capacity utilization rate. Russian producers' end-of-year inventory quantities were *** the amount of its export quantities to the United States in 2021 and while the Russian inventories as a share of production fell between 2019 and 2021 the amount in Russian inventories increased between 2019 and 2021. *** responding Russian producers reported they could not switch production to other products using the same machinery as ESRB.

Imports from nonsubject sources

Nonsubject imports accounted for *** percent of total U.S. imports in 2021. The largest sources of nonsubject imports during 2019-21 were Taiwan, Mexico, Spain, and China (in order of the value of imports in 2021). Combined, these countries accounted for *** percent of the quantity of nonsubject imports in 2021.

Supply constraints

*** reported that *** experienced supply constraints between January 1, 2019, and the filing of the petition. Most importers (7 of 13) reported they had not experienced supply constraints between January 1, 2019, and the filing of the petition. ***. ***.

Two importers (***) reported that increased demand since March 2021 caused shortages, *** reported that it decided to stop importing ***, and *** reported that ESRB was not available.

More than half of responding purchasers (12 of 21) reported that they had experienced supply constraints between January 1, 2019 and the filing of the petition from U.S. producers. In contrast, most responding purchasers reported they had not experienced supply constraints for imports from Czechia (12 of 13), and imports from Russia (15 of 16). Purchasers also reported constraints because of logistical delays, that winter storm Uri caused U.S. producers to have supply problems for 4 to 7 months in 2021, and that in August 2020 Lion shut down because of a hurricane. The purchaser that reported supply constraints for ESBR imported from Czechia reported that, in 2021, when U.S. product was in short supply, it was difficult to get imported ESBR on the spot market.

*** reported supply constraints after the filing of the petition, and 3 of 14 responding importers reported supply constraints after the petition. The supply constraints importers reported after the petition were problems related to COVID-19 and supply chains. Synthos reported that it experienced supply chain disruptions and container shortages starting in the latter half of 2021 and into 2022.²¹

Fewer purchasers reported that they had experienced supply constraints after the filing of the petition for ESBR from domestic producers (3 of 21), imports from Czechia (1 of 13), and imports from Russia (3 of 16). Supply constraints reported for U.S.-produced ESBR included: limited volumes, production issues, and that TPC (a supplier of butadiene) filed for bankruptcy in June 2022. One purchaser reported a supply constraint for ESBR imported from both Czechia and Russia, because demand was strong and there was limited availability in the spot market. Two purchasers reported that the war in Ukraine reduced the availability of ESBR produced in Russia.

Petitioner and respondents reported significant supply disruptions in the United States which reduced production of the major input butadiene²² and ESBR production. Petitioner argued that there were two main supply disruptions in the U.S. ESBR market: the November 2019 explosion at the TPC butadiene plant in Port Neches, Texas, which decreased butadiene supply and also closed Lion's facility for 20 days;²³ and winter storm Uri that closed Lion's facility from February 15, 2021 to March 4, 2021,²⁴ and caused Lion to declare a force majeure through April 1, 2021.²⁵ U.S. producer *** reported that it also

²¹ Respondents Synthos' and Tatneft's posthearing brief, pp. 4-5 and exh. 1, pp. 3-6.

²² See Part V for a discussion of raw material prices.

²³ TPC is a major supplier of butadiene for Lion. Lion was closed for 20 days after the explosion while OSHA secured the site, as TPC is "immediately next door" to the Lion facility. Conference transcript, p. 40 (Rikhoff).

²⁴ Conference transcript, p. 41 (Rikhoff).

²⁵ Petitioner's posthearing brief at exh. 1, pp. 12-13.

***. *** reported that its ***.

Petitioner Lion stated that it had no supply disruptions in 2019 until the TPC butadiene plant explosion at the end of November 2019.²⁶ After the reopening in “the third week of December” 2019, Lion had “significant inventories” but could acquire a limited amount of butadiene. From December 2019 to March 2020, Lion reported that it supplied over 95 percent of its contract and spot customers’ demands.²⁷ Lion stated that it had no other supply disruptions until winter storm Uri in February 2021. Lion’s ESBR plant shut down from February 15 until March 4 due to “curtailment of raw materials and other natural gases” and damage to the plant including frozen and broken pipes. After mid-March 2021, Lion reported that it was typically able to supply 100 percent of its contract volumes, but that there were intermittent issues that reduced its ability to supply all its customers to approximately 80 to 90 percent of its customers’ contracted volume for certain months.²⁸ Since September 2021, Lion reported that it is fully supplying its customers’ needs.²⁹

Regarding butadiene supply, Lion noted that domestic butadiene production has rebounded since the TPC explosion as butadiene producers expanded production and started toll production at other facilities.³⁰ Lion also stated that by the beginning of 2022, domestic butadiene production will be greater than prior to the TPC explosion. It estimated by the end of 2022, domestic butadiene production will hit a 30-year high, and the United States will be a net exporter of butadiene.^{31 32}

²⁶ Conference transcript, pp. 33-34 (Rikhoff).

²⁷ After March 2020, tire and automobile producers shut down facilities due to the COVID-19 pandemic, and demand for ESBR dropped to 50 percent of typical demand. During this time, petitioner stated it purchased “significant amounts” of butadiene and refilled inventories of ESBR. Conference transcript, pp. 34-35 (Rikhoff). Respondent Michelin reported ***. Michelin posthearing brief at 3-4.

²⁸ Petitioner stated it was able to supply “100 percent of the market for the majority of the year.” Conference transcript, pp. 34-36 (Rikhoff) and 72 (Rikhoff).

²⁹ Conference transcript, pp. 34-36 (Rikhoff).

³⁰ An increase in ethylene and methane fracking has driven the increase in butadiene production. Conference transcript, p. 36 (Rikhoff).

³¹ Conference transcript, p. 36 (Rikhoff).

³² Petitioner stated that the U.S. styrene market is oversupplied, and it had no supply disruptions related to styrene. Conference transcript, pp. 37 and 74 (Rikhoff). See Part V for more information.

Respondent importer Intertex argued that there were more supply disruptions, which included: in July 2019 a fire at Exxon’s Baytown, Texas plant which reduced butadiene production; in February 2020 a fire at Exxon’s butadiene pipeline in Baton Rouge, Louisiana; in April 2021 Shell reduced its production of butadiene by 60 percent; and in August 2021 Hurricane Ida closed U.S. producer Lion’s ESBR facility.³³

Respondent importer Synthos stated that it did not experience butadiene supply disruptions, as the European butadiene market is a net exporter of butadiene, and respondent Intertex stated it did not experience supply constraints for ESBR.^{34 35}

New suppliers

All responding purchasers reported no new suppliers had entered the U.S. market since January 1, 2019.

Intentionally sourcing from multiple suppliers

Most purchasers (16 of 24) reported that they intentionally source ESBR from multiple sources. The reasons purchasers cited for using multiple suppliers included: price (leverage pricing); availability/reduce risk (all producers have supply issues at times, a global footprint is needed to circumvent natural disasters and ensure against domestic shortages, provide a robust and reliable supply chain); source differs based on product specifications; and the ***.

U.S. demand

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

³³ Respondents Synthos and Tatneft’s postconference brief at 14-15; Conference transcript, pp. 108-109 (Rybalov). Hurricane Ida shut down chemical plant production and the area was without electricity “for approximately one month.” Conference transcript, p. 95 (Rybalov).

³⁴ Conference transcript, pp. 112-114 (Dortch, Kurilla, Rybalov).

³⁵ Importer *** reported ***.

End uses and cost share

U.S. demand for ESBR depends on the demand for U.S.-produced downstream products, particularly tire manufacturing. Historically, over 70 percent of ESBR was used in the production of tires.³⁶ Other end uses include rubber compounds, conveyer belts, bumpers, balance pads, traffic markers, tire repair, rubber heels and soles for shoes, floor sanding disks, hoses, and rubber feet for chairs.

The overall cost share of ESBR in all its end uses is small to moderate. ESBR accounts for a relatively small share of the cost of tires, with most responding tire purchasers reporting that ESBR represented between 1 and 8 percent of the cost of tires.³⁷ Purchasers tend to report higher cost shares for products other than tires. The four purchasers that were compounders reported that ESBR's cost share for rubber compounds ranged from 8 to 67 percent. Cost shares for other products ranged from 1 to 70 percent, with four of the five responding purchasers reporting cost shares ranging from 20 to 70 percent.

Business cycles

***, 6 of 13 importers, and 8 of 23 responding purchasers indicated that the ESBR market was subject to business cycles or distinctive conditions of competition. Specifically, business cycles and distinctive conditions reported included: ESBR demand depends on automotive demand and tire demand; ESBR is affected by economic and political factors; suppliers and large purchasers have annual negotiations; in 2021 and 2022, U.S. suppliers have the price advantage because of supply chain issues and high shipping costs; demand is somewhat seasonal; natural rubber supply is seasonal³⁸ and this leads to price fluctuations influencing the price of ESBR; there is lack of domestic ESBR capacity; and supply is limited based on the price and availability of butadiene and styrene.³⁹

³⁶ 2017 Final publication, pp. II-13-14. Petition, p. 7.

³⁷ *** reported in this range. ***. ***. Producer responses for tires ranged from *** and importer responses for tires ranged from 1 to 12 percent.

³⁸ Natural rubber production peaks in October to January.

³⁹ Factors relating to the availability and price of butadiene and styrene prices included: butadiene and styrene prices differ between continents and ESBR consumers can choose their suppliers from anywhere in the world, the butadiene market is tight at times, and the costs of butadiene and styrene are constantly being passed down to end consumers.

Firms were asked about changes in market conditions since 2019. Most of the reported changes appear to be related to either the war in the Ukraine or the COVID-19 pandemic. Changes related to the war in the Ukraine included: fewer ESBR suppliers, less ESBR availability, and less availability of butadiene. Changes related to the COVID-19 pandemic included: the ESBR market became volatile and unpredictable with the disruption of global supply chains, chip shortages, and remote work lessening reliance on autos; and because suppliers lost money, they have been trying to find purchasers that consistently purchase ESBR. Other changes, which may or may not be related to the war or the COVID-19 pandemic included: Lion is unable to serve its U.S. customers; demand increased in 2021; and there are frequent announcements of crisis in the availability of butadiene.

Demand trends

Demand for ESBR is tied mainly to the demand for tires, mostly in the replacement tire market. Petitioner stated that recent changes to the automobile market, such as the adoption of electric vehicles⁴⁰ that are heavier and require more durable tires, and the demand for used cars during the COVID-19 pandemic, also increased demand for ESBR.⁴¹ However, it noted that overall demand for ESBR decreased from 2019-21. Petitioner added that demand for ESBR in 2021 was greater than in 2020, but 2021 demand was less than in 2019. It estimated that current demand for ESBR is approximately 90 percent of demand in 2019 and stated that demand is forecasted to grow over the next 5 years.⁴²

Firms reported varied responses regarding U.S. demand for ESBR since January 1, 2019 (table II-4), with U.S. producers reporting demand ***, and most importers reporting that demand had fluctuated, a plurality of purchasers reported that demand had fluctuated, but almost as many purchasers responded that demand had increased or that demand was unchanged.

⁴⁰ Electric vehicles “weigh significantly more because of the batteries” and ESBR “wears less” than SSBR, and the “life of a tire is significantly diminished with {SSBR} on electric vehicles under its current state.” Conference transcript, pp. 30-31 (Rikhoff) and 58-59 (Rikhoff). See also Petitioner’s postconference brief, p. 18.

⁴¹ Petitioner stated that the replacement tire market has rebounded faster than the OEM tire market. It added that one of the first things replaced on a used car are the tires. Conference transcript, p. 56-57 (Rikhoff).

⁴² Conference transcript, p. 42-43 (Rikhoff). Respondents suggest that demand for ESBR had been declining since 2015. Respondents Synthos and Tatneft’s postshearing brief at 9; hearing transcript at 230, 252 (Kendler, Campbell).

Table II-4**ESBR: Count of firms' responses regarding overall domestic and foreign demand, by firm type**

Market	Firm type	Increase	No change	Decrease	Fluctuate
Domestic demand	U.S. producers	***	***	***	***
Domestic demand	Importers	2	5	0	8
Domestic demand	Purchasers	6	5	1	6
Foreign demand	U.S. producers	***	***	***	***
Foreign demand	Importers	1	6	1	6
Foreign demand	Purchasers	4	6	2	4
Demand for end use products	Purchasers	6	6	2	7

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

U.S. producer Lion, ***.⁴³ U.S. producer Goodyear reported that ***. Importers reported that ESBR demand in the United States had increased because there were new tire manufacturing companies in the United States and logistics issues related to the COVID-19 pandemic had led to increased demand for ESBR.⁴⁴ Reasons for fluctuating demand included market recovery from the COVID-19 pandemic shutdowns (increased demand in 2021) and changes in oil prices. Purchasers reported demand increased because they had more orders and because of supply chain problems. Reasons that purchasers reported for demand fluctuating included: the AD/CVD orders, U.S. supply was less available due to butadiene shortages; and demand for tires (and ESBR) declined in 2020 due to the COVID-19 pandemic. The only purchaser indicating demand for ESBR had declined reported that demand was lower than it had been in 2019, “***.”

⁴³ ***.

⁴⁴ Importer *** reported that its tire manufacturing facility ***.

Substitute products

*** reported that SSBR was a substitute for ESRB in tires.⁴⁵ Most importers (11 of 15) and most purchasers (19 of 24) reported that there are no substitutes. Importers and purchasers that reported substitutes reported most frequently that natural rubber was a substitute for ESRB; other potential substitutes were EPDM (ethylene propylene diene monomer (rubber)), SSBR, and butadiene rubber.⁴⁶

Respondent Synthos argued that in the past 5 to 10 years, auto manufacturers have moved to replacing ESRB with SSBR because ESRB's higher rolling resistance reduces gas mileage.⁴⁷ Petitioner stated the OEM switch from ESRB to SSBR occurred prior to 2017.⁴⁸ It added that many OEM tires are produced with "second and higher tier" SSBRs that are "very technically produced" and ESRB is not used in those applications.⁴⁹ However, for a non-high performance or non-technical tire the "lowest grade first generation" SSBR could be substitutable with ESRB. SSBR is generally more expensive than ESRB.⁵⁰ Petitioner claimed that the amount of ESRB, SSBR and natural rubber used in tire production "depends on the specific formula for the desired characteristics" limiting interchangeability.⁵¹

Substitutability issues

This section assesses the degree to which U.S.-produced ESRB and imports of ESRB from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of ESRB from domestic and imported sources based on those factors. For ESRB of a single IISRP grade, there is typically a high degree of interchangeability, as parties agree that ESRB with each IISRP grade is based on a specific formula, and that ESRB of a specific grade does not vary based on supplier. Staff believes that

⁴⁵ ***. ***.

⁴⁶ One firm reported that *** is a substitute, however, this is included in the ESRB subject to these investigations.

⁴⁷ Conference transcript, p. 88 (Nienaber).

⁴⁸ Conference transcript, pp. 36-37 (Rikhoff).

⁴⁹ Conference transcript, p. 29 (Rikhoff).

⁵⁰ Conference transcript, p. 37 (Rikhoff).

⁵¹ Conference transcript, pp. 20-21 (Rikhoff).

there is a moderate to high degree of substitutability⁵² between domestically produced ESBR and ESBR imported from subject countries because, while some grades are produced in the United States, Czechia, and Russia, other grades are not produced in all these countries,⁵³ supply disruptions for domestic ESBR increase purchasers' interest in having additional sources available, lead times differ between ESBR from domestic and subject sources, quality issues have been reported for some Russian ESBR, and the firms' responses regarding the interchangeability between ESBR and significant factors other than price.

Factors affecting purchasing decisions

Purchaser decisions based on source

As shown in table II-5, purchaser responses vary with respect to purchasing decisions based on source. A plurality of purchasers (10) never make purchasing decisions based on the producer; however, nine purchasers also reported that they always (5) or usually (4) make purchasing decisions based on the producer. Most purchasers never make their decision based on the country of origin. Purchasers report that most of their customers never make purchasing decisions based on the producer or country of origin. Five of the nine firms that always or usually make purchasing decisions based on the producer provided an explanation. Two purchasers explained that they needed approved suppliers. Other reasons purchasers cited include: firm capacity and infrequent mechanical and maintenance issues; quality, availability, price, and lead time; that it purchases solely from Lion because of quality; and that the firm purchased as much domestic material as it could.

⁵² The degree of substitution between domestic and imported ESBR depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced ESBR to the ESBR imported from subject countries (or vice versa) when prices change. The degree of substitution may include such factors as relative prices (discounts/rebates), quality differences (e.g., grade standards, defect rates, etc.), and differences in sales conditions (e.g., lead times between order and delivery dates, reliability of supply, product services, etc.).

⁵³ One way in which grades can differ is through the use of different extenders. A number of firms report that ESBR from different countries is made using different extenders. The use of different extenders results in different grades. (Details on extenders is included later in this section.)

Table II-5**ESBR: Count of purchasers' responses regarding frequency of purchasing decisions based on producer and country of origin**

Firm making decision	Decision based on	Always	Usually	Sometimes	Never
Purchaser	Producer	5	4	4	10
Customer	Producer	0	1	2	14
Purchaser	Country	2	2	4	16
Customer	Country	0	1	2	15

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

Importance of purchasing domestic product

Twenty-three responding purchasers reported that all their purchases did not require purchasing U.S.-produced product.⁵⁴ No purchaser reported that domestic product was required by law, one reported it was required by their customers (for 0.1 percent of its purchases), and two reported other preferences for domestic product. Purchasers preferred domestically produced ESBR because its specification for one of its tires originally included ESBR from a U.S. producer and this specification has not changed, and because a percent volume was awarded in the 2021 RFQ process.

Most important purchase factors

The most often cited top three factors that firms consider in their purchasing decisions for ESBR were availability/supply (23 firms), price (19 firms), and quality (15 firms) as shown in table II-6. Quality was the most frequently cited first-most important factor (cited by 13 firms), followed by availability (6 firms); availability was the most frequently reported second-most important factor (10 firms); and price was the most frequently reported third-most important factor (11 firms).

⁵⁴ Two purchasers did not answer the question and did not respond to staff follow up. One of these (***) purchased only imported ESBR; thus its answer to this question is assumed to be that purchasing domestically produced ESBR is not important for all of its purchases and it has been included in the number not requiring U.S. produced ESBR. The other purchaser (***) purchased only ESBR produced in the United States, so it is not clear if purchasing ESBR produced in the United States is important for this firm.

Table II-6

ESBR: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Price	1	7	11	19
Availability/supply	6	10	7	23
Quality	13	2	0	15
Reliability of supply/delivery	1	6	1	8
Contract/traditional supplier	1	1	0	2
All other factors	2	1	2	5

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

Note: Other factors include *** and customer preference for first factors; distance/transportation cost for second factor; diversity of supply and product availability from the producer (do they manufacture the grade) for third factor.

Half the responding purchasers (11 of 22) reported that they sometimes purchase the lowest-priced product. Ten purchasers reported that they usually purchase the lowest priced ESBR and one reported it never purchased the lowest price ESBR.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 17 factors in their purchasing decisions (table II-7). The factors rated as very important by more than half of responding purchasers were availability (22 purchasers), product consistency and reliability of supply (20 each), quality meets industry standards (19), price (15), and delivery time (13). Factors that more firms listed as not being important than listed as very important included minimum quantity requirements (10 listed as not important); discounts offered and diversity of supply (9 each); packaging and product range (8 each); and packaging and production method (7). Diversity of supply, however, was reported to be either very important or somewhat important by the six largest purchasers, all tire producers, these six firms represented 81.7 percent of all responding purchasers' purchases, imports, and internal consumption.⁵⁵

⁵⁵ Responses by these firms in order of quantity consumed were ***.

Table II-7**ESBR: Count of purchasers' responses regarding importance of purchase factors, by factor**

Factor	Very important	Somewhat important	Not important
Availability	22	1	0
Delivery terms	5	17	0
Delivery time	13	10	0
Discounts offered	1	12	9
Diversity of supply	5	9	9
Minimum quantity requirements	2	10	10
Packaging	6	9	7
Payment terms	8	13	2
Price	15	8	0
Product consistency	20	3	0
Product range	1	13	8
Production method	1	15	7
Quality meets industry standards	19	4	0
Quality exceeds industry standards	7	11	5
Reliability of supply	20	3	0
Technical support/service	5	14	3
U.S. transportation costs	7	15	1

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

Lead times

ESBR is primarily sold from inventories. U.S. producers reported that *** percent of their commercial shipments were sold from inventories, with lead times averaging *** days. The remaining *** percent of their commercial shipments were produced-to-order, with lead times averaging *** days. Most commercial shipments of imports from subject countries (***) percent were sold from U.S. inventories, with lead times ranging from 2 to 30 days. The remaining *** percent of importers commercial shipments were sold from foreign inventories, with lead times ranging from 50 to 70 days.

Supplier certification

Most purchasers (19 of 24) require their suppliers to become certified or qualified to sell ESBR to their firm. Purchasers reported that the time to qualify a new supplier ranged from 30 days to two years. Certification requirements included: lab tests; manufacturing trials; field trials of tires; ISO certification; production part approval process (PPAP); environmental, technical, and legal checks; risk management questionnaires; and visits to production facilities. Some purchasers reported that certification was a multistage process. For example, one reported that first the supplier must show acceptable price, availability, lead times, payment terms, and ISO terms; next there is a technical review (examining data sheets, COAs, lab tests, and production trials); finally, there is a financial review of the supplier.

One of 23 purchasers reported that Russian suppliers *** lost their approved status since 2019 because of inconsistent quality. In addition, this purchaser noted the high cost of imports, unreliable supply.

Single source

Purchasers were asked if certain types of ESBR were only available from certain sources. Four purchasers reported that they were. Two purchasers (***) reported that *** was not available from Lion and one purchaser (***) reported that *** ESBR was not available from Goodyear. The other two purchasers did not specify either the product or the source but reported that the type of ESBR available depended on the producer and the country.

Minimum quality specifications

As can be seen from table II-8, most responding purchasers (14 of 20) reported that domestically produced ESBR always met minimum quality specifications.⁵⁶ Similarly, most responding purchasers (7 of 11) reported that ESBR imported from Czechia always met minimum quality specifications and (7 of 12) ESBR imported from Russia always met minimum quality specifications.

Table II-8
ESBR: Count of purchasers’ responses regarding suppliers’ ability to meet minimum quality specifications, by source

Source of purchases	Always	Usually	Sometimes	Rarely or never	Don't Know
United States	14	6	0	0	4
Czechia	7	3	1	0	8
Russia	7	2	3	0	7
Nonsubject sources	7	4	2	0	3

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

Note: Purchasers were asked how often domestically produced or imported ESBR meets minimum quality specifications for their own or their customers’ uses.

⁵⁶ The numbers of purchasers’ responses referred to in this paragraph excludes those responding that they did not know.

Twenty-two of 24 purchasers reported factors that determined quality including physical properties (viscosity, bound styrene content, elongation, dispersion, density); processability; performance in final product (tensile strength of the final product); product consistency (upper and lower tolerances, averages, standard deviations); free of contamination (volatile matter, ash, soap); level of other materials (organic acid, moisture); meet specifications; and type of oil.⁵⁷

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since 2019 (table II-9). Purchasers reported a number of reasons for changing sources. Two purchasers reduced purchases of domestically produced ESBR because of contracted volume, price, and production levels. Seven purchasers' reasons for increasing U.S. purchases included availability, production volume, added a U.S. supplier to have a second source, Germany stopped making ESBR and U.S. price improved, and reduced purchases of Mexican ESBR for service and stability. Two purchasers reduced purchases of ESBR imported from Czechia (one because it had only made a trial purchase and one because it was no longer available). One purchaser increased purchases of ESBR from imported from Czechia because of competitive quotes. Three purchasers decreased purchases of ESBR imported from Russia, one because it switched to ESBR from Taiwan, another because spot prices became noncompetitive, and the third because of performance and availability (prior to war escalation). One purchaser increased purchases of ESBR imported from Russia because it expanded its list of approved suppliers.⁵⁸

⁵⁷ *** reported it "mostly purchase(s) lower quality material." ***. ***.

⁵⁸ Reasons purchasers decreased purchases of ESBR imported from nonsubject sources included: availability; quote was less competitive; demand decreased; switched to U.S. supply; (Germany) stopped manufacturing it; (Thailand) lead time and price; and (Mexico) stopped purchasing.

Table II-9**ESBR: Count of purchasers' responses regarding changes in purchase patterns from U.S., subject, and nonsubject countries**

Source of purchases	Decreased	Increased	Constant	Fluctuated	Did not purchase
United States	2	7	7	5	2
Czechia	2	1	3	3	9
Russia	3	1	3	4	9
Nonsubject sources	7	0	3	3	7
Sources unknown	0	0	0	1	12

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

Eight of 24 purchasers reported that they had changed suppliers since January 1, 2019. A number of purchasers reported details about the changes. *** reported it added product from Taiwan and Russia due to costs and dropped U.S. product for some grades due to costs. *** reported that it approved Synthos as a vendor in the first quarter of 2019, ESBR produced by Russian supplier Sibur had its applications restricted, and Russian suppliers Vorenezh and Sterlitamak were “blacklisted” in 2021 because of performance. That Russian product is inferior and results in more waste, slower processing, and poor physical properties, increasing the cost of using this material and increasing risks from using this material. *** reported purchasing from all approved suppliers, but that the mix of purchases from U.S. producers will change from year to year. *** changed from *** because of supplier performance. *** approved Sibur as a supplier in 2020 and purchased from it in 2021. *** reported it changed sources because its *** source stopped making ESBR. *** reported changing sources based on availability and *** adding Lion as a supplier.

Purchase factor comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing ESBR produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 17 factors (table II-7) for which they were asked to rate the importance (table II-10). Most responding purchasers reported that ESBR produced in the United States and Czechia were comparable for 14 factors. The remaining three factors were: delivery time (a factor most purchasers rated as very important), which most purchasers reported U.S. product was superior; payment terms, which 4 purchasers each reported that U.S. terms were superior and 4 that they were comparable; and reliability of supply (a factor most purchasers rated as very important), which half the purchasers (5) reported they were comparable while 3 reported U.S. ESBR was superior and 2 reported Czechia was superior.

Most responding purchasers reported that ESBR produced in the United States and in Russia were comparable for 12 factors. A plurality of purchasers reported that ESBR produced in the United States and in Russia were comparable for 2 factors availability and product consistency (both factors most purchasers rated as very important). Most responding firms reported U.S. ESBR was superior for technical support; for delivery time (a factor most purchasers rated as very important), four firms each reported U.S. was superior and U.S. and Russia were comparable; and reliability of supply (a factor most purchasers rated as very important), a plurality of purchasers reported U.S. product was superior. Most purchasers reported that Czech and Russian product was comparable for all factors other than price (a factor most purchasers rated as very important). Three purchasers reported that the Russian price was superior, three reported Czech and Russian product were comparable on price, and one reported that the Czech price was superior.

Most purchasers reported that U.S. and nonsubject ESBR were comparable on all factors except two. For delivery time (a factor most purchasers rated as very important), seven purchasers reported U.S. product as superior while five reported U.S. and nonsubject product as comparable; for reliability of supply (a factor most purchasers rated as very important), equal numbers (5 each) reported the U.S. product as superior as those reporting the products comparable. Most purchasers reported that Czech and Russian and nonsubject ESBR were comparable for all factors.

Table II-10
ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Czechia	2	6	2
Delivery terms	U.S. v. Czechia	4	6	0
Delivery time	U.S. v. Czechia	7	3	0
Discounts offered	U.S. v. Czechia	3	7	0
Diversity of supply	U.S. v. Czechia	3	6	1
Minimum quantity requirements	U.S. v. Czechia	2	8	0
Packaging	U.S. v. Czechia	2	8	0
Payment terms	U.S. v. Czechia	4	4	2
Price	U.S. v. Czechia	3	7	0
Product consistency	U.S. v. Czechia	2	7	1
Product range	U.S. v. Czechia	1	7	2
Production method	U.S. v. Czechia	2	8	0
Quality meets industry standards	U.S. v. Czechia	1	9	0
Quality exceeds industry standards	U.S. v. Czechia	2	7	1
Reliability of supply	U.S. v. Czechia	3	5	2
Technical support/service	U.S. v. Czechia	3	6	1
U.S. transportation costs	U.S. v. Czechia	3	6	0

Table continued.

Table II-10 Continued**ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair**

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Russia	2	4	3
Delivery terms	U.S. v. Russia	2	6	0
Delivery time	U.S. v. Russia	4	4	1
Discounts offered	U.S. v. Russia	2	5	0
Diversity of supply	U.S. v. Russia	2	4	1
Minimum quantity requirements	U.S. v. Russia	2	6	0
Packaging	U.S. v. Russia	2	6	0
Payment terms	U.S. v. Russia	2	5	1
Price	U.S. v. Russia	3	6	0
Product consistency	U.S. v. Russia	3	4	2
Product range	U.S. v. Russia	1	6	1
Production method	U.S. v. Russia	2	5	0
Quality meets industry standards	U.S. v. Russia	2	7	0
Quality exceeds industry standards	U.S. v. Russia	2	6	0
Reliability of supply	U.S. v. Russia	4	2	3
Technical support/service	U.S. v. Russia	4	2	1
U.S. transportation costs	U.S. v. Russia	3	5	1

Table continued.

Table II-10 Continued**ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair**

Factor	Country pair	Superior	Comparable	Inferior
Availability	Czechia v. Russia	0	5	2
Delivery terms	Czechia v. Russia	0	6	1
Delivery time	Czechia v. Russia	1	5	1
Discounts offered	Czechia v. Russia	0	6	1
Diversity of supply	Czechia v. Russia	0	6	1
Minimum quantity requirements	Czechia v. Russia	0	6	1
Packaging	Czechia v. Russia	0	6	1
Payment terms	Czechia v. Russia	1	5	1
Price	Czechia v. Russia	1	3	3
Product consistency	Czechia v. Russia	2	4	1
Product range	Czechia v. Russia	1	6	0
Production method	Czechia v. Russia	0	7	0
Quality meets industry standards	Czechia v. Russia	1	6	0
Quality exceeds industry standards	Czechia v. Russia	1	6	0
Reliability of supply	Czechia v. Russia	2	5	0
Technical support/service	Czechia v. Russia	1	6	0
U.S. transportation costs	Czechia v. Russia	0	7	0

Table continued.

Table II-10 Continued**ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair**

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Nonsubject	4	6	2
Delivery terms	U.S. v. Nonsubject	4	7	0
Delivery time	U.S. v. Nonsubject	7	5	0
Discounts offered	U.S. v. Nonsubject	4	6	0
Diversity of supply	U.S. v. Nonsubject	3	6	1
Minimum quantity requirements	U.S. v. Nonsubject	2	9	0
Packaging	U.S. v. Nonsubject	3	7	1
Payment terms	U.S. v. Nonsubject	3	8	1
Price	U.S. v. Nonsubject	5	7	0
Product consistency	U.S. v. Nonsubject	2	9	1
Product range	U.S. v. Nonsubject	2	7	2
Production method	U.S. v. Nonsubject	2	9	0
Quality meets industry standards	U.S. v. Nonsubject	2	10	0
Quality exceeds industry standards	U.S. v. Nonsubject	2	9	0
Reliability of supply	U.S. v. Nonsubject	5	5	2
Technical support/service	U.S. v. Nonsubject	3	6	1
U.S. transportation costs	U.S. v. Nonsubject	4	7	1

Table continued.

Table II-10 Continued**ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair**

Factor	Country pair	Superior	Comparable	Inferior
Availability	Czechia v. Nonsubject	2	6	0
Delivery terms	Czechia v. Nonsubject	0	7	1
Delivery time	Czechia v. Nonsubject	1	5	2
Discounts offered	Czechia v. Nonsubject	0	7	1
Diversity of supply	Czechia v. Nonsubject	1	7	0
Minimum quantity requirements	Czechia v. Nonsubject	0	7	1
Packaging	Czechia v. Nonsubject	0	8	0
Payment terms	Czechia v. Nonsubject	0	7	1
Price	Czechia v. Nonsubject	1	7	0
Product consistency	Czechia v. Nonsubject	0	8	0
Product range	Czechia v. Nonsubject	0	8	0
Production method	Czechia v. Nonsubject	0	8	0
Quality meets industry standards	Czechia v. Nonsubject	0	8	0
Quality exceeds industry standards	Czechia v. Nonsubject	0	7	1
Reliability of supply	Czechia v. Nonsubject	2	6	0
Technical support/service	Czechia v. Nonsubject	1	7	0
U.S. transportation costs	Czechia v. Nonsubject	0	7	1

Table continued.

Table II-10 Continued**ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair**

Factor	Country pair	Superior	Comparable	Inferior
Availability	Russia v. Nonsubject	0	5	0
Delivery terms	Russia v. Nonsubject	0	5	0
Delivery time	Russia v. Nonsubject	0	5	0
Discounts offered	Russia v. Nonsubject	0	5	0
Diversity of supply	Russia v. Nonsubject	0	5	0
Minimum quantity requirements	Russia v. Nonsubject	0	4	1
Packaging	Russia v. Nonsubject	0	5	0
Payment terms	Russia v. Nonsubject	0	4	1
Price	Russia v. Nonsubject	0	5	0
Product consistency	Russia v. Nonsubject	0	5	0
Product range	Russia v. Nonsubject	0	5	0
Production method	Russia v. Nonsubject	0	4	1
Quality meets industry standards	Russia v. Nonsubject	0	4	1
Quality exceeds industry standards	Russia v. Nonsubject	0	4	1
Reliability of supply	Russia v. Nonsubject	0	4	1
Technical support/service	Russia v. Nonsubject	0	5	0
U.S. transportation costs	Russia v. Nonsubject	0	4	1

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

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

Comparison of different types of styrene and additives

Styrene type

U.S. producers reported *** their U.S. shipments of ESBR was produced using bound styrene. Importers of ESBR from Czechia reported that (***) percent) of their imports into the United States were produced using bound styrene. Importers of ESBR from Russia reported that most (***) percent) of their imports into the United States were produced from alphas-methyl styrene⁵⁹ and the remaining *** percent were produced from bound styrene.⁶⁰

⁵⁹ ***.

⁶⁰ Firms were also asked about other types of styrene. However, no production from other types of styrene was reported.

Producers, importers and purchasers were asked “are the different types of ESBR by styrene type (used in their production) interchangeable” (table II-11).⁶¹ *** reported that ESBR produced using bound styrene and alphas-methyl styrene were *** while the majority of responding importers and purchasers reported that they were sometimes or never interchangeable. Differences reported included: firm could only use ESBR produced with bound styrene; performance differed and changing the type of styrene would affect the ability to meet specifications; bound and alphas-methyl styrene impart different properties; alphas-methyl styrene has not been approved by tire producers; and Russian alphas-methyl styrene has a strong odor and some customers will not use it.

Table II-11
ESBR: Count of U.S. producers, importers, and purchasers reporting the interchangeability between bound and alphas-methyl styrene by firm type

Firm type	Always	Frequently	Sometimes	Never
Producer	***	***	***	***
Importer	1	0	2	2
Purchaser	1	3	2	3

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

Extenders

Producers and importers were asked what type of additives (extenders) were used in the U.S. shipments of ESBR they produced or imported in 2021. The 1700 series ESBR includes additive such as oil extenders, while the 1500 does not include these extenders. U.S. producers reported that most (*** percent) of their 2021 U.S. shipments of 1700 series ESBR that they produced included *** (*** percent of 1500 and 1700 series combined),⁶² *** percent of their 2021 U.S. shipments of 1700 series included aromatic extracts (9.4 percent of 1500 and 1700 series combined), ***.⁶³

⁶¹ The questionnaire also asked for responses for “other” types of styrene. None of the firms identified any “other” styrene. *** reported that no other styrene type exists.

⁶² ***. Naphthenic oils are listed to be suitable for use in tire production because it has low levels of Polycyclic Aromatic Hydrocarbons (PAHs). https://en.wikipedia.org/wiki/Naphthenic_oil retrieved, September 28, 2022. See footnote 67 for details on PAHs.

⁶³ ***.

*** importers reported having U.S. shipments of 1700 series ESBR imported from Czechia. All *** importers reported that the only additives used were aromatic extracts.⁶⁴ *** importers reported having U.S. shipments of 1700 series ESBR imported from Russia, and one of these (***) reported aromatic oils were used as extender, while the other (***) did not report their imports included any type of extender.⁶⁵

Producers, importers, and purchasers were asked about the interchangeability of ESBR with aromatic oils, aromatic extracts, and other additives were interchangeable (table II-12). A number of firms reported that aromatic oils, which were sometimes included in Russian ESBR, are banned in Europe or that ESBR with aromatic oils cannot be used in tire production.⁶⁶ Other reported differences included: while products of the same grade are always interchangeable, different additives result in a different IISRP grade; substitution would require a new evaluation of the ESBR; and use would depend on internal restricted substance policy.

⁶⁴ Data on the type of additives in imports was only collected for 2021. ***. Two other importers (***) reported U.S. shipments with other additives but only import of 1500 series ESBR from Czechia *** and ***.

⁶⁵ ***. ***. ***. These discrepancies have not been explained.

⁶⁶Aromatic oils are reported to have a high PAH content. PAH exposure has been linked to cancer, cardiovascular disease, and poor fetal growth.
https://en.wikipedia.org/wiki/Polycyclic_aromatic_hydrocarbon; Ambient Air Pollution and Pregnancy Outcomes: A Review of the Literature, Sram et al. April 2005
<https://ehp.niehs.nih.gov/doi/10.1289/ehp.6362>; Cancer risk assessment, indicators, and guidelines for Polycyclic aromatic hydrocarbons in the ambient air, Bostrom et al, June 2002, Environmental Health Perspectives <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241197/>;
<https://www.sciencedirect.com/science/article/abs/pii/S1383574207000312?via%3Dihub>;
Environment contamination- mixture effects on CNS development, plasticity, and behavior, Wirnkey at all, Toxicology and Applied Pharmacology, May 2004
<https://www.sciencedirect.com/science/article/abs/pii/S0041008X04000742?via%3Dihub>; Air pollution combustion emissions: characterization of causative agents and mechanisms associated with cancer reproductive and cardiovascular effects
<https://www.sciencedirect.com/science/article/abs/pii/S1383574207000312?via%3Dihub>.

Table II-12

ESBR: Count of U.S. producers, importers, and purchasers reporting the interchangeability between different types of additives, by firm type and additive pair

Firm type	Styrene pair	Always	Frequently	Sometimes	Never
Producer	Aromatic extracts vs. aromatic oils	***	***	***	***
Producer	Aromatic extracts vs. other	***	***	***	***
Producer	Aromatic oils vs. other	***	***	***	***
Importer	Aromatic extracts vs. aromatic oils	0	0	3	3
Importer	Aromatic extracts vs. other	0	0	1	2
Importer	Aromatic oils vs. other	0	0	0	2
Purchaser	Aromatic extracts vs. aromatic oils	1	4	2	3
Purchaser	Aromatic extracts vs. other	0	1	3	3
Purchaser	Aromatic oils vs. other	0	2	1	3

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

Comparison of U.S.-produced and imported ESBR

In order to determine whether U.S.-produced ESBR can generally be used in the same applications as imports from Czechia and Russia, U.S. producers, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in tables II-13, producers reported that ESBR from *** and a majority of purchasers reported that ESBR from all country pairs were frequently interchangeable. Importers' responses varied by country pair. Four reported ESBR produced in the United States was frequently interchangeable with ESBR imported from Czechia and 3 each responded always and sometimes. Four importers reported ESBR produced in the United States and imported from Russia were sometimes interchangeable while 2 each responded always, frequently and never. Half the responding importers (4) reported that ESBR imported from Czechia and Russia were sometimes interchangeable while two each reported always and frequently. Half or more purchasers responded that ESBR from all country pairs was frequently interchangeable. Factors that limited interchangeability are listed in table II-14. Respondent Intertex stated that ESBR imported from Russia is used in non-tire markets;⁶⁷ however, importers report that some of the 1500 series ESBR imported from Russia was shipped to tire producers in 2019-June 2022, and ***. Neither U.S.-produced ESBR nor ESBR imported from Czechia used

⁶⁷ Conference transcript, p. 91 (Rybalov).

***; in contrast, most ESBR imported from Russia was produced with ***.

Table II-13
ESBR: Count of firms reporting the interchangeability between product produced in the United States and in other countries, by firm type and country pair

Firm Type	Country pair	Always	Frequently	Sometimes	Never
Producer	United States vs. Czechia	***	***	***	***
Producer	United States vs. Russia	***	***	***	***
Producer	Czechia vs. Russia	***	***	***	***
Producer	United States vs. Other	***	***	***	***
Producer	Czechia vs. Other	***	***	***	***
Producer	Russia vs. Other	***	***	***	***
Importer	United States vs. Czechia	3	4	3	1
Importer	United States vs. Russia	2	2	4	2
Importer	Czechia vs. Russia	2	2	4	0
Importer	United States vs. Other	2	3	4	1
Importer	Czechia vs. Other	2	3	2	0
Importer	Russia vs. Other	3	2	1	0
Purchaser	United States vs. Czechia	2	6	2	0
Purchaser	United States vs. Russia	1	5	3	0
Purchaser	Czechia vs. Russia	0	4	2	0
Purchaser	United States vs. Other	3	8	2	0
Purchaser	Czechia vs. Other	1	6	1	0
Purchaser	Russia vs. Other	1	4	2	0

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

Table II-14

ESBR: Firms explanations of factors that limited interchangeability between countries by firm type

Firm type	Firm name	Reasons for limits on interchangeability
Producer	***	***
Importer	***	***
Importer	***	***
Importer	***	***
Importer	***	***
Importer	***	***
Importer	***	***
Purchaser	***	***
Purchaser	***	***
Purchaser	***	***
Purchaser	***	***
Purchaser	***	***
Purchaser	***	***

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

Note: Registration, Evaluation, Authorization and Restrictions of Chemicals (REACH) is an EU regulation addressing the production and use of chemicals.

Note: ***.

In addition, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of ESBR from the United States, subject, or nonsubject countries. As seen in table II-15, one producer ***; a plurality of importers responded that differences other than price were sometimes significant for all country pairs. Purchaser responses were more varied with most responding purchasers reporting that differences between domestically produced ESBR and ESBR imported from Czechia were sometimes significant. While half the responding purchasers reported that differences other than price between U.S. ESBR and ESBR imported from Russia were sometimes significant, the other half reported differences other than price were always or frequently significant. Half the responding purchasers reported differences other than price were frequently significant between ESBR imported from Czechia and Russia; and a majority of the responding purchasers reported differences other than price were sometimes significant between U.S. produced ESBR and ESBR imported from other countries. Table II-16 provides the factors other than price firms reported.

Table II-15
ESBR: Count of firms reporting the significance of differences other than price between product produced in the United States and in other countries, by firm type and country pair

Firm Type	Country pair	Always	Frequently	Sometimes	Never
Producer	U.S. vs. Czechia	***	***	***	***
Producer	U.S. vs. Russia	***	***	***	***
Producer	U.S. vs. Other	***	***	***	***
Producer	Czechia vs. Russia	***	***	***	***
Producer	Czechia vs. Other	***	***	***	***
Producer	Russia vs. Other	***	***	***	***
Importer	U.S. vs. Czechia	1	2	3	2
Importer	U.S. vs. Russia	1	0	3	1
Importer	U.S. vs. Other	0	1	3	1
Importer	Czechia vs. Russia	1	2	4	1
Importer	Czechia vs. Other	0	1	4	2
Importer	Russia vs. Other	0	0	3	1
Purchaser	U.S. vs. Czechia	0	1	6	2
Purchaser	U.S. vs. Russia	1	3	4	1
Purchaser	U.S. vs. Other	0	3	2	1
Purchaser	Czechia vs. Russia	2	2	7	2
Purchaser	Czechia vs. Other	0	1	4	4
Purchaser	Russia vs. Other	0	3	1	2

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

Table II-16

ESBR: Firms explanations of differences other than price between countries by firm type

Firm type	Firm name	Differences other than price
Producer	***	***
Producer	***	***
Importer	***	***
Importer	***	***
Importer	***	***
Purchaser	***	***
Purchaser	***	***
Purchaser	***	***
Purchaser	***	***

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

Elasticity estimates

This section discusses elasticity estimates; parties were encouraged to comment on these estimates as an attachment to their prehearing brief. Petitioner Lion provided comments on the domestic elasticity of supply, reporting that firms' production characteristics, U.S. purchasers' responses ranking the domestic industry as "superior" or "comparable" on supply-related purchasing factors, and the "ability to draw from significant on-site inventory of both raw material inputs and Finished Goods" translated to Lion's ability to supply "consistently high volumes of ESBR at near perfect on-time delivery rates for the entirety of the POI."⁶⁸ Petitioner Lion further contends that the elasticity of substitution for ESBR is high regardless of source due to ESBR's production to IISRP standards.⁶⁹

U.S. supply elasticity

The domestic supply elasticity for ESBR measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of ESBR. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced ESBR. Analysis of these factors above indicates that the U.S. industry has a moderate ability to increase or decrease shipments to the U.S. market; an estimate in the range of 3 to 5 is suggested.⁷⁰ Petitioner Lion provided comments detailed below.

U.S. demand elasticity

The U.S. demand elasticity for ESBR measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of ESBR. This estimate depends on factors discussed above such as the existence, availability, and commercial viability of substitute products, as well as the component share of the ESBR in the production of any downstream products. Based on the available information, the aggregate demand for ESBR is likely to be moderately to highly inelastic; a range of -0.2 to -0.75 is suggested.

⁶⁸ Petitioner Lion's prehearing brief, pp. 12-13.

⁶⁹ Hearing transcript, p. 58-60 (Kaplan), and petitioner Lion's posthearing brief, pp. 60-61.

⁷⁰ The U.S. supply elasticity is assumed to be moderate rather than large (as would normally be expected from the firms' production characteristics) because of the frequent supply constraints resulting from force majeure reported from January 2019 and June 2022.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.⁷¹ Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced ESBR and imported ESBR is likely to be in the range of 3 to 5. The ability to substitute between U.S. produced ESBR and ESBR imported from Russia is at the lower end of this because a number of purchasers believe that ESBR imported from Russia is lower quality and its 1700 series material is seldom used in tire manufacture. ESBR imported from Czechia is exclusively used in tire applications, the most common applications for domestically produced ESBR. Petitioner Lion further contends that the elasticity of substitution for ESBR is high regardless of source due to ESBR's production to IISRP standards.⁷²

⁷¹ The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the domestic like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject products (or vice versa) when prices change.

⁷² Hearing transcript, p. 58-60 (Kaplan), and petitioner Lion's posthearing brief, pp. 60-61.

Part III: U.S. producers’ production, shipments, and employment

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the dumping margins was presented in Part I of this report and information on the volume and pricing of imports of the subject merchandise is presented in Part IV and Part V. Information on the other factors specified is presented in this section and/or Part VI and (except as noted) is based on the questionnaire responses of two firms that accounted for all U.S. production of ESBR during January 2019 through June 2022.

U.S. producers

The Commission issued a U.S. producer questionnaire to three firms based on information contained in the petition and other available industry sources. Two firms provided usable data on their operations: Lion and Goodyear.¹ Staff believes that these responses represent all U.S. production of ESBR during January 2019 through June 2022.

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

Table III-1
ESBR: U.S. producers and their position on the petition, production locations, and shares of reported production, 2021

Shares in percent

Firm	Position on petition	Production location	Share of production
Goodyear	***	Houston, TX	***
Lion	Petitioner	Port Neches, TX	***
All firms	Various	Various	100.0

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

¹ The third firm, ***, submitted a response certifying that it had not produced ESBR in the United States at any time since January 1, 2019.

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

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

Reporting firm	Relationship type and related firm	Details of relationship
***	***	***

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

Neither U.S. producer reported being related to foreign producers or U.S. importers of the subject merchandise. Additionally, neither U.S. producer reported any imports or purchases from subject sources. Table III-3 presents U.S. producers' reported changes in operations since January 1, 2019.

Table III-3
ESBR: U.S. producers' reported changes in operations, since January 1, 2019

Item	Firm name and narrative response on changes in operations
Prolonged shutdowns or curtailments	***
Prolonged shutdowns or curtailments	***
Natural disasters or force majeure	***
Natural disasters or force majeure	***
Other	***

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

Firms were asked whether the COVID-19 pandemic or related government actions taken to contain the spread of the COVID-19 virus resulted in changes to their ESBR operations.² Lion reported that it had ***. It also reported that it had “***.”

Goodyear responded that it ***.

² See appendix G for full narratives from U.S. producers and U.S. importers on the impact of the COVID-19 pandemic.

U.S. production, capacity, and capacity utilization

U.S. producers were asked to describe any constraints that set a limit on their firm's production or production capacity. Table III-4 presents the firms' responses with respect to production and capacity constraints.

Table III-4
ESBR: U.S. producers' reported production and capacity constraints

Item	Firm name and narrative response on production constraints
Supply of material inputs	***
Fuel or energy	***
Other	***
Other	***

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

Table III-5 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. Goodyear accounted for *** of total domestic ESBR production during January 2019 through June 2022, with Lion accounting for the balance. U.S. producers' average production capacity was stable across the POI. ESBR production decreased *** percent from 2019-20 and then increased *** percent from 2020-21, decreasing *** percent overall in 2021 as compared to 2019. U.S. producers' ESBR production was *** percent higher during January-June 2022 as compared to January-June 2021.³

's reported average ESBR production capacity remained constant during the POI. ***'s ESBR production decreased by *** percent from 2019-20⁴ and then increased *** percent from 2020-21, decreasing *** percent overall from 2019-21. Resultingly, ***'s capacity utilization decreased from *** percent in 2019 to *** percent in 2019 and then increased to *** percent in 2021. ***'s ESBR production was *** percent higher in January-June 2022 as compared to January-June 2021, which also resulted in a higher capacity utilization in January-June 2022 than in January-June 2021 (percent as compared to *** percent).

's reported capacity increased *** percent from 2019 to 2020 and then decreased *** percent from 2020 to 2021, ending *** percent higher in 2021 as compared to 2019. ***'s capacity was *** percent lower during January-June 2022 interim period as compared to the January-June 2021 interim period.⁵ ***'s ESBR production decreased by *** percent from 2019-20⁶ and then increased *** percent from 2020-21 to finish 2021 slightly above its 2019 level (percent higher). Resultingly, ***'s capacity utilization decreased from *** percent in 2019 to *** percent in 2020 before increasing nearly back to its 2019 level in 2021 (***). ***'s ESBR production was *** percent lower in January-June 2022 as compared to January-June 2021 and as such its capacity utilization rate was slightly lower across the comparison periods (*** percent as compared to *** percent).

³ As noted in table III-3, ***.

⁴ As previously noted, ***.

⁵ ***.

⁶ On November 27, 2019, an explosion and fire occurred at TPC Group's chemical plant in Port Neches, Texas, prompting a supply disruption of butadiene feedstock. Lion reported that its facility in Port Neches, Texas ran below targeted production rates from December 2019 through mid-March 2020 due to a lack of butadiene availability. Conference transcript, pp. 33-35 (Rikhoff).

Table III-5
ESBR: Firm-by-firm U.S. producers' average production capacity, by period

Capacity

Capacity in 1,000 pounds

Firm	2019	2020	2021	January-June 2021	January-June 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table III-5 Continued
ESBR: Firm-by-firm U.S. producers' production, by period

Production

Production in 1,000 pounds

Firm	2019	2020	2021	January-June 2021	January-June 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table III-5 Continued
ESBR: Firm-by-firm U.S. producers' capacity utilization, by period

Capacity utilization

Capacity utilization ratios in percent

Firm	2019	2020	2021	January-June 2021	January-June 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Note: Capacity utilization ratio represents the ratio of the U.S. producer's production to its production capacity.

Table continued.

Table III-5 Continued
ESBR: Firm-by-firm share of production, by period

Share of production

Share of production in percent

Firm	2019	2020	2021	January-June 2021	January-June 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	100.0	100.0	100.0	100.0	100.0

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

Figure III-1
ESBR: U.S. producers' capacity, production, and capacity utilization, by period

* * * * *

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

Alternative products

Lion reported that ***.⁷

Goodyear reported that ***;⁸ ***.⁹

Despite ***, Lion provided its overall capacity and production figures for ESBR and ***, while Goodyear provided its overall capacity and production figures for ESBR and ***. As shown in table III-6, when considering *** as being produced on the same equipment and/or labor as subject production, between *** and *** percent of U.S. producers' production was accounted for by ESBR. During the POI, Lion's production of *** accounted for between *** and *** percent of its total production using the same equipment and/or labor as subject production and Lion's production of *** accounted for between *** and *** percent of its total production using the same equipment and/or labor as subject production. Goodyear's production of ***

⁷ As noted in part I, many ingredients such as carbon black, oils, antioxidants, processing aids, vulcanizing agents, silica, and zinc oxide are often added to the ESBR production process to make the various recipes, and the type of blend is selected depending on the end-use of the product. There are several IISRP SBR series of products, including the 1600 and 1800 series (which are grades of emulsion SBR carbon black masterbatch), that are not covered by the petition.

Lion noted that it "****. Lion's U.S. producers' questionnaire response, section II-3b.

⁸ Goodyear ***. Goodyear's U.S. producers' questionnaire response, section II-3a.

⁹ Staff correspondence with ***, September 23, 2022.

*** accounted for between *** and *** percent of its total production using the same equipment and/or labor as subject production.

Table III-6
ESBR: U.S. producers' overall capacity and production on the same equipment and/or labor as subject production, by period

Quantities in 1,000 pounds; shares and ratios in percent

Item	Measure	2019	2020	2021	January-June 2021	January-June 2022
Overall capacity	Quantity	***	***	***	***	***
ESBR production	Quantity	***	***	***	***	***
CBMB production	Quantity	***	***	***	***	***
Hot ESBR production	Quantity	***	***	***	***	***
Latex/food-grade products	Quantity	***	***	***	***	***
All out of scope production	Quantity	***	***	***	***	***
Total production	Quantity	***	***	***	***	***
Overall capacity utilization	Ratio	***	***	***	***	***
ESBR production	Share	***	***	***	***	***
CBMB production	Share	***	***	***	***	***
Hot ESBR production	Share	***	***	***	***	***
Latex/food-grade products	Share	***	***	***	***	***
All out of scope production	Share	***	***	***	***	***
Total production	Share	100.0	100.0	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “--”.

U.S. producers' U.S. shipments and exports

Table III-7 presents U.S. producers' U.S. shipments, export shipments, and total shipments. U.S. shipments, by quantity and value, consistently accounted for the vast majority of U.S. producers' total ESBR shipments during the POI (between *** and *** percent by quantity and between *** and *** percent by value during the POI) with exports accounting for the balance.

U.S. producers' U.S. shipments decreased from 2019-20 (*** percent by quantity and *** percent by value) and then increased from 2020-21 (*** percent by volume and *** percent by value), resulting in an overall decrease from 2019-21 by volume (*** percent decrease by volume) but an overall increase from 2019-21 by value (*** percent increase by value). U.S. producers' export shipments decreased irregularly from 2019-21 by both volume and value. Export shipments decreased from 2019-20 (*** percent by volume and *** percent by value) and then increased from 2020-21 (*** percent by volume and *** percent by value) resulting in an overall decrease in export shipments from 2019-21 (*** percent by volume and *** percent by value). Resultingly, U.S. producers' total shipments decreased from 2019-20 (*** percent by quantity and *** percent by value) and then increased from 2020-21 (*** percent by quantity and *** percent by value), resulting in an overall decrease from 2019-21 by volume (*** percent decrease by volume) but an overall increase from 2019-21 by value (*** percent increase by value).

U.S. producers' U.S. shipments, export shipments, and total shipments were all higher by both volume and value during the January-June 2022 interim period than in the 2021 interim period (U.S. shipments were *** and *** percent higher by volume and value, respectively; exports were *** and *** percent higher by volume and value, respectively; and total shipments were *** and *** percent higher by volume and value, respectively).

Unit values for U.S. producers' U.S. shipments, export shipments, and total shipments increased irregularly from 2019-21 (increasing by ***, ***, and *** percent, respectively from 2019-21). Unit values for U.S. producers' U.S. shipments, export shipments, and total shipments were also all higher in the January-June 2022 interim period than in the 2021 interim period (***, ***, and *** percent higher, respectively).

Table III-7
ESBR: U.S. producers' total shipments, by destination and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent

Item	Measure	2019	2020	2021	January-June 2021	January-June 2022
U.S. shipments	Quantity	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Table III-8 presents U.S. producers' U.S. shipments by type. During the POI, Lion reported ***, and Goodyear reported ***.¹⁰ By volume, commercial shipments represented between *** and *** percent of all U.S. shipments during the POI. Goodyear internally consumes ESBR to produce tires. Goodyear also acquired Cooper Tire & Rubber Company as of June 7, 2021, and all ***. By volume, Goodyear's internal consumption represented between *** and *** percent of total U.S. ESBR shipments during the POI and *** of total U.S. ESBR shipments during 2021 and the interim 2021 and 2022 periods. In total, Goodyear's captive U.S. shipments represented between *** and *** percent of all U.S. shipments by volume during the POI.

¹⁰ Appendix C presents both summary data concerning the U.S. total market for ESBR (table C-1) as well as the U.S. merchant market for ESBR (table C-2), which removes Goodyear's noncommercial data from the dataset.

Table III-8
ESBR: U.S. producers' U.S. shipments, by type and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent

Item	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Captive U.S. shipments	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Captive U.S. shipments	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Captive U.S. shipments	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	Share of quantity	***	***	***	***	***
Captive U.S. shipments	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
Transfers to related firms	Share of value	***	***	***	***	***
Captive U.S. shipments	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Captive consumption

Section 771(7)(C)(iv) of the Act states that—¹¹

If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that—

- (I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product,*
- (II) the domestic like product is the predominant material input in the production of that downstream article, and*

then the Commission, in determining market share and the factors affecting financial performance . . . , shall focus primarily on the merchant market for the domestic like product.

Transfers and sales

As reported in table III-8, Goodyear's internal consumption accounted for between *** and *** percent of U.S. producers' U.S. shipments of ESBR during January 2019 through June 2022 and *** of total U.S. ESBR shipments during 2021 and the interim 2021 and 2022 periods. In total, *** captive U.S. shipments represented between *** and *** percent of all U.S. shipments by volume during the POI.

First statutory criterion in captive consumption

The first requirement for application of the captive consumption provision is that the domestic like product that is internally transferred for processing into that downstream article not enter the merchant market for the domestic like product. Goodyear reported internal consumption of ESBR to produce tires. The company *** diverting ESBR intended for internal consumption to the merchant market.

¹¹ Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

Second statutory criterion in captive consumption

The second criterion of the captive consumption provision concerns whether the domestic like product is the predominant material input in the production of the downstream article that is captively produced. With respect to the downstream articles resulting from captive production, as presented in table III-9, Goodyear estimated that ESBR comprises *** percent of the finished cost of the downstream product (tires).

Table III-9

ESBR: U.S. producer Goodyear's share of materials in production of downstream products

Share in percent

Downstream product	Material input	Share of value/cost	Share of weight
Tires	ESBR	***	***
Tires	Other inputs	***	***
Tires	All material inputs	100.0	100.0

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

Note: ***.

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. From 2019-20, end-of-period inventories decreased *** percent and then increased *** percent from 2020-21, resulting in an overall increase in end-of-period inventories of *** percent from 2019-21. U.S. producers' inventory ratios to U.S. production, U.S. shipments, and total shipments all decreased from 2019-20, then decreased from 2020-21, resulting in overall increases from 2019-21 (for overall increases in the ratios of *** percentage points, respectively). Each of these ratios was also higher in interim 2022 than in interim 2021 (by *** percentage points, respectively).

During the POI, U.S. producers' inventory ratios to U.S. production were between *** and *** percent, U.S. producers' inventory ratios to U.S. shipments were between *** and *** percent, and U.S. producers' inventory ratios to total shipments were between *** and *** percent.

Table III-10
ESBR: U.S. producers' inventories and their ratio to select items, by period

Quantity in 1,000 pounds; ratio in percent

Item	2019	2020	2021	January-June 2021	January-June 2022
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

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

U.S. producers' imports and purchases of imports

Neither U.S. producer reported any imports or purchases from subject sources. *** reported nonsubject imports of *** pounds of ESBR from *** to ***. *** reported imports from nonsubject sources in 2021 represented *** percent of its 2021 production. *** also reported purchases from nonsubject sources (***). *** reported purchases from nonsubject sources in 2021 represented *** percent of its 2021 production.

U.S. employment, wages, and productivity

Table III-11 shows U.S. producers' employment-related data. Each employment metric, aside from hourly wages and unit labor costs, decreased from 2019-2020, then increased from 2020-21 but still ended at a lower level in 2021 as compared to 2019. U.S. producers' production and related workers ("PRWs") decreased *** percent from 2019-20 and then increased *** percent from 2020-21 for an overall decrease of *** percent from 2019-21. Similarly, total hours worked decreased *** percent from 2019-20 then increased *** percent from 2020-21 for an overall decrease of *** percent from 2019-21. Wages paid decreased *** percent from 2019-20 then increased *** percent from 2020-21 for an overall decrease of *** percent from 2019-21. Lastly, productivity as measured in pounds per hour decreased *** percent from 2019-20 then increased *** percent from 2020-21 for an overall decrease of *** percent from 2019-21.¹² However, each of these metrics was higher during the January-June 2022 interim period as compared to the January-June 2021 interim period (PRWs were *** percent higher, hours worked were *** percent higher, wages paid were *** percent higher, and productivity was *** percent higher).¹³

Hourly wages increased by *** percent from 2019-21, while unit labor costs increased irregularly over the same period (increasing *** percent from 2019-20 and then decreasing *** percent from 2020-21 for an overall increase of *** percent from 2019-21). Hourly wages and unit labor costs were both lower during the January-June 2022 interim period than in the January-June 2021 interim period (*** percent and *** percent lower, respectively).

¹² As previously noted in table III-3, ***.

¹³ As previously noted in table III-3, ***.

Table III-11**ESBR: U.S. producers' employment related information, by item and period**

Item	2019	2020	2021	January- June 2021	January- June 2022
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (1,000 hours)	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***

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

Part IV: U.S. imports, apparent U.S. consumption, and market shares

U.S. importers

The Commission issued importer questionnaires to 50 firms believed to be U.S. importers of ESBR, as well as to all U.S. producers of ESBR.¹ Usable questionnaire responses were received from 19 firms.² ³ Table IV-1 lists all responding U.S. importers of ESBR from Czechia and Russia, subject sources combined, Italy,⁴ all other nonsubject sources, and nonsubject sources combined, along with their locations and their shares of U.S. imports in 2021.

¹ The Commission issued questionnaires to those firms identified in the petition, along with firms that, based on a review of data from third-party sources, may have accounted for more than one percent of total imports under HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019 in 2021.

² As discussed in Part I, subject ESBR is imported under HTS statistical reporting number 4002.19.0015, which specifically includes ESBR in bales, as well as under HTS statistical reporting number 4002.19.0019, an aggregate “basket” styrene-butadiene rubber category which includes ESBR in forms other than bales and out-of-scope products. Firms responding to the Commission’s questionnaire accounted for the following shares of imports by source under HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019 during 2019-21: Czechia; *** percent; Russia: *** percent; subject sources: *** percent; nonsubject sources: *** percent; and total imports, *** percent.

³ The Commission also received a U.S. importers’ questionnaire response from ***. *** indicated that ***. See email from ***, August 26, 2002. As ***, data from *** was not used to avoid potential double counting.

Additionally, eleven firms submitted a response certifying that they had not imported ESBR from any country at any time since January 1, 2019: ***.

⁴ As noted in part I, the petitions filed originally alleged that an industry in the United States was materially injured and threatened with material injury by reason of LTFV imports of ESBR from Italy. On May 2, 2022, counsel for petitioner Lion filed with the Department of Commerce and the Commission a withdrawal of the petition with respect to imports of ESBR from Italy. The Commission and Commerce subsequently terminated their investigations with respect to Italy. As such, tables throughout part IV display data with respect to Italy as a notable nonsubject source.

Table IV-1
ESBR: U.S. importers, their headquarters, and share of total imports within a given source by firm, 2021

Share in percent

Firm	Headquarters	Czechia	Russia	Subject sources	Italy	All other sources	Nonsubject sources	All import sources
Arlanxeo	Pittsburgh, PA	***	***	***	***	***	***	***
ARP	Amherst, NY	***	***	***	***	***	***	***
Carlstar Group	Franklin, TN	***	***	***	***	***	***	***
Channel Prime	Des Moines, IA	***	***	***	***	***	***	***
Continental	Fort Mill, SC	***	***	***	***	***	***	***
Dynasol	Houston, TX	***	***	***	***	***	***	***
Giti Tire	Richburg, SC	***	***	***	***	***	***	***
Goodyear	Akron, OH	***	***	***	***	***	***	***
GPC	Woodbridge, VA	***	***	***	***	***	***	***
Intertex	Carrollton, GA	***	***	***	***	***	***	***
Joss Elastomers	Alkmaar, Netherlands	***	***	***	***	***	***	***
Kumho Tire	Macon, GA	***	***	***	***	***	***	***
Michelin	Greenville, SC	***	***	***	***	***	***	***
Nokian	Dayton, TN	***	***	***	***	***	***	***
Pirelli	Rome, GA	***	***	***	***	***	***	***
HB Chemical	Twinsburg, OH	***	***	***	***	***	***	***
Synthos	Lobeček, Czechia	***	***	***	***	***	***	***
Toyo Tire	White, GA	***	***	***	***	***	***	***
Yokohama Tire	West Point, MS	***	***	***	***	***	***	***
All firms	Various	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "--". ***.

Firms were asked whether the COVID-19 pandemic or related government actions taken to contain the spread of the COVID-19 virus resulted in changes to their ESBR operations. Eleven of the 19 responding firms indicated that there had been impacts on their firms' operations from COVID-19 with narratives citing challenges such as supply chain disruptions, shipping delays, and increased transportation costs; difficulty obtaining feedstock, raw materials, and machinery; temporary plant closures; and a temporary decrease in demand in 2020.⁵

⁵ See appendix G for full narratives from U.S. importers on the impacts of the COVID-19 pandemic.

U.S. imports

Table IV-2 and figure IV-1 present data for U.S. imports of ESBR from Czechia and Russia, subject sources combined, Italy, all other nonsubject sources, and nonsubject sources, and all import sources. Table IV-3 presents the changes in import quantities, values, and unit values between comparison periods by source.

U.S. imports from Czechia decreased from 2019-20 (decreasing *** percent by volume and *** percent by value) and then increased from 2020-21 (increasing *** percent by volume and *** percent by value). Resultingly, from 2019-21, U.S. imports from Czechia decreased by volume (by *** percent) but increased by value (by *** percent). U.S. imports from Czechia reported for the January-June 2022 interim period were *** percent lower by volume but *** percent higher by value than in the 2021 interim period. U.S. imports from Russia increased throughout the 2019-21 period by both volume and value (increasing *** percent by volume and *** percent by value overall from 2019-21), but U.S. imports from Russia reported for the January-June 2022 interim period were lower by both volume and value (*** percent lower by volume and *** percent lower by value) than in the 2021 interim period.

As a result, U.S. imports from the combined subject sources increased irregularly from 2019-21 by both quantity and value. U.S. imports from subject sources decreased 10.0 percent by volume and 28.6 percent by value from 2019-20 and then increased 66.6 percent by volume and 144.6 by value from 2020-21, resulting in an overall increase of 50.0 percent by volume and 74.5 percent by value from 2019-21. U.S. imports from subject sources reported for the January-June 2022 interim period were lower by both volume and value (41.6 percent lower by volume and 30.7 percent lower by value) than reported imports for the 2021 interim period.

U.S. imports from nonsubject sources decreased from 2019-20 (19.7 percent by volume and 37.5 percent by value) and then increased from 2020-21 (18.9 percent by volume and 96.7 percent by value). Resultingly, nonsubject imports decreased by 4.5 percent by volume but increased 22.9 percent by value overall from 2019-21. U.S. imports from nonsubject sources reported for the January-June 2022 interim period were 5.5 percent lower by volume but 8.1 percent higher by value than in the 2021 interim period. Average unit values (“AUVs”) of U.S. imports from all sources fell from 2019-20 and then rose from 2020-21 resulting in overall increases from 2019-21 (AUVs from subject sources were 16.4 percent higher while AUVs from nonsubject sources were 28.6 percent higher in 2021 than in 2019). AUV’s of U.S. imports from all sources were all also higher in the January-June 2022 interim

period as compared to the 2021 interim period (18.6 percent higher for subject sources and 14.5 percent higher for nonsubject sources).

U.S. imports of ESBR from subject sources accounted for between 51.7 and 63.4 percent of total imports by quantity and between 46.7 and 57.8 percent of total imports by value during the POI (the share of imports from Czechia accounted for between *** and *** percent of total imports by quantity and between *** and *** percent of total imports by value, while the share of imports from Russia accounted for between *** and *** percent of total imports by quantity and between *** and *** percent of total imports by value during the POI). Subject imports as a share of the total quantity of imports were 11.7 percentage points lower in January-June 2022 (51.7 percent) compared with the 2021 interim period (63.4 percent). The ratio of subject imports to U.S. production increased *** percentage points during 2019-21 but was *** percentage points lower during the January-June 2022 interim period as compared to interim 2021 (*** percent in interim 2022 as compared to *** percent in interim 2021).

Table IV-2
ESBR: U.S. imports, by source and period

Quantity in 1,000 pounds; Value in 1,000 dollars; Unit values in dollars per pound

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	31,789	28,616	47,673	21,544	12,584
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	28,843	23,174	27,549	12,443	11,756
All import sources	Quantity	60,632	51,790	75,222	33,987	24,340
Czechia	Value	***	***	***	***	***
Russia	Value	***	***	***	***	***
Subject sources	Value	22,696	16,194	39,604	17,427	12,075
Italy	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	24,131	15,074	29,649	12,728	13,763
All import sources	Value	46,827	31,268	69,253	30,155	25,838
Czechia	Unit value	***	***	***	***	***
Russia	Unit value	***	***	***	***	***
Subject sources	Unit value	0.71	0.57	0.83	0.81	0.96
Italy	Unit value	***	***	***	***	***
All other sources	Unit value	***	***	***	***	***
Nonsubject sources	Unit value	0.84	0.65	1.08	1.02	1.17
All import sources	Unit value	0.77	0.60	0.92	0.89	1.06

Table continued on next page.

Table IV-2 Continued
ESBR: U.S. imports, by source and period

Shares and ratios in percent; Ratios represent the ratio to U.S. production

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Czechia	Share of quantity	***	***	***	***	***
Russia	Share of quantity	***	***	***	***	***
Subject sources	Share of quantity	52.4	55.3	63.4	63.4	51.7
Italy	Share of quantity	***	***	***	***	***
All other sources	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	47.6	44.7	36.6	36.6	48.3
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
Czechia	Share of value	***	***	***	***	***
Russia	Share of value	***	***	***	***	***
Subject sources	Share of value	48.5	51.8	57.2	57.8	46.7
Italy	Share of value	***	***	***	***	***
All other sources	Share of value	***	***	***	***	***
Nonsubject sources	Share of value	51.5	48.2	42.8	42.2	53.3
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
Czechia	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

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

Table IV-3
ESBR: Changes in import quantity, values, and unit values between comparison periods

Changes in percent

Item	Measure	2019-21	2019-20	2020-21	Jan-Jun 2021-22
Czechia	Quantity	▼***	▼***	▲***	▼***
Russia	Quantity	▲***	▲***	▲***	▼***
Subject sources	Quantity	▲50.0	▼(10.0)	▲66.6	▼(41.6)
Italy	Quantity	▲***	▲***	▼***	▲***
All other sources	Quantity	▼***	▼***	▲***	▼***
Nonsubject sources	Quantity	▼(4.5)	▼(19.7)	▲18.9	▼(5.5)
All import sources	Quantity	▲24.1	▼(14.6)	▲45.2	▼(28.4)
Czechia	Value	▲***	▼***	▲***	▲***
Russia	Value	▲***	▲***	▲***	▼***
Subject sources	Value	▲74.5	▼(28.6)	▲144.6	▼(30.7)
Italy	Value	▲***	▼***	▲***	▲***
All other sources	Value	▲***	▼***	▲***	▼***
Nonsubject sources	Value	▲22.9	▼(37.5)	▲96.7	▲8.1
All import sources	Value	▲47.9	▼(33.2)	▲121.5	▼(14.3)
Czechia	Unit value	▲***	▼***	▲***	▲***
Russia	Unit value	▲***	▼***	▲***	▼***
Subject sources	Unit value	▲16.4	▼(20.7)	▲46.8	▲18.6
Italy	Unit value	▲***	▼***	▲***	▲***
All other sources	Unit value	▲***	▼***	▲***	▲***
Nonsubject sources	Unit value	▲28.6	▼(22.3)	▲65.5	▲14.5
All import sources	Unit value	▲19.2	▼(21.8)	▲52.5	▲19.6

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

Figure IV-1
ESBR: U.S. import quantities and average unit values, by source and period

* * * * *

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

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.⁶ Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.⁷ Imports from Czechia accounted for *** percent and imports from Russia accounted for *** percent of total imports of ESBR by quantity in the twelve-month period preceding the filing of the petition (November 2020 through October 2021).

Table IV-4
ESBR: U.S. imports in the twelve-month period preceding the filing of the petition, November 2020 through October 2021

Quantity in 1,000 pounds; Share of quantity in percent

Source of imports	Quantity	Share of quantity
Czechia	***	***
Russia	***	***
Subject sources	***	***
Italy	***	***
All other nonsubject sources	***	***
Nonsubject sources	***	***
All import sources	***	100.0

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

⁶ Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

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

Cumulation considerations

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Part II. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented below.

Fungibility

The Commission requested U.S. producers' and U.S. importers' report their U.S. shipments of ESBR by series (1500 series vs. 1700 series), by form (bales vs. all other forms),⁸ by styrene type (alphamethyl styrene vs. bound styrene), and by whether aromatic extracts, aromatic oils, and/or other additives were used in the production of the shipments.

U.S. shipments of ESBR by series type

Table IV-5 and figure IV-2 present U.S. producers' and U.S. importers' U.S. shipments of ESBR by series type for 2021.^{9 10} The majority of U.S. producers' U.S. shipments by volume were of 1500 series ESBR (***) percent) in 2021, with the balance accounted for by shipments of the 1700 series. Most U.S. importers' U.S. shipments by volume from Czechia, Russia, subject sources combined, and nonsubject sources were also of the 1500 series (***) percent of U.S. importers' U.S. shipments from Czechia, (***) percent of U.S. importers' U.S. shipments from Russia, (***) percent of U.S. importers' U.S. shipments from subject sources combined, and (***) percent of U.S. shipments from nonsubject sources). Overall, (***) of in-scope U.S. ESBR shipments were of the 1500 series.

⁸ (***) of U.S. importers' U.S. shipments of ESBR were reported as being in bale form. (***)

⁹ The Commission also asked U.S. producers and U.S. importers to report their U.S. ESBR series shipments by channel, source (for U.S. importers), and period (2019-21 and the January-June 2021 and January-June 2022 interim periods). See appendix E for a full breakout of U.S. producers' and U.S. importers' U.S. shipments by series, channel, source, and period.

¹⁰ See the section entitled "The product" in part I for a detailed description of the applications and manufacturing processes associated with the two in-scope 1500 or 1700 series grades.

Table IV-5
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and by series, 2021

Quantity in 1,000 pounds

Source	1500 series	1700 series	All in-scope series
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-5 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and series, 2021

Share across in percent

Source	1500 series	1700 series	All in-scope series
U.S. producers	***	***	100.0
Czechia	***	***	100.0
Russia	***	***	100.0
Subject sources	***	***	100.0
Italy	***	***	100.0
All other sources	***	***	100.0
Nonsubject sources	***	***	100.0
All import sources	***	***	100.0
All sources	***	***	100.0

Table continued.

Table IV-5 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and series, 2021

Share down in percent

Source	1500 series	1700 series	All in-scope series
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	100.0	100.0	100.0

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

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

Figure IV-2
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and series, 2021

* * * * *

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

U.S. shipments of ESBR by styrene type

Respondent Synthos noted in its comments on the draft questionnaires that collecting data on U.S. shipments by styrene type would, "...help the Commission better gauge the degree of actual competition between domestic ESBR and subject imports, given the fact that grades made with alphas-methyl styrene are not approved for use in tires."^{11 12}

Table IV-6 and figure IV-3 present U.S. producers' and U.S. importers' U.S. shipments of ESBR by styrene type for 2021: alphas-methyl styrene vs. bound styrene.¹³ U.S. importers' U.S. shipments from Russia were the only source for which shipments of ESBR produced using alphas-methyl styrene were reported.¹⁴ *** U.S. producers' U.S. shipments as well as all U.S. importers' U.S. shipments from Czechia and nonsubject sources were reported as having been produced using bound styrene. The majority (*** percent) of U.S. shipments of imports from Russia were reported as having been produced using alphas-methyl styrene, and U.S. importers' shipments of U.S. imports from Russia that were produced using alphas-methyl styrene represented *** percent of total U.S. shipments.

¹¹ Synthos' Comments on Draft Questionnaires, Public Version, March 14, 2022, p. 5.

¹² Stan Rybalov, President of Intertex World Resources, reported during the staff conference, "As far as I am aware, almost all ESBR historically imported from Russia, which uses aromatic oils and/or alphas-methyl styrene, is not used to produce tires. Rather, it is used in a wide range of non-tire applications, generally known as technical goods. These include conveyor belts, flooring, mats, and rubber thread." Conference transcript, p. 91 (Rybalov).

See also the section entitled "Comparison of different types of styrene and additives: Styrene type" in part II for a discussion of responses regarding the interchangeability between bound and alphas-methyl styrene reported by firms in their questionnaire responses. Differences reported by firms between bound and alphas-methyl styrene included that firms could only use bound styrene; performance differed and changing the styrene type would affect the ability to meet specifications; bound and alphas-methyl styrene have different properties; alphas-methyl styrene has not been approved by tire producers; and Russian alphas-methyl styrene has a strong odor and some customers will not use it.

¹³ The Commission provided an option of "other styrene", but U.S. producers and U.S. importers reported all of their U.S. ESBR shipments as having either been produced using alphas-methyl styrene or bound styrene.

¹⁴ The vast majority (over *** percent) of the U.S. shipments of U.S. imports from Russia using alphas-methyl styrene were reported by one U.S. importer: ***. *** described the end-uses of shipments using alphas-methyl styrene as "****." *** U.S. importers' response at II-6d.

Table IV-6
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and styrene type, 2021

Quantity in 1,000 pounds

Source	Alphamethyl styrene	Bound styrene	All types of styrene
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-6 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and styrene type, 2021

Share across in percent

Source	Alphamethyl styrene	Bound styrene	All types of styrene
U.S. producers	***	***	100.0
Czechia	***	***	100.0
Russia	***	***	100.0
Subject sources	***	***	100.0
Italy	***	***	100.0
All other sources	***	***	100.0
Nonsubject sources	***	***	100.0
All import sources	***	***	100.0
All sources	***	***	100.0

Table continued.

Table IV-6 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and styrene type, 2021

Share down in percent

Source	Alphamethyl styrene	Bound styrene	All types of styrene
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Figure IV-3
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and styrene type, 2021

* * * * *

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

U.S. shipments of ESBR by presence of additives

U.S. producers and U.S. importers were asked to report their 2021 U.S. shipments of ESBR by whether aromatic extracts, aromatic oils, or other additives were used in the production of the ESBR. ***. ***.

Aromatic extracts

Table IV-7 and figure IV-4 present U.S. producers' and U.S. importers' U.S. shipments of ESBR by whether aromatic extracts were present.¹⁵ U.S. producers reported *** percent of their U.S. shipments by volume had been produced using aromatic extracts, while U.S. importers reported that *** percent of U.S. shipments by volume of U.S. imports from Czechia had been produced using aromatic extracts.¹⁶ U.S. importers also reported that *** percent of U.S. shipments by volume of U.S. imports from nonsubject sources had been produced using aromatic extracts.¹⁷ U.S. importers reported *** U.S. shipments of U.S. imports from Russia that had been produced using aromatic extracts.

¹⁵ Firms were asked for a breakout of shipments produced using "aromatic extracts (e.g., TDA, RAE)" (treated distillate aromatic extract, residual aromatic extract). With respect to different types of additives/extender oils, there is "high aromatic" form (aromatic oils) with more limited use, especially in the United States and Europe due to high aromatic benzene-type content and carcinogenic potency. The RAE or TDAE oils have a lower benzene-type content and are acceptable for use in tires and other uses.

Also see the section entitled "Comparison of different types of styrene and additives: Extenders" in part II for a discussion of responses regarding interchangeability between ESBR produced using aromatic oils, aromatic extracts, or other additives as reported by firms in their questionnaire responses. Several firms reported that aromatic oils, which are sometimes included in Russian ESBR, are banned in Europe or that ESBR with aromatic oils cannot be used in tire production. Other reported differences included that use of different additives would result in a different IISRP grade; substitution would require a new evaluation of the ESBR; and use would depend on internal restricted substance policy.

¹⁶ The following U.S. importers from Czechia reported U.S. shipments of ESBR in 2021 produced using aromatic extracts: ***.

¹⁷ The following U.S. importers from Italy and/or from all other nonsubject sources reported U.S. shipments of ESBR in 2021 produced using aromatic extracts: ***.

Table IV-7
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic extracts, by source, 2021

Quantity in 1,000 pounds

Source	Aromatic extracts	Not aromatic extracts	All U.S. shipments
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-7 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic extracts, by source, 2021

Share across in percent

Source	Aromatic extracts	Not aromatic extracts	All U.S. shipments
U.S. producers	***	***	100.0
Czechia	***	***	100.0
Russia	***	***	100.0
Subject sources	***	***	100.0
Italy	***	***	100.0
All other sources	***	***	100.0
Nonsubject sources	***	***	100.0
All import sources	***	***	100.0
All sources	***	***	100.0

Table continued.

Table IV-7 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic extracts, by source, 2021

Share down in percent

Source	Aromatic extracts	Not aromatic extracts	All U.S. shipments
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Figure IV-4
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic extracts, by source, 2021

* * * * *

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

Aromatic oils

Respondent Synthos noted in its comments on the draft questionnaires, "...certain grades of ESBR, such as those made with aromatic oils and/or alphas-methyl styrene, are not approved for certain uses by US tire producers."¹⁸ As noted in part II, a number of firms reported that aromatic oils, which was sometimes included in Russian ESBR, are banned in Europe or that ESBR with aromatic oils cannot be used in tire production due to concerns about their impact on human health.¹⁹

Table IV-8 and figure IV-5 present U.S. producers' and U.S. importers' U.S. shipments of ESBR by whether aromatic oils had been used in the production of the ESBR. U.S. producers reported a minimal amount of their U.S. shipments (**% percent by volume) had been produced using aromatic oils,²⁰ while U.S. importers reported that **% of their U.S. shipments of U.S. imports from Czechia or from nonsubject sources had been produced using aromatic oils. In contrast, U.S. importers reported that **% percent U.S. shipments of imports from Russia of ESBR had been produced using aromatic oils.²¹

¹⁸ Synthos' Comments on Draft Questionnaires, Public Version, March 14, 2022, pp. 6-7.

¹⁹ **.

²⁰ U.S. producer ** reported ** pounds of its U.S. shipments of ESBR were produced using aromatic oils for use in "**."

²¹ U.S. importer ** reported ** of the U.S. shipments of U.S. imports from Russia of ESBR that had been produced using aromatic oils, for which it described the end-use as being "**."

Table IV-8
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic oils, by source, 2021

Quantity in 1,000 pounds

Source	Aromatic oils	Not using aromatic oils	All U.S. shipments
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-8 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic oils, by source, 2021

Share across in percent

Source	Aromatic oils	Not using aromatic oils	All U.S. shipments
U.S. producers	***	***	100.0
Czechia	***	***	100.0
Russia	***	***	100.0
Subject sources	***	***	100.0
Italy	***	***	100.0
All other sources	***	***	100.0
Nonsubject sources	***	***	100.0
All import sources	***	***	100.0
All sources	***	***	100.0

Table continued.

Table IV-8 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic oils, by source, 2021

Share down in percent

Source	Aromatic oils	Not using aromatic oils	All U.S. shipments
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Figure IV-5
ESBR: U.S. producers' and U.S. importers' U.S. shipments of aromatic oils, by source, 2021

* * * * *

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

Other additives

Table IV-9 and figure IV-6 present U.S. producers' and U.S. importers' U.S. shipments of ESBR by whether any other additives (aside from aromatic oils or aromatic extracts) were present in the U.S. shipments of ESBR for 2021. U.S. producers reported that *** percent of their U.S. shipments were of ESBR that contained other additives, which Goodyear specified as "****" and Lion specified as "****." U.S. importers reported that *** percent of U.S. shipments by volume of U.S. imports from Czechia²² and *** percent U.S. shipments by volume of U.S. imports from Russia had other additives.²³ U.S. importers reported that *** percent U.S. shipments by volume of U.S. imports from nonsubject sources had other additives.^{24 25}

²² Two U.S. importers from Czechia reported U.S. shipments of ESBR in 2021 were produced using other additives. ***.

²³ Two U.S. importers from Russia reported U.S. shipments of ESBR in 2021 were produced using other additives. ***.

²⁴ Two U.S. importers from nonsubject sources reported U.S. shipments of ESBR in 2021 were produced using other additives. ***.

²⁵ ***.

Table IV-9
ESBR: U.S. producers' and U.S. importers' U.S. shipments of other additives, by source, 2021

Quantity in 1,000 pounds

Source	Other additives	Not using other additives	All U.S. shipments
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-9 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments of other additives, by source, 2021

Share across in percent

Source	Other additives	Not using other additives	All U.S. shipments
U.S. producers	***	***	100.0
Czechia	***	***	100.0
Russia	***	***	100.0
Subject sources	***	***	100.0
Italy	***	***	100.0
All other sources	***	***	100.0
Nonsubject sources	***	***	100.0
All import sources	***	***	100.0
All sources	***	***	100.0

Table continued.

Table IV-9 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments of other additives, by source, 2021

Share down in percent

Source	Other additives	Not using other additives	All U.S. shipments
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Italy	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Figure IV-6
ESBR: U.S. producers' and U.S. importers' U.S. shipments of other additives, by source, 2021

* * * * *

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

Geographical markets

Table IV-10 presents U.S. imports of ESBR, by source and border of entry in 2021, based on official Commerce import statistics. U.S. imports of ESBR from Czechia and Russia mainly entered through the Eastern border of entry (76.0 and 70.0 percent of total entries from each source, respectively). The border of entry with the second highest U.S. imports of ESBR for both Czechia and Russia was the Northern border (representing 23.8 and 29.6 percent of total entries from each source, respectively). A small number of imports from Czechia and Russia entered through the Southern border (representing 0.2 and 0.4 percent of total imports from each source, respectively), while zero imports of ESBR from Czechia or Russia were reported as entering through the Western border. U.S. imports of ESBR from nonsubject sources entered through all borders of entry during 2021, but primarily through the Eastern and Southern borders of entry.

Table IV-10
ESBR: U.S. imports, by source and by border of entry, 2021

Quantity in 1,000 pounds

Source	East	North	South	West	All borders
Czechia	13,615	4,255	40	---	17,909
Russia	27,771	11,742	173	---	39,686
Subject sources	41,386	15,997	213	---	57,595
Italy	2,854	4,004	0	---	6,858
All other sources	39,407	11,199	32,961	10,353	93,920
Nonsubject sources	42,261	15,203	32,961	10,353	100,778
All import sources	83,647	31,200	33,174	10,353	158,374

Table continued.

Table IV-10 Continued
ESBR: U.S. imports, by source and by border of entry, 2021

Share across in percent

Source	East	North	South	West	All borders
Czechia	76.0	23.8	0.2	---	100.0
Russia	70.0	29.6	0.4	---	100.0
Subject sources	71.9	27.8	0.4	---	100.0
Italy	41.6	58.4	0.0	---	100.0
All other sources	42.0	11.9	35.1	11.0	100.0
Nonsubject sources	41.9	15.1	32.7	10.3	100.0
All import sources	52.8	19.7	20.9	6.5	100.0

Table continued.

Table IV-10 Continued
ESBR: U.S. imports, by source and by border of entry, 2021

Share down in percent

Source	East	North	South	West	All borders
Czechia	16.3	13.6	0.1	---	11.3
Russia	33.2	37.6	0.5	---	25.1
Subject sources	49.5	51.3	0.6	---	36.4
Italy	3.4	12.8	0.0	---	4.3
All other sources	47.1	35.9	99.4	100.0	59.3
Nonsubject sources	50.5	48.7	99.4	100.0	63.6
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed August 10, 2022. Imports are based on the imports for consumption data series.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Presence in the market

Table IV-11 and figures IV-7 and IV-8 present monthly data import data during January 2019 through September 2022 by source based on official Commerce statistics. Imports were reported from Czechia and Russia under statistical reporting numbers 4002.19.0015 and 4002.19.0019 in each month of the reporting period through July 2022. No imports were reported for Russia in August or September 2022.

Table IV-11
ESBR: U.S. imports, by month and source

Quantity in 1,000 pounds

Year	Month	Czechia	Russia	Subject sources	Italy	All other sources	Nonsubject sources	All import sources
2019	January	1,063	317	1,380	393	10,296	10,690	12,069
2019	February	675	496	1,171	547	10,378	10,924	12,095
2019	March	1,389	852	2,241	1,909	9,020	10,929	13,170
2019	April	948	395	1,343	1,263	8,995	10,258	11,601
2019	May	1,669	171	1,840	986	7,452	8,438	10,278
2019	June	1,777	863	2,640	939	7,716	8,655	11,295
2019	July	3,022	596	3,618	1,245	7,257	8,502	12,120
2019	August	1,159	998	2,158	503	5,858	6,361	8,519
2019	September	1,498	104	1,603	737	7,912	8,650	10,253
2019	October	2,250	444	2,694	998	5,521	6,519	9,213
2019	November	971	110	1,080	491	5,500	5,991	7,071
2019	December	1,162	1,381	2,543	714	7,158	7,872	10,415
2020	January	882	3,343	4,225	1,186	7,383	8,569	12,794
2020	February	959	2,541	3,500	793	6,773	7,566	11,065
2020	March	1,403	4,829	6,231	1,131	11,482	12,613	18,844
2020	April	2,588	3,394	5,982	825	7,740	8,565	14,547
2020	May	869	1,747	2,616	346	5,821	6,167	8,783
2020	June	397	840	1,237	484	4,588	5,072	6,308
2020	July	833	1,199	2,032	579	5,844	6,423	8,455
2020	August	438	1,981	2,419	1,341	6,676	8,017	10,437
2020	September	911	1,198	2,108	494	10,304	10,798	12,907
2020	October	1,627	3,279	4,906	1,546	5,255	6,801	11,708
2020	November	695	1,479	2,174	1,278	7,075	8,353	10,527
2020	December	714	2,295	3,009	513	4,057	4,570	7,579

Table continued

Table IV-11 Continued
ESBR: U.S. imports, by year, by month, and by source

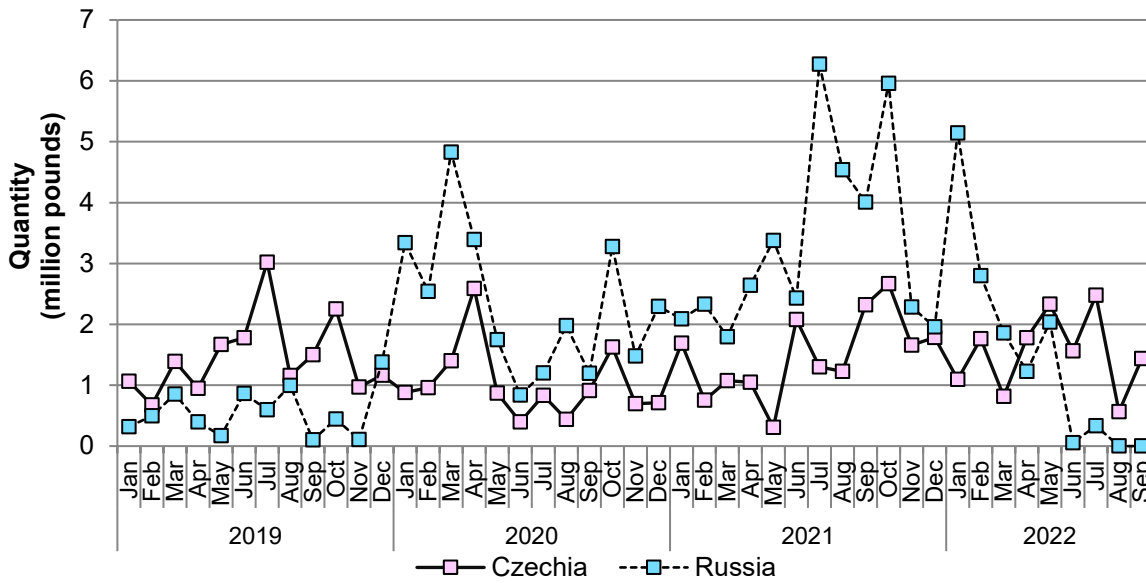
Quantity in 1,000 pounds

Year	Month	Czechia	Russia	Subject sources	Italy	All other sources	Nonsubject sources	All import sources
2021	January	1,692	2,088	3,780	785	5,761	6,547	10,327
2021	February	752	2,329	3,080	158	5,194	5,352	8,432
2021	March	1,073	1,795	2,869	886	8,148	9,034	11,902
2021	April	1,050	2,643	3,693	189	7,663	7,853	11,546
2021	May	307	3,377	3,684	788	10,069	10,856	14,540
2021	June	2,078	2,433	4,511	882	7,140	8,023	12,534
2021	July	1,298	6,271	7,569	842	8,692	9,534	17,103
2021	August	1,230	4,539	5,769	592	9,891	10,482	16,251
2021	September	2,321	4,011	6,332	382	9,242	9,625	15,957
2021	October	2,666	5,956	8,622	674	8,755	9,429	18,051
2021	November	1,656	2,284	3,940	375	8,235	8,609	12,550
2021	December	1,787	1,960	3,747	306	5,128	5,434	9,181
2022	January	1,093	5,144	6,237	721	6,394	7,115	13,353
2022	February	1,765	2,799	4,564	348	7,491	7,839	12,402
2022	March	815	1,861	2,676	555	8,800	9,354	12,030
2022	April	1,780	1,226	3,006	1,442	6,714	8,156	11,162
2022	May	2,333	2,039	4,372	0	7,802	7,802	12,174
2022	June	1,565	56	1,621	656	6,653	7,309	8,929
2022	July	2,479	333	2,812	153	6,470	6,622	9,434
2022	August	565	---	565	567	6,298	6,864	7,430
2022	September	1,438	---	1,438	48	7,435	7,484	8,922

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed November 7, 2022.

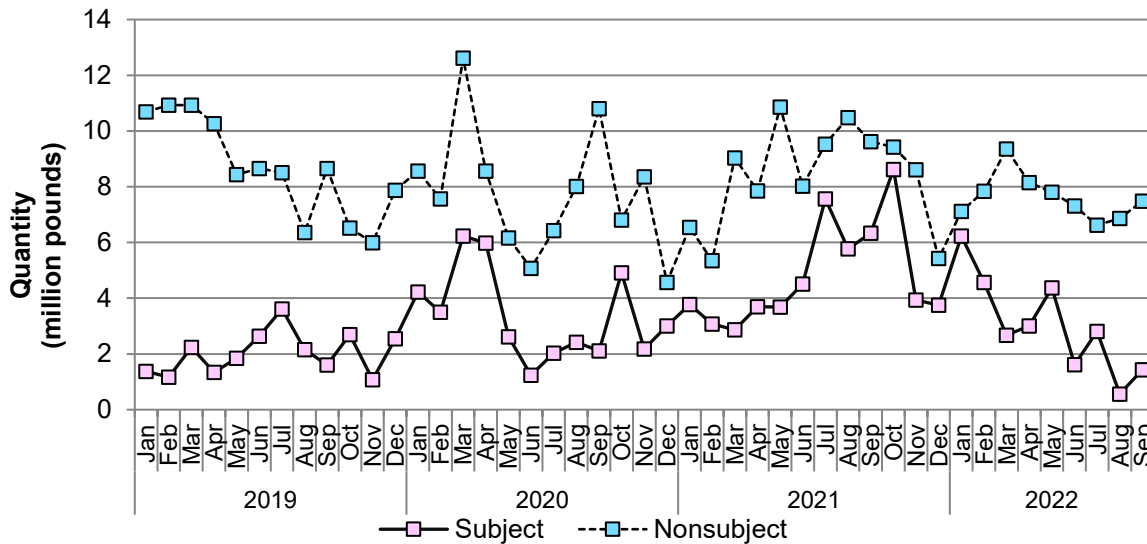
Imports are based on the imports for consumption data series.

Figure IV-7
ESBR: U.S. imports from individual subject sources, by source and by month



Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed November 7, 2022. Imports are based on the imports for consumption data series.

Figure IV-8
ESBR: U.S. imports from aggregated subject and nonsubject sources, by month



Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed November 7, 2022. Imports are based on the imports for consumption data series.

Apparent U.S. consumption and market shares

Apparent U.S. total market consumption and market shares

U.S. total market consumption and market shares by quantity

Table IV-12 and figure IV-9 present data on apparent U.S. consumption and U.S. market shares by quantity for ESBR in the total market. In 2021, apparent U.S. total market consumption of ESBR was approximately *** pounds. By quantity, apparent U.S. total market consumption decreased irregularly (decreasing *** percent from 2019-20 and then increasing *** percent from 2020-21, for an overall decrease of *** percent during 2019-21). U.S. producers' share of apparent U.S. consumption by quantity in the total market decreased *** percentage points from 2019-21, while the share of U.S. shipments of imports from Russia increased *** percentage points over that period (from *** percent in 2019 to *** percent in 2021). The share of U.S. shipments of imports from Czechia decreased *** percentage points from 2019-21.

Apparent U.S. total market consumption of ESBR by quantity was *** percent higher in interim 2022 than in interim 2021. U.S. producers' share of apparent U.S. consumption by quantity in the total market was *** percentage points higher in interim 2022 than in interim 2021. The share of U.S. shipments of imports from Czechia by quantity in the total market was *** percentage points lower, while shipments of imports from Russia were *** percentage points higher.

Table IV-12

ESBR: Apparent U.S. total market consumption and market shares based on quantity data, by source and period

Quantity in 1,000 pounds; Shares in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	32,074	25,868	43,426	16,927	15,097
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	27,995	22,485	27,752	13,496	12,858
All import sources	Quantity	60,069	48,353	71,178	30,423	27,955
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure IV-9

ESBR: Apparent U.S. total market consumption based on quantity data, by source and period

* * * * *

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

U.S. total market consumption and market shares by value

Table IV-13 and figure IV-10 present data on apparent U.S. consumption and market shares by value for ESBR in the total market. In 2021, apparent U.S. total market consumption of ESBR was approximately \$***. By value, apparent U.S. total market consumption increased irregularly (decreasing *** percent from 2019-20 and then increasing *** percent from 2020-21, for an overall increase of *** percent from 2019-21). U.S. producers' share of apparent U.S. consumption by value in the total market decreased *** percentage points from 2019-21, while the share of U.S. shipments of imports from Russia increased *** percentage points over that period (from *** percent in 2019 to *** percent in 2021). The share of U.S. shipments of imports from Czechia decreased *** percentage points from 2019-21.

Apparent U.S. total market consumption of ESBR by value was *** percent higher in interim 2022 than in interim 2021. U.S. producers' share of apparent U.S. consumption by value in the total market was *** percentage points higher in interim 2022 than in interim 2021. The share of U.S. shipments of imports from Czechia to apparent U.S. consumption by value in the total market was *** percentage points lower in interim 2022 as compared to interim 2021, while the market share of U.S. shipments of imports from Russia was *** percentage points higher.

Table IV-13**ESBR: Apparent U.S. total market consumption and market shares based on value data, by source and period**

Value in 1,000 dollars; Shares in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Value	***	***	***	***	***
Czechia	Value	***	***	***	***	***
Russia	Value	***	***	***	***	***
Subject sources	Value	24,012	16,417	41,664	13,644	16,586
Italy	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	23,567	15,194	29,587	13,576	15,686
All import sources	Value	47,579	31,611	71,251	27,220	32,272
All sources	Value	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure IV-10**ESBR: Apparent U.S. total market consumption based on value data, by source and period**

* * * * *

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

Apparent U.S. merchant market consumption and market shares

As noted in part III, U.S. producer Goodyear reported internal consumption to produce tires throughout the POI ***. Tables IV-14 and IV-15 and figures IV-11 and IV-12 display data for the U.S. merchant market, which removes Goodyear's noncommercial data from the dataset.

U.S. merchant market consumption and market shares by quantity

Table IV-14 and figure IV-11 present data on apparent U.S. consumption and U.S. market shares by quantity for ESBR in the merchant market. Apparent U.S. merchant market consumption of ESBR totaled approximately *** pounds in 2021. By quantity, apparent U.S. merchant market consumption decreased irregularly (decreasing *** percent from 2019-20 and then increasing *** percent from 2020-21, for an overall decrease of *** percent from 2019-21). U.S. producers' share of apparent U.S. consumption by quantity in the merchant market decreased *** percentage points from 2019-21, while the share of U.S. shipments of imports from Russia increased *** percentage points over that period (from *** percent in 2019 to *** percent in 2021). The share of U.S. shipments of imports from Czechia decreased *** percentage points from 2019-21.

Apparent U.S. merchant market consumption of ESBR by quantity was *** percent lower in interim 2022 than in interim 2021. U.S. producers' share of apparent U.S. consumption by quantity in the merchant market was *** percentage points higher in interim 2022 than in interim 2021. The share of U.S. shipments of imports from Czechia by quantity in the merchant market was *** percentage points lower in interim 2022 as compared to interim 2021, while the market share of U.S. shipments of imports from Russia was *** percentage points higher.

Table IV-14**ESBR: Apparent U.S. merchant market consumption and market shares based on quantity data, by source and period**

Quantity in 1,000 pounds; Shares in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	32,074	25,868	43,426	16,927	15,097
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	27,995	22,485	27,752	13,496	12,858
All import sources	Quantity	60,069	48,353	71,178	30,423	27,955
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure IV-11**ESBR: Apparent U.S. merchant market consumption based on quantity data, by source and period**

* * * * *

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

U.S. merchant market consumption and market shares by value

Table IV-15 and figure IV-12 present data on apparent U.S. consumption and U.S. market shares by value for ESBR in the merchant market. Apparent U.S. merchant market consumption of ESBR totaled approximately \$*** in 2021. By value, apparent U.S. merchant market consumption increased irregularly (decreasing *** percent from 2019-20 and then increasing *** percent from 2020-21, for an overall increase of *** percent from 2019-21). U.S. producers' share of apparent U.S. consumption by value in the merchant market decreased *** percentage points from 2019-21, while the share of U.S. shipments of imports from Russia increased *** percentage points over that period (from *** percent in 2019 to *** percent in 2021). The market share of U.S. shipments of imports from Czechia decreased *** percentage points over 2019-21.

Apparent U.S. merchant market consumption of ESBR by value was *** percent higher in interim 2022 than in interim 2021. U.S. producers' share of apparent U.S. consumption by value in the merchant market was *** percentage points higher in interim 2022 as compared to interim 2021. The share of U.S. shipments of imports from Czechia by value was *** percentage point lower in interim 2022 as compared to interim 2021, while the market share of U.S. shipments of imports from Russia was *** percentage points higher.

Table IV-15**ESBR: Apparent U.S. merchant market consumption and market shares based on value data, by source and period**

Value in 1,000 dollars; Shares in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Value	***	***	***	***	***
Czechia	Value	***	***	***	***	***
Russia	Value	***	***	***	***	***
Subject sources	Value	24,012	16,417	41,664	13,644	16,586
Italy	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	23,567	15,194	29,587	13,576	15,686
All import sources	Value	47,579	31,611	71,251	27,220	32,272
All sources	Value	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure IV-12**ESBR: Apparent U.S. merchant market consumption based on value data, by source and period**

* * * * *

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

Part V: Pricing data

Factors affecting prices

Raw material costs

The primary raw material inputs for ESBR are styrene and butadiene,¹ with butadiene accounting for a larger proportion of ESBR than styrene.² Butadiene is a coproduct in the production of ethylene, and domestic producers of ESBR generally rely upon domestic production of butadiene. There are three regional butadiene markets: North America, Europe, and Asia.³ Petitioner and respondents agree that butadiene prices drive ESBR prices, although petitioner ties its ESBR price to the North American butadiene price, while subject producers generally use the European market butadiene price.^{4 5} During the preliminary phase of these investigations, the petitioner stated that the styrene market was “significantly oversupplied” in the United States,⁶ and the petitioner sources all its styrene domestically.⁷

The United States is a net importer of butadiene⁸ and some domestic butadiene production has shut down multiple times since January 2018. The most significant shutdown occurred after a November 2019 explosion at the Texas Petroleum Chemical (“TPC”) butadiene plant in Port Neches, Texas, resulting in a drop in butadiene production. TPC is a main supplier

¹ Butadiene and styrene are often referred to as “monomers” and their prices as “monomer prices.”

² Butadiene accounts for approximately 75 percent of ESBR, by weight, while styrene accounts for approximately 25 percent. *Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, Inv. Nos. 731-TA-1334-1337* (Final), USITC Publication 4717, August 2017 (“2017 Final Publication”), pp. I-11 and II-1. See Part I for more information on the ESBR production process and Part VI for more information on U.S. producers’ raw materials costs.

³ While there are regional price differences, the monomer market is a global market. The volatility in the U.S. market is consistent with global volatility. Conference transcript, p. 135 (Kendler). Petitioner stated that at the peak of the domestic butadiene supply disruptions, the U.S. price of butadiene was 15 to 20 percent higher than the European price. Conference transcript, p. 39 (Arkan).

⁴ As described by respondent and importer Synthos, its prices in the spot market are set using the U.S. butadiene price index, while its long-term contract sales are set to the European butadiene price index. Conference transcript, p. 87 (Nienaber).

⁵ Respondent Synthos characterized the North American butadiene market as the “least competitive” of the three markets. It added that the European market is “structurally long” on butadiene and is a net exporter of butadiene. It also noted that the European and U.S. price indices move similarly. Conference transcript, pp. 111-112, 113 (Kurilla), and Respondent Synthos and Tatneft’s postconference briefs, exh. 1, pp. 3-4 and exh. 24. See also conference transcript, p. 47 (Rikhoff).

⁶ Conference transcript, pp. 43-44 (Rikhoff).

⁷ Conference transcript, p. 38 (Rikhoff).

⁸ Petitioner stated that the United States has been a net importer of butadiene for the last 20 years. Conference transcript, p. 36 (Rikhoff).

of butadiene to petitioner Lion.⁹ ¹⁰ Petitioner estimated that domestic butadiene production will hit a 30-year high by the end of 2022, and it predicted that the United States will be a “net producer... instead of a net importer” of butadiene.¹¹

As a share of total market operations, cost of goods sold (“COGS”), raw materials represented *** and *** percent of COGS in 2019 and 2021, respectively, and was *** percent of COGS during January to June 2022. As seen in table V-1 and figure V-1, the domestic contract price of butadiene increased by *** percent between January 2019 and August 2022, and the cost of styrene increased by *** percent between January 2019 and July 2022 before dropping by *** percent between July 2022 and August 2022.¹² Butadiene prices increased in the third and fourth quarters of 2020 due to a hurricane in the Lake Charles, Louisiana, area that shut down a number of refineries that produce the feed stock for butadiene. Butadiene prices declined between January and February 2021 and remained stable between February and March 2021 before beginning to climb in April 2021 and not declining until September 2021.

⁹ As described in Part II, other butadiene supply disruptions occurred in February 2020 (fire at Exxon’s Baton Rouge, Louisiana, pipeline), and April 2021 (Shell reduced supply of butadiene).

¹⁰ Petitioner Lion reported that during this butadiene shut down, it was able to supply approximately 95 percent of its customers’ needs. Conference transcript, pp. 33-34. See Part II for more discussion on the butadiene supply disruptions and their impact on domestic producers’ ESBR production.

¹¹ Conference transcript, pp. 36 (Rikhoff).

¹² Between January 2019 and August 2022, the price of butadiene increased by *** percent and the price of styrene increased by *** percent.

Figure V-1
Raw materials: U.S. contract prices of butadiene and styrene by month January 2019-August 2022

* * * * *

Source: Lion's questionnaire attachment ***.

Table V-1**Raw materials: U.S. contract prices of butadiene and styrene by month, January 2019-July 2022**

Contract prices in dollars per pound

Year	Month	Butadiene	Styrene
2019	January	***	***
2019	February	***	***
2019	March	***	***
2019	April	***	***
2019	May	***	***
2019	June	***	***
2019	July	***	***
2019	August	***	***
2019	September	***	***
2019	October	***	***
2019	November	***	***
2019	December	***	***
2020	January	***	***
2020	February	***	***
2020	March	***	***
2020	April	***	***
2020	May	***	***
2020	June	***	***
2020	July	***	***
2020	August	***	***
2020	September	***	***
2020	October	***	***
2020	November	***	***
2020	December	***	***
2021	January	***	***
2021	February	***	***
2021	March	***	***
2021	April	***	***
2021	May	***	***
2021	June	***	***
2021	July	***	***
2021	August	***	***
2021	September	***	***
2021	October	***	***
2021	November	***	***
2021	December	***	***
2022	January	***	***
2022	February	***	***
2022	March	***	***
2022	April	***	***
2022	May	***	***
2022	June	***	***
2022	July	***	***
2022	August	***	***

Source: Lion's questionnaire attachment ***.

U.S. producer *** reported that raw material prices have *** and U.S. producer *** reported that raw material prices have *** since January 1, 2019.¹³ *** added that most raw material prices ***. Seven of 13 responding importers reported that the prices of raw materials had increased, 5 importers reported they had fluctuated, and 1 importer reported they had decreased since January 1, 2019.¹⁴ Some importers noted that raw material price increases are generally passed on to customers, although others reported that they did not sell ESBR.

Most purchasers (16 of 24) reported that they were familiar with the prices of the raw materials used in ESBR. Eight purchasers reported that information on raw material prices had affected their firms' negotiations or contracts to purchase ESBR. One firm (***) reported that it had ***; another (***) reported that it ***; three (***) reported that the cost of inputs influenced the price of ESBR; and one (***) reported that raw material prices are part of the price structure.

Transportation costs to the U.S. market

Transportation costs for ESBR shipped from subject countries to the United States averaged 7.8 percent for Czechia and 6.2 percent for Russia during 2021. These estimates were derived from official import data and represent the transportation and other charges on imports.¹⁵

¹³ U.S. producer Goodyear is also an importer ***. Its questionnaire responses are reported separately throughout this section of the report, unless otherwise noted. ***.

¹⁴ The one importer that reported input prices had declined added that prices had ***.

¹⁵ The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2020 and then dividing by the customs value based on the HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019.

U.S. inland transportation costs

*** arrange transportation. Five of nine responding importers reported that they typically arrange transportation to their customers. The U.S. producers reported that their U.S. inland transportation costs ranged from *** percent while responding importers reported average costs of 2 to 9 percent.

Pricing practices

Pricing methods

U.S. producers reported setting prices using *** reported in the table below, and most responding importers reported using transaction-by-transaction negotiations (table V-2). Other price setting methods included contracts priced monthly using a “raw materials plus basis” price (***) and a “bidding policy” (***).

Table V-2
ESBR: Count of U.S. producers’ and importers’ reported price setting methods

Method	U.S. producers	Importers
Transaction-by-transaction	***	7
Contract	***	4
Set price list	***	1
Other	***	1
Responding firms	2	9

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

Note: The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

U.S. producers reported selling the vast majority of their ESBR under ***, with some sales in the **. The responding importers’ 2021 commercial shipments were sold mainly through short-term contracts and the remainder through spot sales and annual contracts (table V-3).

Table V-3
ESBR: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2021

Share in percent

Type of sale	U.S. producers	Subject importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***	***
Total	100.0	100.0

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

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

U.S. producers' *** contracts typically *** and prices *** to raw materials.¹⁶ In addition, U.S. producer Goodyear had a *** provision. Two importers reported selling using contracts.¹⁷ *** reported contract provisions for annual contracts and *** for short-term contracts.¹⁸ Importer *** annual contracts did not allow for price renegotiation, and prices were indexed to raw materials. Its reported price formula was “***”. Importer *** short-term contracts averaged 90 days, did not allow for price renegotiations, fixed prices and quantities, and were not indexed to raw materials.¹⁹

Spot sales are not tied to a formula. Domestic producers set prices for spot sales through issued monthly price lists.²⁰ While monomer prices are a “guiding factor” for spot sales prices, they are not “the ultimate factor.”²¹

Conversion prices

According to the petitioner, ESBR sales prices to tire manufacturers are set through annual contracts and are determined by agreed upon formulas made up of three components:

¹⁶ U.S. producer Lion did not report ***. However, it noted that ESBR prices are “based on dynamic formulas, which track indexed prices of butadiene and styrene.” Conference transcript, p. 7 (McGrath).

¹⁷ In addition, four importers reported selling only on the spot market.

¹⁸ Importer *** reported that its annual contracts were indexed to raw materials and prices could not be renegotiated during the contract. ***.

¹⁹ Importer ***.

²⁰ Conference transcript, p. 41 (Rikhoff).

²¹ Conference transcript, p. 43 (Rikhoff).

1) the domestic market price, or the highest price customers are willing to pay; 2) the public pricing indices for monomers butadiene and styrene;²² and 3) the conversion cost.^{23 24 25} The conversion price is the “most static portion” of pricing, it can be adjusted on an annual basis, and does not differ significantly between grades of ESBR.²⁶ In addition, petitioners stated that the conversion prices are typically fixed for the year to cover other inputs, including other raw material costs, fixed overhead, labor costs, and profit margins.²⁷

The U.S. producers were asked to report their quarterly conversion prices (table V-4) and report the reasons for the trends. Goodyear reported that “***.” Lion reported that “***.”

The differences in the producers’ methods of determining conversion prices results in “***.”

²² Petitioner reported it uses the IHS monthly contract price for butadiene, and the IHS price for styrene “goes back two months in arrears because styrene does not settle the previous month.” Conference transcript, pp. 68 (Rikhoff).

²³ Conference transcript, pp. 21 (Ballard), 45 (Rikhoff), and 68 (Rikhoff).

²⁴ Petitioner argued that the prices for butadiene and styrene are the “most dynamic portions of pricing.” Conference transcript, p. 21 (Ballard).

²⁵ Respondent Synthos explained that for most tire customers its prices are set on “***.” Respondents Synthos and Tatneft’s postconference brief, exh. 1, p. 4.

²⁶ Respondent Synthos argued that Lion has higher conversion costs that are passed on to customers, resulting in higher ESBR prices. Conference transcript, pp. 87-88 (Nienaber).

²⁷ Conference transcript, p. 19 (Rikhoff).

Table V-4
ESBR: Conversion prices (dollars per pound) reported by U.S. producers

Period	Goodyear	Lion
2019 Q1	***	***
2019 Q2	***	***
2019 Q3	***	***
2019 Q4	***	***
2020 Q1	***	***
2020 Q2	***	***
2020 Q3	***	***
2020 Q4	***	***
2021 Q1	***	***
2021 Q2	***	***
2021 Q3	***	***
2021 Q4	***	***
2022 Q1	***	***
2022 Q2	***	***

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

The price formulas are tied to publicly published raw material price indices, and the ESBR price is adjusted on a monthly or quarterly basis.²⁸ Respondents also noted that because firms mainly sell from inventories, there is a price difference between the monomer price at the time of ESBR production and the monomer price when the ESBR is ultimately sold.²⁹

Respondent Intertex added that non-tire customers are not subject to the three pricing components and that its sales are made via short-term contracts or spot sales. It added that its pricing is based on the market price and the change in the monomer prices.³⁰ Respondent Synthos noted that its sales to non-tire customers are made via spot market, and that spot prices changed monthly with the price of butadiene.³¹ Synthos' spot price follows ***.³²

²⁸ Conference transcript, p. 19 (Rikhoff).

²⁹ Respondents added that "there's going to be a certain lag in the market reaction and in pricing depending not only on the type of contract but when the ESBR is sold relative to when it was produced and how long it was held in inventory." Conference transcript, p. 117 (Kendler).

³⁰ Conference transcript, p. 117 (Dortch).

³¹ Conference transcript, pp. 117, 119 (Dortch).

³² Synthos added, ***. Respondents Synthos' and Tatneft's postconference brief, exh. 1, p. 4.

Purchase frequency

Two purchasers reported that they purchase ESBR daily, 4 purchase weekly, 11 purchase monthly, 3 purchase quarterly, and 2 purchase annually.³³ Twenty-one of 24 responding purchasers reported that their purchasing frequency had not changed since 2019. A plurality of purchasers (four each) either contact between one and two suppliers or one and three suppliers before making a purchase.

Sales terms and discounts

U.S. producers typically quote prices on *** basis. Four of eight importers quote prices on a delivered basis, five on an f.o.b. basis, one of these reported quoting on both a delivered and an f.o.b. basis. ***. Six importers do not offer discounts, two reported quantity discounts, one of these also reported volume discounts, and one importer reported “other discounts”, such as early payment discounts.

Price leadership

Sixteen purchasers reported that there were no price leaders or they did not know who was a price leader in the ESBR market. Seven purchasers reported one or more price leaders, three reported that Lion was the leader, one reported that both Goodyear and Lion were price leaders, one reported that Goodyear was a price leader, one firm listed the importer Arlanxeo (which imports ESBR from Brazil) and one firm listed Sinopec (China) and Sibur (Russia) as price leaders. Purchasers listing price leaders indicated that Lion was a price leader because it frequently added surcharges, Goodyear was a price leader because of its large capacity, Arlanxeo was a price leader because it was always competitive, and Sinopec and Sibur were price leaders because they were fully integrated petrochemical companies that gave the best indication of current market conditions.

Price data

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following ESBR products shipped to unrelated U.S. customers during 2019 to second quarter 2022.

³³ One purchaser reported purchasing both weekly and monthly and its response is included in each of these categories.

Product 1.-- IISRP 1502 grade of ESBR in all forms.

Product 2.-- IISRP 1507 grade of ESBR in all forms.

Product 3.-- IISRP 1712 grade of ESBR in all forms.

Product 4.-- IISRP 1783 grade of ESBR in all forms.

Two U.S. producers and five importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.^{34 35} Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' commercial U.S. shipments of ESBR, *** percent of commercial U.S. shipments of subject imports from Czechia, and *** percent of commercial U.S. shipments of subject imports from Russia in 2021. There was substantial internal consumption and as a result, pricing data accounted for approximately *** percent of U.S. producers' overall U.S. shipments of ESBR, *** percent of ESBR imports from Czechia, and *** percent of ESBR imports from Russia in 2021.

Price data for products 1-4 are presented in tables V-5 to V-8 and figures V-2 to V-5. Nonsubject country price data for imports of ESBR from Italy and spot price sales data are presented in Appendix H.³⁶ The overall quantity reported for the different pricing products varies substantially; product 1 accounts for 78.1 percent of all the pricing product reported from domestic and subject sources, product 4 accounts for 16.9 percent, product 2 accounts for 3.0 percent, and product 3 accounts for 2.0 percent.

³⁴ 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.

³⁵ No importers reported price data for imports of ESBR from Russia for products 2 and 4.

³⁶ Total quantity and total value data ESBR products sold on the spot market, over the period of investigation, were provided by *** as exhibits to their posthearing briefs. Per-unit price data of ESBR products sold on the spot market were calculated from these data. The precision and variation of these figures may be affected by rounding, limited quantities, and firm estimates.

Table V-5

ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia Price	Czechia Quantity	Czechia margin
2019 Q1	***	***	***	***	***
2019 Q2	***	***	***	***	***
2019 Q3	***	***	***	***	***
2019 Q4	***	***	***	***	***
2020 Q1	***	***	***	***	***
2020 Q2	***	***	***	***	***
2020 Q3	***	***	***	***	***
2020 Q4	***	***	***	***	***
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***

Table continued.

Period	Russia Price	Russia quantity	Russia margin	Subject sources price	Subject sources quantity	Subject sources margin
2019 Q1	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***

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

Note: Product 1: IISRP 1502 grade of ESBR in all forms.

Table V-6
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia Price	Czechia Quantity	Czechia margin
2019 Q1	***	***	***	***	***
2019 Q2	***	***	***	***	***
2019 Q3	***	***	***	***	***
2019 Q4	***	***	***	***	***
2020 Q1	***	***	***	***	***
2020 Q2	***	***	***	***	***
2020 Q3	***	***	***	***	***
2020 Q4	***	***	***	***	***
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***

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

Note: Product 2: IISRP 1507 grade of ESBR in all forms.

Table V-7

ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia Price	Czechia Quantity	Czechia margin
2019 Q1	***	***	***	***	***
2019 Q2	***	***	***	***	***
2019 Q3	***	***	***	***	***
2019 Q4	***	***	***	***	***
2020 Q1	***	***	***	***	***
2020 Q2	***	***	***	***	***
2020 Q3	***	***	***	***	***
2020 Q4	***	***	***	***	***
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***

Table continued.

Period	Russia Price	Russia quantity	Russia margin	Subject sources price	Subject sources quantity	Subject sources margin
2019 Q1	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***

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

Note: Product 3: IISRP 1712 grade of ESBR in all forms. ***.

Table V-8**ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by source and quarter**

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia Price	Czechia quantity	Czechia margin
2019 Q1	***	***	***	***	***
2019 Q2	***	***	***	***	***
2019 Q3	***	***	***	***	***
2019 Q4	***	***	***	***	***
2020 Q1	***	***	***	***	***
2020 Q2	***	***	***	***	***
2020 Q3	***	***	***	***	***
2020 Q4	***	***	***	***	***
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***

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

Note: Product 4: IISRP 1783 grade of ESBR in all forms. ***.

Figure V-2
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by source and quarter

Price of product 1

* * * * *

Volume of product 1

* * * * *

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

Note: Product 1: IISRP 1502 grade of ESBR in all forms.

Figure V-3
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by source and quarter

Price of product 2

* * * * *

Volume of product 2

* * * * *

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

Note: Product 2: IISRP 1507 grade of ESBR in all forms.

Figure V-4
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by source and quarter

Price of product 3						
*	*	*	*	*	*	*

Volume of product 3						
*	*	*	*	*	*	*

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

Note: Product 3: IISRP 1712 grade of ESBR in all forms.

Figure V-5
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by source and quarter

Price of product 4

* * * * *

Volume of product 4

* * * * *

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

Note: Product 4: IISRP 1783 grade of ESBR in all forms.

Price trends

In general, prices increased during January 2019-June 2022. Table V-9 summarizes the price trends, by country and by product. As shown in the table, domestic price increases ranged from *** percent during January 2019-June 2022 while import price increases ranged from *** percent. The prices of all pricing products from all sources tended to follow a similar pattern: prices declining from the first quarter of 2019 to the third quarter of 2020 and then increasing with prices for U.S. produced ESBR peaking in the third quarter of 2021 and prices for imported ESBR peaking in the fourth quarter of 2021, after which prices tended to decline slightly and then recover to close to or higher than the previous peak.

Table V-9
ESBR: Summary of price data, by product and source, January 2019-June 2022

Price in dollars per pounds, quantity in 1,000 pounds.

Product	Source	Number of quarters	Quantity of shipments	Low price	High price	First quarter price	Last quarter price	Percent change in price over period
Product 1	United States	14	***	***	***	***	***	***
Product 1	Czechia	13	***	***	***	***	***	***
Product 1	Russia	14	***	***	***	***	***	***
Product 2	United States	14	***	***	***	***	***	***
Product 2	Czechia	13	***	***	***	***	***	***
Product 2	Russia	0	0	---	---	---	---	---
Product 3	United States	14	***	***	***	***	***	***
Product 3	Czechia	12	***	***	***	***	***	***
Product 3	Russia	14	***	***	***	***	***	***
Product 4	United States	14	***	***	***	***	***	***
Product 4	Czechia	14	***	***	***	***	***	***
Product 4	Russia	0	0	---	---	---	---	---

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

Note: Percent change column is percentage change from the first quarter 2019 to the second quarter of 2022. Czech price data for product 2 was not available for the second quarter of 2022. Czech prices increased by 50.8 percent from the first quarter of 2019 to the first quarter of 2022.

Price comparisons

As shown in table V-10, there were more quarters of underselling than overselling for product 1 (the product representing the majority sales in the pricing data). However, the quantity of underselling was less than the quantity of overselling for product 1. As shown in table V-11, prices for ESBR imported from Czechia were below those for U.S.-produced product in 32 of 52 instances (***) pounds); margins of underselling ranged from *** percent. In the remaining 20 instances (***) pounds), prices for ESBR from Czechia were between *** percent above prices for the domestic product. Prices for ESBR imported from Russia were below those for U.S.-produced ESBR in 13 of 28 instances (***) pounds); margins of underselling ranged from *** percent. In the remaining 15 instances (***) pounds), prices for ESBR imported from Russia were between *** percent above prices for the domestic ESBR. Overselling was most common for ESBR from Russia in 2021, the year with over half of quantity of Russian price data for the January 2019 to June 2022 period.

Table V-10
ESBR: Instances of underselling and overselling and the range and average of margins, by product

Quantity in 1,000 pounds; margin in percent

Product	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	17	***	***	***	***
Product 2	Underselling	10	***	***	***	***
Product 3	Underselling	13	***	***	***	***
Product 4	Underselling	5	***	***	***	***
Total, all products	Underselling	45	***	***	***	***
Product 1	Overselling	10	***	***	***	***
Product 2	Overselling	3	***	***	***	***
Product 3	Overselling	13	***	***	***	***
Product 4	Overselling	9	***	***	***	***
Total, all products	Overselling	35	***	***	***	***

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

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table V-11
ESBR: Instances of underselling and overselling and the range and average of margins, by source and by year

Quantity in 1,000 pounds; margin in percent

Source	Year	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Czechia	2019	Underselling	9	***	***	***	***
Czechia	2020	Underselling	9	***	***	***	***
Czechia	2021	Underselling	10	***	***	***	***
Czechia	2022	Underselling	4	***	***	***	***
Czechia	Total	Underselling	32	***	***	***	***
Russia	2019	Underselling	6	***	***	***	***
Russia	2020	Underselling	6	***	***	***	***
Russia	2021	Underselling	---	***	***	***	***
Russia	2022	Underselling	1	***	***	***	***
Russia	Total	Underselling	13	***	***	***	***
Czechia	2019	Overselling	5	***	***	***	***
Czechia	2020	Overselling	7	***	***	***	***
Czechia	2021	Overselling	6	***	***	***	***
Czechia	2022	Overselling	2	***	***	***	***
Czechia	Total	Overselling	20	***	***	***	***
Russia	2019	Overselling	2	***	***	***	***
Russia	2020	Overselling	2	***	***	***	***
Russia	2021	Overselling	8	***	***	***	***
Russia	2022	Overselling	3	***	***	***	***
Russia	Total	Overselling	15	***	***	***	***

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

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Lost sales and lost revenue

In the preliminary phase of the investigation, the Commission requested that U.S. producers of ESBR report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of ESBR from Czechia/Russia during January 2018-September 2021. *** U.S. producers submitted lost sales allegations or lost revenue allegations in the preliminary phase of the investigation. Nonetheless, questionnaires were sent to 10 large purchasers and three of these firms responded. None of these purchasers reported purchasing lower priced ESBR imported from subject countries rather than from domestically

produced ESBR, and none reported that U.S. producers had reduced the price of ESBR because of ESBR imported from subject countries.³⁷

In the final phase of these investigations, of the two responding U.S. producers, *** reported that they had to either reduce prices or roll back announced price increases, and *** firms reported that they had lost sales.

Staff contacted 48 purchasers and received responses from 24 purchasers. Responding purchasers reported purchasing and importing *** million pounds of ESBR during January 2019-June 2022 (table V-12).

³⁷ In the preliminary phase of these investigations, ***.

product because of price (tables V-13 and V-14). A number of purchasers reported reasons for purchasing ESBR imported from subject sources, including: U.S. product was not available (two of these reported the ESBR from Russia as lower quality); price and having more than one supplier; reduced risk by increasing the number of approved suppliers in different locations; Czech material as its primary source ***; Czech product performs better in application and is consistently available; and U.S. producers have not been approved.

Table V-13
ESBR: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Firm	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Narrative on reasons for purchasing imports
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued.

Table V-13--continued

ESBR: Purchasers' response to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Firm	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Narrative on reasons for purchasing imports
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes--10; No--14	Yes--5; No--5	Yes--2; No--9	***	

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

Note: All other includes all other sources. Change is the percentage point change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years

Note: NR = No response

Table V-14
ESBR: Purchasers' response to purchasing subject imports instead of domestic product, by country

Count in number of firms reporting; Quantity in 1,000 pounds

Source	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity
Czechia	7	3	---	***
Russia	7	4	2	***
Subject sources	10	5	2	***

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

Of the 24 purchasers, none reported that U.S. producers had reduced prices in order to compete with lower-priced imports from Czechia or Russia; 7 reported that U.S. producers had not reduced prices; and 17 reported that they did not know regarding subject sources (table V-15).

Table V-15
ESBR: Purchasers' response to U.S. producers reducing price because of imports from subject countries, by country

Count in number of firms reporting

Source	Producers reduced prices	Producers did not reduce prices	Purchasers did not know
Czechia	0	7	16
Russia	0	5	17
Subject sources	0	7	17

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

Part VI: Financial experience of the U.S. producers

Background¹

Two U.S. producers, Goodyear and Lion, reported financial results and related information on their U.S. ESBR operations. The ESBR financial results of Goodyear and Lion are based on information from accounting systems designed to generate/report overall financial results on a U.S. GAAP basis. Staff conducted a verification of Lion’s financial results and related information on September 21-22, 2022. ***.²

With regard to events/activity impacting ESBR operations during the period examined, Lion experienced a butadiene supply disruption and related production disruption in late 2019, resulting in plant closure for several weeks.³ During 2020, Goodyear *** for several months due to reduced demand resulting from COVID-19. In contrast, Lion reported *** due to COVID-19.⁴ During early 2021 Goodyear and Lion *** reported that their ESBR operations experienced weather-related production disruptions due to Winter Storm Uri.⁵ In June 2021, Goodyear finalized its acquisition of Cooper Tire.

¹ The following abbreviations may be used in the tables and/or text of this section: generally accepted accounting principles (“GAAP”), fiscal year (“FY”), net sales (“NS”), cost of goods sold (“COGS”), selling, general, and administrative expenses (“SG&A expenses”), average unit values (“AUVs”), research and development expenses (“R&D expenses”), and return on assets (“ROA”).

² Verification report, p. 3.

³ Conference transcript, p. 33 (Rikhoff). As noted previously, the butadiene supply disruption was caused by an explosion/fire at TPC’s petrochemical plant in Port Neches, Texas, which at the time reportedly accounted for 20 percent of the butadiene produced in the United States. “Second explosion hits TPC’s Port Neches petchem plant in Texas,” November 27, 2019, <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/oil/112719-major-blast-hits-tpcs-port-neches-petchem-plant-in-texas>.

⁴ *** U.S. producer questionnaire response, sections II-2a and III-18. *** U.S. producer questionnaire response, section III-18.

⁵ Conference transcript, p. 35 (Rikhoff). ***. *** U.S. producer questionnaire response, section II-2a. With regard to both the 2019 and 2021 production disruptions, a Lion company official stated that the company’s “. . . inventory of butadiene and styrene was specifically utilized, to mitigate these exact events during the POI . . . as with our butadiene and styrene inventory levels, our finished goods inventory was never depleted at any point during the POI.” Hearing transcript, pp. 24-25 (Ballard). While Lion did not declare force majeure in response to the TPC-related production disruption in 2019, the company did declare force majeure, from mid-February through March 2020, in response to the production disruption caused by Winter Storm Uri. Hearing transcript, pp. 68-69 (Ballard).

Figure VI-1 and figure VI-2 present firm-specific shares of total 2021 net sales quantity for total market operations and merchant market operations, respectively.

Figure VI-1
ESBR: Share of net sales quantity (total market operations) of U.S. producers in 2021, by firm

* * * * *

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

Figure VI-2
ESBR: Share of net sales quantity (merchant market operations) of U.S. producers in 2021, by firm

* * * * *

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

Operations on ESBR

Table VI-1 presents income-and-loss data for U.S. producers' total market operations and table VI-2 presents corresponding AUV (dollars per pound) percentage and unit changes. Table VI-3 presents a variance analysis of total market financial results. Table VI-4 presents income-and-loss data for U.S. producers' merchant market operations and table VI-5 presents

corresponding AUV (dollars per pound) percentage and unit changes. Table VI-6 presents a variance analysis of merchant market financial results. Appendix J presents selected company-specific financial data for total market operations and merchant market operations.

Table VI-1
ESBR: Results of total market operations of U.S. producers, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent

Item	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
Butadiene	Value	***	***	***	***	***
Styrene	Value	***	***	***	***	***
Other raw material inputs	Value	***	***	***	***	***
Total raw materials	Value	***	***	***	***	***
Direct labor	Value	***	***	***	***	***
Other factory costs	Value	***	***	***	***	***
COGS	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Estimated cash flow from operations	Value	***	***	***	***	***
Butadiene	Ratio to NS	***	***	***	***	***
Styrene	Ratio to NS	***	***	***	***	***
Other raw material inputs	Ratio to NS	***	***	***	***	***
Total raw materials	Ratio to NS	***	***	***	***	***
Direct labor	Ratio to NS	***	***	***	***	***
Other factory costs	Ratio to NS	***	***	***	***	***
COGS	Ratio to NS	***	***	***	***	***
Gross profit or (loss)	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table VI-1 Continued
ESBR: Results of total market operations of U.S. producers, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting

Item	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Butadiene	Share	***	***	***	***	***
Styrene	Share	***	***	***	***	***
Other raw material inputs	Share	***	***	***	***	***
Total raw materials	Share	***	***	***	***	***
Direct labor	Share	***	***	***	***	***
Other factory costs	Share	***	***	***	***	***
COGS	Share	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
Butadiene	Unit value	***	***	***	***	***
Styrene	Unit value	***	***	***	***	***
Other raw material inputs	Unit value	***	***	***	***	***
Total raw materials	Unit value	***	***	***	***	***
Direct labor	Unit value	***	***	***	***	***
Other factory costs	Unit value	***	***	***	***	***
COGS	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Data	Count	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***

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

Note: Shares represent the share of COGS.

Table VI-2
ESBR: Changes in total market operations AUVs between comparison periods

Changes in percent

Item	2019-21	2019-20	2020-21	Jan-Jun 2021-22
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
Butadiene	***	***	***	***
Styrene	***	***	***	***
Other raw material inputs	***	***	***	***
Total raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Cost of goods sold	***	***	***	***

Table continued.

Table VI-2 Continued
ESBR: Changes in total market operations AUVs between comparison periods

Changes in dollars per pound

Item	2019-21	2019-20	2020-21	Jan-Jun 2021-22
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
Butadiene	***	***	***	***
Styrene	***	***	***	***
Other raw material inputs	***	***	***	***
Total raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Cost of goods sold	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

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

Note: Changes reported as 0.00 or (0.00) represent nonzero values that are an increase or a decrease of less than 0.005, respectively.

Table VI-3
ESBR: Variance analysis on total market operations between comparison periods

Value in 1,000 dollars

Item	2019-21	2019-20	2020-21	Jan-Jun 2021-22
Net sales price variance	***	***	***	***
Net sales volume variance	***	***	***	***
Total net sales variance	***	***	***	***
COGS cost variance	***	***	***	***
COGS volume variance	***	***	***	***
Total COGS variance	***	***	***	***
Gross profit variance	***	***	***	***
SG&A expense cost variance	***	***	***	***
SG&A expense volume variance	***	***	***	***
Total SG&A expense variance	***	***	***	***
Operating income price variance	***	***	***	***
Operating income expense/cost variance	***	***	***	***
Operating income expense/cost volume variance	***	***	***	***
Total operating income variance	***	***	***	***

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

Table VI-4
ESBR: Results of merchant market operations of U.S. producers, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars

Item	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Commercial sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Butadiene	Value	***	***	***	***	***
Styrene	Value	***	***	***	***	***
Other raw material inputs	Value	***	***	***	***	***
Total raw materials	Value	***	***	***	***	***
Direct labor	Value	***	***	***	***	***
Other factory costs	Value	***	***	***	***	***
COGS	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Estimated cash flow from operations	Value	***	***	***	***	***

Table continued.

Table VI-4 Continued
ESBR: Results of merchant market operations of U.S. producers, by item and period

Ratios in percent; shares in percent; unit values in dollars per pound; count in number of firms reporting

Item	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Butadiene	Ratio to NS	***	***	***	***	***
Styrene	Ratio to NS	***	***	***	***	***
Other raw material inputs	Ratio to NS	***	***	***	***	***
Total raw materials	Ratio to NS	***	***	***	***	***
Direct labor	Ratio to NS	***	***	***	***	***
Other factory costs	Ratio to NS	***	***	***	***	***
COGS	Ratio to NS	***	***	***	***	***
Gross profit or (loss)	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***
Butadiene	Share	***	***	***	***	***
Styrene	Share	***	***	***	***	***
Other raw material inputs	Share	***	***	***	***	***
Total raw materials	Share	***	***	***	***	***
Direct labor	Share	***	***	***	***	***
Other factory costs	Share	***	***	***	***	***
COGS	Share	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
Butadiene	Unit value	***	***	***	***	***
Styrene	Unit value	***	***	***	***	***
Other raw material inputs	Unit value	***	***	***	***	***
Total raw materials	Unit value	***	***	***	***	***
Direct labor	Unit value	***	***	***	***	***
Other factory costs	Unit value	***	***	***	***	***
COGS	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Data	Count	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***

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

Note: Shares represent the share of COGS.

Table VI-5
ESBR: Changes in merchant market operations AUVs between comparison periods

Changes in percent

Item	2019-21	2019-20	2020-21	Jan-Jun 2021-22
Commercial sales	***	***	***	***
Butadiene	***	***	***	***
Styrene	***	***	***	***
Other raw material inputs	***	***	***	***
Total raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Cost of goods sold	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Changes in merchant market operations AUVs between comparison periods

Changes in dollars per pound

Item	2019-21	2019-20	2020-21	Jan-Jun 2021-22
Commercial sales	***	***	***	***
Butadiene	***	***	***	***
Styrene	***	***	***	***
Other raw material inputs	***	***	***	***
Total raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Cost of goods sold	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

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

Note: Changes reported as 0.00 or (0.00) represent nonzero values that are an increase or a decrease of less than 0.005, respectively.

Table VI-6
ESBR: Variance analysis on merchant market operations between comparison periods

Value in 1,000 dollars

Item	2019-21	2019-20	2020-21	Jan-Jun 2021-22
Net sales price variance	***	***	***	***
Net sales volume variance	***	***	***	***
Total net sales variance	***	***	***	***
COGS cost variance	***	***	***	***
COGS volume variance	***	***	***	***
Total COGS variance	***	***	***	***
Gross profit variance	***	***	***	***
SG&A expense cost variance	***	***	***	***
SG&A expense volume variance	***	***	***	***
Total SG&A expense variance	***	***	***	***
Operating income price variance	***	***	***	***
Operating income expense/cost variance	***	***	***	***
Operating income expense/cost volume variance	***	***	***	***
Total operating income variance	***	***	***	***

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

Net sales

On an overall basis, the U.S. industry's commercial sales accounted for the largest share of cumulative sales volume (***) percent), followed by internal consumption (***) percent), and transfer sales to related firms (***) percent). Goodyear reported *** designated sales categories (***), while Lion reported *** commercial sales.⁶

Quantity

For both total market operations and merchant market operations, sales quantity declined in 2020, increased in 2021, and was higher in January-June 2022 compared to January-June 2021. While company-specific magnitudes varied (i.e., Goodyear's percentage changes in

⁶ Pursuant to the Commission's income statement format, U.S. producers reported ESBR internal consumption as a sale, valued at estimated fair market value (see also footnote 10). Corresponding manufacturing costs were included in COGS. ***. Email with attachments from *** to USITC staff, September 8, 2022. ***. *** U.S. producer questionnaire response, section III-9c. Throughout the period Goodyear's ***. USITC auditor notes (prehearing).

sales quantity (positive and negative) were *** than Lion's), *** reported declines in total sales quantity in 2020 followed by increases in 2021.⁷ Between the interim periods, the two companies *** with Goodyear reporting *** sales quantity in January-June 2022 compared to January-June 2021, while Lion reported *** sales quantity.

Value

A large share of ESBR sales is made pursuant to long-term contracts with sales values reflecting both a conversion price and a raw material passthrough.⁸ For ***, the raw material passthrough component includes butadiene and styrene with *** raw material passthrough ***.⁹

On an average per pound basis and with respect to total market operations, Lion's average sales value (***) was *** than Goodyear's total market average sales value (***). This difference, ***, increased throughout the period, reaching its *** level in January-June 2022.¹⁰ In contrast, when considering merchant market operations (commercial sales only), the

⁷ ***. *** U.S. producer questionnaire response, sections II-2a and III-18. ***. *** U.S. producer questionnaire response, section III-18.

⁸ ***. Email with attachments from *** to USITC staff, September 8, 2020. At the Commission's hearing, a Lion company official stated that "Most of our {ESBR} sales are on a contract basis. But we also sell into the spot market." Hearing transcript, p. 22 (Ballard). In 2021 specifically, 80 percent of Lion's ESBR sales were estimated to be on a contract basis and 20 percent on a spot basis. Hearing transcript, p. 49 (Rikhoff).

⁹ ***. Email with attachments from *** to USITC staff, September 8, 2022.

¹⁰ ***

(continued...)

difference was ***: Goodyear's average commercial sales value was *** than Lion's in 2019 and 2020; *** in 2021, and *** in January-June 2022. *** reported that changes in their ESBR product mix were not an important factor with respect to changes in average sales value during the period.¹¹

As shown in the sales sections of the variance analysis tables (table VI-3 and table VI-6), the declines in total sales value for total market operations and merchant market operations in 2020 reflect a combination of negative price variances and volume variances, the volume variances being somewhat larger. In 2021, the increase in total market and merchant market sales value largely reflects positive price variances, the corresponding positive volume variances playing a secondary role. Similarly, the higher total sales value for both categories in January-June 2022 compared to January-June 2021 reflects positive price and volume variances, the positive price variance again predominating.¹²

***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Email with attachment from *** to USITC staff, September 16, 2022.

¹¹ ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Email with attachment from *** to USITC staff, September 8, 2022.

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

(continued...)

Cost of goods sold and gross profit or loss

Raw materials

As noted above, butadiene and styrene (***), as well as ***, are included in the raw material passthrough component of conversion pricing. In general, there appears to be no substantial lag between cost recognition and the passthrough component included in sales.¹³ For total market operations, butadiene was the single largest component of total ESBR raw material cost (**% percent of total raw material costs (2020) to **% percent (2021)), followed by total other raw materials, (**% percent (2021) to **% percent (2020)),¹⁴ and styrene (**% percent (2020) to **% percent (January-June 2022)). Corresponding total raw material cost (i.e., combined butadiene, styrene, and other raw materials) for total market operations accounts for the largest share of COGS (**% percent (2020) to **% percent (January-June 2022)).

Goodyear and Lion reported average per pound butadiene and styrene costs that were *** and directionally *** in terms of period changes: *** declining by varying magnitudes in 2020, increasing in 2021, and higher in January-June 2022 compared to

COGS, and SG&A expenses variances. In general, the utility of the Commission's variance analysis is enhanced when product mix remains the same throughout the period. As described above (see footnote 11), *** reported that changes in average sales values primarily reflect changes in underlying prices, as opposed to changes in product mix.

¹³ ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Email with attachment from *** to USITC staff, September 8, 2022.

¹⁴ Goodyear's other raw materials include ***, while Lion's include ***. *** U.S. producer questionnaire responses, section III-9d.

January-June 2021.¹⁵ When considering the two inputs combined, Goodyear's average total butadiene and styrene cost was *** compared to Lion's average total butadiene and styrene cost for most of the period, the *** being January-June 2021 and January-June 2022.

While the total average per pound total raw material cost of both companies was relatively close throughout most of the period (see table J-1 and table J-2), the difference increased and contracted in 2020 and 2021, primarily reflecting Goodyear's and then Lion's *** average other raw material cost in 2020 and 2021, respectively.^{16 17}

¹⁵ The underlying raw material costs of both companies reflect inventory revaluations (raw material and finished goods). ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Verification report, p. 6.

¹⁶ ***. Email with attachment from *** to USITC staff, September 16, 2022.

¹⁷ ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Email with attachment from *** to USITC staff, September 8, 2022.

Direct labor and other factory costs

For total market operations, direct labor cost, the smallest component of total ESBR COGS, ranged from *** percent of total COGS (January-June 2022) to *** percent (2020). Other factory costs, the second largest component of total COGS, ranged from *** percent (January-June 2021) to *** percent (2020). As shown in table J-1 and table J-2, Lion's average per pound direct labor cost and other factory costs were, respectively, *** compared to Goodyear's average per pound direct labor cost and average other factory costs.¹⁸ While noting ***, both companies generally indicated that they consider their underlying ESBR operations to be ***.¹⁹

When considering average per pound conversion costs (i.e., the sum of direct labor and other factory costs) (see table J-1 and table J-2), Goodyear and Lion were *** in 2019 and then ***: Lion's average conversion cost *** in 2020 and 2021,

¹⁸ In conjunction with a relatively *** in Goodyear's average other factory costs, the *** in company-specific average other factory costs *** in 2020. ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. With regard to the impact of Winter Storm Uri specifically, a Lion company official noted that "Lion Elastomers was down for two weeks, and we were back up and running, and notified that to all customers. We were not running full at that point in time, but we had significant inventory of finished goods . . . {and} significant inventory of butadiene . . . we were able to run at almost full rates within a month after the {mid-February 2021} shutdown, and we did have some intermittent problems, but we worked very closely with our customers. We did not shut down any of our customers." Hearing transcript, pp. 62-63 (Rikhoff).

¹⁹ ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Email with attachment from *** to USITC staff, September 8, 2022.

²⁰ The amounts assigned to direct labor and other factory costs reflect company-specific choices regarding cost assignment such that the average per pound amounts are not necessarily directly comparable; e.g., direct labor and other factory costs are not specific cost categories in ***. Verification report, p. 6. Combining company-specific direct labor and other factory costs into a single conversion cost amount therefore likely improves comparability.

Goodyear's ***. In January-June 2022 compared to January-June 2021, *** companies reported *** average conversion costs, which in turn reflects *** other factory costs.^{21 22}

Gross profit or loss

The U.S. industry's total market operations generated gross losses of varying magnitudes throughout the period. With the exception of 2019, when merchant market operations generated a gross profit, merchant market operations also generated gross losses throughout most of the period. On a company-specific basis, Goodyear reported *** on its total market operations throughout the period and on merchant market operations for most of the period, the ***. In contrast, Lion reported *** for both total market and merchant market operations, the *** (see tables J-1 and J-2).²³ Note: Since Lion

²¹ ***. Email with attachment from *** to USITC staff, September 8, 2022. ***. Email with attachment from *** to USITC staff, September 8, 2022.

²² ***. Email with attachment from *** to USITC staff, September 16, 2022.

²³ ***.

*** reported commercial sales, its financial results on total market and merchant market operations are the ***.

The source of the *** in company-specific gross results generally reflects both sales and cost factors: Goodyear's average per pound total market sales values (***) were *** than Lion's average sales value (***), while its average commercial sales value varied in terms of being *** compared to Lion's average sales value; Goodyear's average per pound COGS, while reflecting average per pound butadiene and styrene costs *** to Lion's, were *** than Lion's average COGS throughout the period, reflecting Goodyear's *** average conversion costs.

SG&A expenses and operating income or loss

Total SG&A expenses for total market operations and merchant market operations declined irregularly during the full-year period and were marginally higher (total market operations) and lower (merchant market operations) in January-June 2022 compared to January-June 2021. Company-specific SG&A expense ratios (total SG&A expenses divided by total sales) were generally in a similar range (see table J-1 and table J-2).

Since Goodyear *** generate gross profit during most of the period, as noted above, its SG&A expenses were *** in terms of determining the level of its total ***. Lion, in contrast, generated *** during most of the period, the ***, and was therefore *** part of its SG&A expenses. Lion's ***, however, did ***, resulting in *** of varying magnitude throughout the period. Lion's *** were achieved in January-June 2022, in conjunction with an expansion of its *** to the highest level of the period.

In terms of explaining the pattern of their ESR financial results in general, Goodyear's description focused on the ***,²⁴ while Lion's focused on conversion pricing.²⁵ *** companies indicated that the conversion price component of sales is intended to recover ***

²⁴ ***. Email with attachment from *** to USITC staff, September 8, 2022.

²⁵ "The conversion price component of our pricing dropped across the POI, leading to negative gross profits from 2020 onward." Hearing transcript, p. 23 (Ballard).

***²⁶

To the extent that overall and company-specific SG&A expense ratios moved within a relatively narrow range throughout the period, the impact of SG&A expenses on reported financial results generally appears to be a secondary factor. As such, the U.S. industry's ESBR operating results were largely determined by the sales and COGS factors that determined gross results.

Interest expense, other expenses and income, and net income or loss

The U.S. industry's interest expense, other expenses and income were reported by *** with *** stating that this information is *** tracked/reported by the business unit that responded to the Commission's U.S. producer questionnaire.²⁷ While interest expense and other income were reported throughout the period, other expenses were reported only in 2019.²⁸

Both categories of financial results (total market operations and merchant market operations) were directionally the same in terms of changes in operating and net results throughout the period: 2020 (operating and net losses of both categories increased); 2021 (operating and net losses of both categories declined); January-June 2022 compared to January-June 2021 (operating and net losses of both categories were lower).

Capital expenditures and R&D expenses

Table VI-7 and table VI-9 present capital expenditures and R&D expenses, respectively, by firm. Table VI-8 and table VI-10 present the firms' narrative descriptions regarding their capital expenditures and R&D expenses, respectively.

²⁶ Email with attachments from *** to USITC staff, September 8, 2020. Hearing transcript, p. 22 (Ballard). Email with attachment from *** to USITC staff, September 8, 2022. At the Commission's hearing a Lion company official stated that the conversion price component is "... intended to cover {the} producers' non-monomer material costs, fixed cost overhead costs, labor costs, and a profit margin." Hearing transcript, p. 22 (Ballard).

²⁷ *** U.S. producer questionnaire response, section III-4.

²⁸ ***. *** U.S. producer questionnaire response, section III-10. ***.

Table VI-7
ESBR: U.S. producers' capital expenditures, by firm and period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Table VI-8
ESBR: Narrative descriptions of U.S. producers' capital expenditures, by firm

Firm	Narrative
Goodyear	***
Lion	***

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

Table VI-9
ESBR: U.S. producers' R&D expenses, by firm and period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Table VI-10
ESBR: Narrative descriptions of U.S. producers' R&D expenses, by firm

Firm	Narrative
Goodyear	***
Lion	***

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

Assets and ROA

Table VI-11 presents data on the U.S. producers' total assets and table VI-12 presents corresponding ROA.²⁹ Table VI-13 presents U.S. producers' narrative responses explaining their major asset categories and any significant changes in asset levels over time.

Table VI-11
ESBR: U.S. producers' total net assets, by firm and period

Value in 1,000 dollars

Firm	2019	2020	2021
Goodyear	***	***	***
Lion	***	***	***
All firms	***	***	***

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

Table VI-12
ESBR: U.S. producers' ROA, by firm and period

Ratios in percent

Firm	2019	2020	2021
Goodyear	***	***	***
Lion	***	***	***
All firms	***	***	***

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

Table VI-13
ESBR: Narrative description of U.S. producers' total net assets, by firm

Firm	Narrative
Goodyear	***
Lion	***

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

²⁹ ROA is calculated here as operating income divided by total assets. With respect to a company's overall operations, staff notes that a total asset value (i.e., the bottom line value on the asset side of a company's balance sheet) reflects an aggregation of a number of current and non-current assets, which, in many instances, are not product specific. The ability of a U.S. producer to assign total asset values to discrete product lines affects the meaningfulness of calculated operating return on net assets.

Capital and investment

The Commission requested U.S. producers to describe any actual or potential negative effects of imports of ESBR from Czechia and Russia on their growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table VI-14 presents the effects reported and table VI-15 provides U.S. producers' narrative descriptions.

Table VI-14

ESBR: Count indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2019, by effect

Number of firms reporting

Effect	Category	Count
Cancellation, postponement, or rejection of expansion projects	Investment	***
Denial or rejection of investment proposal	Investment	***
Reduction in the size of capital investments	Investment	***
Return on specific investments negatively impacted	Investment	***
Other investment effects	Investment	***
Any negative effects on investment	Investment	***
Rejection of bank loans	Growth	***
Lowering of credit rating	Growth	***
Problem related to the issue of stocks or bonds	Growth	***
Ability to service debt	Growth	***
Other growth and development effects	Growth	***
Any negative effects on growth and development	Growth	***
Anticipated negative effects of imports	Future	***

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

Table VI-15

ESBR: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2019

Item	Firm name and accompanying narrative response
Cancellation, postponement, or rejection of expansion projects	***
Denial or rejection of investment proposal	***

Table continued.

Table VI-15 Continued**ESBR: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2019**

Item	Firm name and accompanying narrative response
Reduction in the size of capital investments	***
Return on specific investments negatively impacted	***
Other (effects of imports on investment)	***
Other (effects of imports on investment)	***
Lowering of credit rating	***
Ability to service debt	***
Other (effects of imports on growth and development)	***
Other (effects of imports on growth and development)	***

Table continued.

Table VI-15 Continued

ESBR: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2019

Item	Firm name and accompanying narrative response
Anticipated effects of imports	***
Anticipated effects of imports	***

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

Part VII: Threat considerations and information on nonsubject countries

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

In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors¹--

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

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

- (VI) *the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,*
- (VII) *in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),*
- (VIII) *the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and*
- (IX) *any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).²*

Information on the volume and pricing of imports of the subject merchandise is presented in Parts IV and V; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in Part VI. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting"; any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

² Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

The industry in Czechia

The Commission issued foreign producers' or exporters' questionnaires to one firm believed to produce and/or export ESBR from Czechia and received a response from that firm: Synthos Kralupy a.s. ("Synthos").³ This firm's exports to the United States accounted for *** exports of ESBR from Czechia to the United States and *** production of ESBR in Czechia in 2021.⁴ Table VII-1 presents information on the ESBR operations of the responding producer/exporter in Czechia.

Table VII-1
ESBR: Summary data for producers in Czechia, 2021

Firm	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
Synthos	***	100.0	***	100.0	***	***
All firms	***	100.0	***	100.0	***	***

Quantity in 1,000 pounds; share in percent

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

Changes in operations

Synthos reported *** since January 1, 2019.

³ This firm was identified through a review of information submitted in the petition and presented in third-party sources.

⁴ Synthos estimated in its questionnaire response that it ***. Synthos foreign producer response, sections II-6a and II-6b.

Operations on ESBR

Synthos reported the following production constraints as presented in table VII-2.

Table VII-2
ESBR: Foreign producers in Czechia reported production constraints

Item	Firm name and narrative response on production constraints
Fuel or energy	***
Logistics/transportation	***
Other	***

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

Table VII-3 presents information on the ESBR operations of Synthos. Synthos reported *** capacity throughout the POI⁵ and projects *** in its capacity for 2022 and 2023. Synthos' production decreased *** percent from 2019-20 and then increased *** percent from 2020-21 resulting in slight increase in production of *** percent from 2019-21. As a result, Synthos' capacity utilization decreased from *** percent in 2019 to *** percent in 2020 before increasing to *** percent in 2021. Production was *** percent lower in the January-June 2022 interim period than in the 2021 interim period, thus Synthos' capacity utilization was *** percentage points lower in the interim 2022 period than in the interim 2021 period (*** percent in interim 2022 as compared to *** percent in interim 2021).⁶ Synthos projects its production will be *** percent lower in 2022 and *** percent lower in 2023 than its 2021 production. Based on Synthos' capacity and production projections, Synthos' capacity utilization ratio would be *** percent overall for 2022 and would increase to *** percent for 2023.

Exports represented the *** of Synthos' total shipments (between *** and *** percent of total shipments during the POI) with commercial home market shipments representing ***. Synthos reported *** internal consumption. Export shipments to the United States represented between *** and *** percent of Synthos' total shipments and between *** and *** percent of Synthos' export shipments during the POI. Synthos' exports to the United States decreased *** percent from 2019-20 and then increased *** percent from 2020-21, resulting in an overall decrease of *** percent from 2019-21. Synthos'

⁵ ***. Synthos foreign producer response, sections II-3b and II-3c.

⁶ As noted in table VII-2, ***.

exports to the United States were *** percent lower in interim 2022 than in interim 2021, and Synthos projects its exports to the United States will be *** percent lower in 2022 overall as compared to 2021. Synthos projects its exports to the United States will be *** percent higher in 2023 as compared to its 2022 projection but will still be *** percent lower than its 2021 export shipments to the United States.

Synthos' end-of-period inventories decreased *** percent from 2019-20 and then increased *** percent from 2020-21, resulting in an overall increase of *** percent in end-of-period inventories from 2019-21. Synthos projects its inventories will be *** percent lower at the end of 2022 and *** percent lower at the end of 2023 as compared to the end of 2021. Synthos' ratio of inventories to total shipments was *** percentage points higher in 2021 as compared to 2019 (*** percent as compared to *** percent). Its ratio of inventories to total shipments was *** percent in the interim 2022 period (comparable to its ratio of *** percent in the interim 2021 period).

Table VII-3
ESBR: Data on industry in Czechia, by period

Quantity in 1,000 pounds

Item	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022	Projection 2022	Projection 2023
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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

Table VII-3 Continued
ESBR: Data on industry in Czechia, by period

Shares and ratios in percent

Item	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022	Projection 2022	Projection 2023
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Alternative products

Synthos reported *** using the same machinery and/or labor as used to produce ESBR.

Exports

According to GTA, the leading export markets for styrene-butadiene rubber (a category that includes out-of-scope products) from Czechia are South Korea, the United States, Brazil, and Poland (table VII-4). During 2021, the United States was the second largest export market for styrene-butadiene rubber from Czechia, accounting for 14.5 percent of Czechia's exports by volume. South Korea was the largest export market for Czechia in 2021, accounting for 17.4 percent of exports by volume. Brazil and Poland were Czechia's third and fourth largest export markets in 2021 accounting for 14.4 and 7.7 percent of exports, respectively.

Table VII-4
Styrene-butadiene rubber: Exports from Czechia, by destination market and by period

Quantity in 1,000 pounds; Value in 1,000 dollars

Destination market	Measure	2019	2020	2021
United States	Quantity	28,643	21,154	26,281
South Korea	Quantity	18,392	24,159	31,531
Brazil	Quantity	26,735	31,600	26,207
Poland	Quantity	18,001	17,223	14,059
Austria	Quantity	7,017	7,879	8,014
Spain	Quantity	11,025	7,554	7,134
France	Quantity	7,320	5,472	6,756
Belgium	Quantity	355	784	5,865
Russia	Quantity	5,855	4,295	5,850
All other destination markets	Quantity	63,657	55,802	49,743
All destination markets	Quantity	186,999	175,922	181,440
United States	Value	19,694	12,562	23,697
South Korea	Value	10,239	11,360	25,348
Brazil	Value	16,847	16,045	21,454
Poland	Value	11,936	8,806	11,163
Austria	Value	4,522	3,887	6,868
Spain	Value	7,654	4,140	5,834
France	Value	5,009	2,924	5,479
Belgium	Value	155	389	4,742
Russia	Value	4,124	2,295	4,601
All other destination markets	Value	41,548	28,899	41,143
All destination markets	Value	121,727	91,306	150,329

Table continued.

Table VII-4 Continued**Styrene-butadiene rubber: Exports from Czechia, by destination market and by period**

Unit values in dollars per pound; Shares in percent

Destination market	Measure	2019	2020	2021
United States	Unit value	0.69	0.59	0.90
South Korea	Unit value	0.56	0.47	0.80
Brazil	Unit value	0.63	0.51	0.82
Poland	Unit value	0.66	0.51	0.79
Austria	Unit value	0.64	0.49	0.86
Spain	Unit value	0.69	0.55	0.82
France	Unit value	0.68	0.53	0.81
Belgium	Unit value	0.44	0.50	0.81
Russia	Unit value	0.70	0.53	0.79
All other destination markets	Unit value	0.65	0.52	0.83
All destination markets	Unit value	0.65	0.52	0.83
United States	Share of quantity	15.3	12.0	14.5
South Korea	Share of quantity	9.8	13.7	17.4
Brazil	Share of quantity	14.3	18.0	14.4
Poland	Share of quantity	9.6	9.8	7.7
Austria	Share of quantity	3.8	4.5	4.4
Spain	Share of quantity	5.9	4.3	3.9
France	Share of quantity	3.9	3.1	3.7
Belgium	Share of quantity	0.2	0.4	3.2
Russia	Share of quantity	3.1	2.4	3.2
All other destination markets	Share of quantity	34.0	31.7	27.4
All destination markets	Share of quantity	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 4002.19 as reported by Eurostat in the Global Trade Atlas database, accessed August 9, 2022.

Note: United States is shown at the top, all remaining top export destinations shown in descending order of 2021 data.

The industry in Russia

The Commission issued foreign producers' or exporters' questionnaires to four firms believed to produce and/or export ESBR from Russia.⁷ Usable responses to the Commission's questionnaire were received from three firms: JSC Sterlitamak Petrochemical Plant ("Sterlitamak"), Public Joint Stock Company "SIBUR Holding" ("Sibur"), and PJSC TATNEFT ("Tatneft"). These three firms estimated that their production accounted for approximately *** percent of the total production of ESBR in Russia in 2021.⁸ The firms also estimated that their exports of ESBR to the United States accounted for approximately *** percent of total exports of ESBR from Russia to the United States in 2021.⁹ ¹⁰ Table VII-5 presents information on the ESBR operations of the responding producers and exporters in Russia.

⁷ These firms were identified through a review of information submitted in the petition and presented in third-party sources.

⁸ ***.

⁹ ***.

¹⁰ It is believed that the remainder of ESBR production and exports in Russia are accounted for by Russian synthetic rubber producer Omskij Kauchuk PJSC ("Omsky Kauchuk"). Omsky Kauchuk submitted a questionnaire response during the preliminary phase of these investigations but was unresponsive during the final phase.

Table VII-5
ESBR: Summary data for producers in Russia, 2021

Quantity in 1,000 pounds; share in percent

Firm	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
Sibur	***	***	***	***	***	***
Sterlitamak	***	***	***	***	***	***
Tatneft	***	***	***	***	***	***
All firms	***	100.0	***	100.0	***	***

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

Note: ***

Changes in operations

Table VII-6 presents the operational and organizational changes since January 1, 2019, reported by producers in Russia.

Table VII-6

ESBR: Reported changes in operations in Russia since January 1, 2019, by firm

Item	Firm name and accompanying narrative response
Acquisitions	***
Other	***

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

Operations on ESBR

Table VII-7 presents Russian producers reported production constraints.

Table VII-7

ESBR: Foreign producers in Russia reported production constraints

Item	Firm name and narrative response on production constraints
Processing bottlenecks	***
Processing bottlenecks	***
Supply of material inputs	***
Supply of material inputs	***
Logistics/transportation	***
Other	***

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

Table VII-8 presents information on the ESBR operations of the three responding producers and exporters in Russia. The Russian producers reported a *** percent decrease in capacity from 2019-20 and then virtually no change in capacity from 2020-21.¹¹ Their reported interim 2022 capacity was *** percent higher than their reported interim 2021 capacity, and they project a *** percent decrease in their capacity for 2022 and a *** percent decrease in capacity for 2023 as compared to their 2021 capacity.¹²

The Russian producers' production increased *** percent from 2019-21.¹³ Capacity utilization increased from *** percent in 2019 to *** percent in 2020 and then increased to *** percent in 2021. Production was *** percent lower in the January-June 2022 interim period than in the 2021 interim period, thus Russian producers' capacity utilization was *** percentage points lower in the interim 2022 period than in interim 2021 (*** percent in interim 2022 and *** percent in interim 2021). The Russian producers project their production to be *** percent lower in 2022 and *** percent lower in 2023 than in 2021. Based on the capacity and production projections, Russian producers' capacity utilization ratio would be *** percent overall for 2022 and would increase to *** percent for 2023.

Russian producers' end-of-period inventories decreased *** percent from 2019-20 and then increased *** percent from 2020-21, resulting in an overall increase of *** percent in end-of-period inventories from 2019-21. The Russian producers project that their

¹¹ ***. *** foreign producers' response, section II-3c. ***. Staff correspondence with ***, October 26, 2022. ***.

¹² ***. Email from ***, September 29, 2022. ***.

¹³ ***.

inventories will be *** percent higher at the end of 2022 than the end of 2021, and that their end of 2023 inventories will be *** percent higher than at the end of 2021. Russian producers' ratio of inventories to total shipments was *** percentage points higher in 2021 than in 2019 (*** percent as compared to *** percent). Russian producers' ratio of inventories to total shipments was *** percentage points higher in the interim 2022 period than in interim 2021 (*** percent as compared to *** percent).

Exports represented the *** of Russian producers' total shipments (between *** and *** percent of total shipments during the POI). Commercial home market shipments represented between *** and *** percent of total shipments by volume from 2019-21, while internal consumption represented between *** and *** percent of total shipments from 2019-21.¹⁴ Export shipments to the United States represented between *** and *** percent of Russian producers' total shipments and between *** and *** percent of Russian producers' export shipments during the POI.

Russian producers' exports to the United States increased from *** pounds in 2019 to *** pounds in 2021 (an increase of *** percent). Russian producers' exports to the United States were *** percent lower in interim 2022 than in interim 2021, and the Russian producers project their exports to the United States will be *** in 2023.¹⁵

¹⁴ *** reported the following ***. It explained in its questionnaire response, "****." *** foreign producers' response, section I-2. *** reported ***. *** reported ***.

¹⁵ As noted in table VII-6, ***. *** reported that its projections were based on "****". *** foreign producer response, section II-8 fn. 1. *** reported that its projections are "****." *** foreign producer response, section II-8 fn. 1.

Table VII-8
ESBR: Data on industry in Russia, by period

Quantity in 1,000 pounds

Item	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022	Projection 2022	Projection 2023
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
Resales exported to the United States	***	***	***	***	***	***	***
Total exports to the United States	***	***	***	***	***	***	***

Table continued.

Table VII-8 Continued
ESBR: Data on industry in Russia, by period

Shares and ratios in percent

Item	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022	Projection 2022	Projection 2023
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share of total exports to United States exported by producers	***	***	***	***	***	***	***
Share of total exports to United States exported by resellers	***	***	***	***	***	***	***
Adjusted share of total shipments exported to the United States	***	***	***	***	***	***	***

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Note: ***.

Note: ***.

Alternative products

Table VII-9 shows Russian producers' overall capacity and production on the same equipment and/or labor as subject production. One firm (***) noted, "***." This production is indicated as "Other production" in table VII-9 and represented *** percent of total reported production using the same machinery and/or labor as ESBR in 2021.

Table VII-9
ESBR: Producers in Russia overall capacity and production on the same equipment as subject production, by period

Quantities in 1,000 pounds; shares and Ratios in percent

Item	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Overall capacity	Quantity	***	***	***	***	***
ESBR production	Quantity	***	***	***	***	***
Other production	Quantity	***	***	***	***	***
All out-of-scope production	Quantity	***	***	***	***	***
Total production	Quantity	***	***	***	***	***
Overall capacity utilization	Ratio	***	***	***	***	***
ESBR production	Share	***	***	***	***	***
Other production	Share	***	***	***	***	***
Total production	Share	100.0	100.0	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Note: ***

Exports

According to GTA, the leading export markets for styrene-butadiene rubber (a category that includes out-of-scope products) from Russia are China, Poland, and Turkey (table VII-10). During 2021, the United States was the fourth largest export market for styrene-butadiene rubber from Russia, accounting for 6.2 percent. China was Russia's largest export market accounting for 17.0 percent of exports by volume. Poland and Turkey were Russia's second and third largest export markets accounting for 12.4 and 10.1 percent of exports respectively.

Table VII-10
Styrene-butadiene rubber: Exports from Russia, by destination market and by period

Quantity in 1,000 pounds; Value in 1,000 dollars

Destination market	Measure	2019	2020	2021
United States	Quantity	5,133	7,098	35,701
China	Quantity	82,202	141,891	98,592
Poland	Quantity	67,623	68,166	71,942
Turkey	Quantity	21,099	31,691	58,838
India	Quantity	4,355	14,760	29,436
Germany	Quantity	16,300	21,910	28,295
Belarus	Quantity	15,613	26,307	25,831
Ukraine	Quantity	12,589	16,823	23,479
Romania	Quantity	10,557	9,445	16,748
All other destination markets	Quantity	147,021	181,844	191,120
All destination markets	Quantity	382,492	519,935	579,982
United States	Value	2,733	3,265	29,085
China	Value	44,140	57,317	61,741
Poland	Value	52,265	41,147	61,648
Turkey	Value	10,975	13,117	43,619
India	Value	2,238	6,385	22,381
Germany	Value	11,717	11,855	23,447
Belarus	Value	11,883	13,184	22,073
Ukraine	Value	8,190	7,888	18,857
Romania	Value	6,574	4,179	12,622
All other destination markets	Value	88,817	88,244	145,649
All destination markets	Value	239,533	246,581	441,122

Table continued.

Table VII-10 Continued
Styrene-butadiene rubber: Exports from Russia, by destination market and by period

Unit values in dollars per pound; Shares in percent

Destination market	Measure	2019	2020	2021
United States	Unit value	0.53	0.46	0.81
China	Unit value	0.54	0.40	0.63
Poland	Unit value	0.77	0.60	0.86
Turkey	Unit value	0.52	0.41	0.74
India	Unit value	0.51	0.43	0.76
Germany	Unit value	0.72	0.54	0.83
Belarus	Unit value	0.76	0.50	0.85
Ukraine	Unit value	0.65	0.47	0.80
Romania	Unit value	0.62	0.44	0.75
All other destination markets	Unit value	0.60	0.49	0.76
All destination markets	Unit value	0.63	0.47	0.76
United States	Share of quantity	1.3	1.4	6.2
China	Share of quantity	21.5	27.3	17.0
Poland	Share of quantity	17.7	13.1	12.4
Turkey	Share of quantity	5.5	6.1	10.1
India	Share of quantity	1.1	2.8	5.1
Germany	Share of quantity	4.3	4.2	4.9
Belarus	Share of quantity	4.1	5.1	4.5
Ukraine	Share of quantity	3.3	3.2	4.0
Romania	Share of quantity	2.8	1.8	2.9
All other destination markets	Share of quantity	38.4	35.0	33.0
All destination markets	Share of quantity	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 4002.19 as reported by Eurostat in the Global Trade Atlas database, accessed August 9, 2022.

Note: United States is shown at the top, all remaining top export destinations shown in descending order of 2021 data.

Subject countries combined

Table VII-11 presents summary data on ESBR operations of the reporting subject producers in the subject countries. From 2019-21, subject producers' total capacity decreased *** percent, total production increased *** percent, total shipments increased *** percent, and exports to the United States increased *** percent. The capacity utilization ratio of subject producers increased from *** percent in 2019 to *** percent in 2021 (an increase of *** percentage points). When comparing data from the interim 2022 period to the interim 2021 period, subject producers' reported production was *** percent lower and their reported exports to the United States were *** percent lower in interim 2022. Subject producers' project that their capacity will decrease *** percent in 2022 and *** percent in 2023, their production will decrease *** percent in 2022 and *** percent in 2023, and their exports to the United States will decrease *** percent in 2022 and *** percent in 2023 as compared to 2021.

Table VII-11
ESBR: Data on industry in aggregated subject countries, by period

Quantity in 1,000 pounds

Item	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022	Projection 2022	Projection 2023
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
Resales exported to the United States	***	***	***	***	***	***	***
Total exports to the United States	***	***	***	***	***	***	***

Table continued.

Table VII-11 Continued
ESBR: Data on industry in aggregated subject countries, by period

Shares and ratios in percent

Item	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022	Projection 2022	Projection 2023
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share of total exports to United States exported by producers	***	***	***	***	***	***	***
Share of total exports to United States exported by resellers	***	***	***	***	***	***	***
Adjusted share of total shipments exported to the United States	***	***	***	***	***	***	***

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

U.S. inventories of imported merchandise

Table VII-12 presents data on U.S. importers' reported inventories of ESBR. Inventories of imports from Czechia were *** percent higher and inventories of imports from Russia were *** percent higher in 2021 than in 2019. Resultingly, inventories of imports from subject sources combined were *** percent higher in 2021 than in 2019. Inventories of imports from Czechia were *** percent higher in interim 2022 than in interim 2021, but inventories of imports from Russia were *** percent lower in interim 2022 than in interim 2021. Overall, inventories of imports from the subject sources combined were *** percent lower in interim 2022 than in interim 2021. Inventories of imports from nonsubject sources were *** percent higher in 2021 than in 2019 but were *** percent lower in interim 2022 than in interim 2021.

U.S. importers' ratio of inventories to total shipments of imports from Czechia was *** percentage points higher in 2021 than in 2019 (** percent as compared to ** percent), while U.S. importers' ratio of inventories to total shipments of imports from Russia was *** percentage points higher in 2021 than in 2019 (** percent as compared to ** percent). As a result, U.S. importers' ratio of inventories to total shipments of imports from the two subject sources combined was *** percentage points higher in 2021 than in 2019 (** percent as compared to ** percent). U.S. importers' ratio of inventories to total shipments of imports from the nonsubject sources was *** percentage point higher in 2021 than in 2019.

In comparing the interim periods, U.S. importers' ratio of inventories to total shipments of imports from Czechia was *** percentage points higher in interim 2022, while U.S. importers' ratio of inventories to total shipments of imports from Russia was *** percentage points lower in interim 2022 than in interim 2021. As a result, U.S. importers' ratio of inventories to total shipments of imports from the two subject sources combined was *** percentage points lower in interim 2022 than in interim 2021. U.S. importers' ratio of inventories to total shipments of imports from the nonsubject sources was *** percentage points lower in interim 2022 than in interim 2021.

Table VII-12

ESBR: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 pounds; Ratios in percent

Measure	Source	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Inventories quantity	Czechia	***	***	***	***	***
Ratio to imports	Czechia	***	***	***	***	***
Ratio to U.S. shipments of imports	Czechia	***	***	***	***	***
Ratio to total shipments of imports	Czechia	***	***	***	***	***
Inventories quantity	Russia	***	***	***	***	***
Ratio to imports	Russia	***	***	***	***	***
Ratio to U.S. shipments of imports	Russia	***	***	***	***	***
Ratio to total shipments of imports	Russia	***	***	***	***	***
Inventories quantity	Subject	***	***	***	***	***
Ratio to imports	Subject	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject	***	***	***	***	***
Ratio to total shipments of imports	Subject	***	***	***	***	***
Inventories quantity	Italy	***	***	***	***	***
Ratio to imports	Italy	***	***	***	***	***
Ratio to U.S. shipments of imports	Italy	***	***	***	***	***
Ratio to total shipments of imports	Italy	***	***	***	***	***
Inventories quantity	All other	***	***	***	***	***
Ratio to imports	All other	***	***	***	***	***
Ratio to U.S. shipments of imports	All other	***	***	***	***	***
Ratio to total shipments of imports	All other	***	***	***	***	***
Inventories quantity	Nonsubject	***	***	***	***	***
Ratio to imports	Nonsubject	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject	***	***	***	***	***
Ratio to total shipments of imports	Nonsubject	***	***	***	***	***
Inventories quantity	All	***	***	***	***	***
Ratio to imports	All	***	***	***	***	***
Ratio to U.S. shipments of imports	All	***	***	***	***	***
Ratio to total shipments of imports	All	***	***	***	***	***

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

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of ESBR from Czechia or Russia after June 30, 2021. Their reported data is presented in table VII-13. U.S. importers reported *** pounds of outstanding orders from Russia for delivery between July-September 2022 with *** from Russia expected after September 30, 2022. U.S. importers reported *** pounds of outstanding orders expected for delivery from Czechia across *** quarters for which data was requested. Additionally, U.S. importers reported *** pounds of outstanding orders expected for delivery from nonsubject sources.

Table VII-13
ESBR: Arranged imports, by source and by period

Quantity in 1,000 pounds

Source	Jul-Sept 2022	Oct-Dec 2022	Jan-Mar 2023	Apr-Jun 2023	Total
Czechia	***	***	***	***	***
Russia	***	***	***	***	***
Subject sources	***	***	***	***	***
Italy	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Third-country trade actions

India is the only third-country market entity known to have an active trade action on ESBR. The Indian trade authority made an affirmative determination on dumping of ESBR from the EU, South Korea, and Thailand on July 12, 2017. This Indian antidumping duty order on 1500 and 1700 grades of ESBR remains in force.¹⁶ ¹⁷ A Sunset Review was subsequently conducted and concluded in July 2022, at which time it was decided to continue the orders for an additional three years.¹⁸ South Korea, Brazil, Mexico, and Poland are also subject to active antidumping duty orders in the United States.¹⁹

Information on nonsubject countries

Total global ESBR annual capacity comparisons for the principal synthetic rubber types and global totals are detailed in Table VII-14. In 2020, ESBR and butadiene rubber (BR) capacity dominated all other synthetic rubbers, ESBR with a capacity of *** million metric tons or *** percent of the global total of *** million metric tons, together with butadiene rubber (BR), *** percent of the global total. Altogether, six of nine synthetic rubber types accounted for about *** percent of total global capacity in 2020.²⁰ Polyisoprene rubber (IR), nitrile rubber (NBR), and chloroprene (CR) rubbers account for the remainder. ESBR, SSBR, and BR are the largest volume rubbers produced for tires.

ESBR capacity *** roughly *** percent during the 2018-20 period as large volume Asian producers, ***, adjusted capacity to more closely align with demand, while SSBR during the same period *** percent, indicating rising demand for high performance consumer tire applications. Projected global ESBR annual capacity during the 2021-23 period was expected to remain at year 2000 levels, indicative of ***

¹⁶ India Ministry of Commerce, July 12, 2017, <https://www.dgtr.gov.in/sites/default/files/SBR%20NCV%20English%20-%20Copy.pdf>, retrieved December 10, 2021.

¹⁷ Petitioner's postconference brief, pp. 15-16 and exhibit 7. Respondents' Synthos and Tatneft postconference brief, exhibit 1, p. 7, December 9, 2021.

¹⁸ *Sunset Review Investigation concerning imports of "Styrene Butadiene Rubber" originating in or exported from European Union, Korea RP and Thailand*, Case No. ADD(SSR) 25/2021, July 29, 2022, <https://www.dgtr.gov.in/anti-dumping-cases/styrene-butadiene-rubber-sbr-1500-series-and-1700-series-originating-or-exported>, retrieved August 10, 2022.

¹⁹ *Emulsion Butadiene-Styrene from Brazil, Korea, Mexico, and Poland*, Inv. Nos. 731-TA-1334-1337, USITC Pub. 4717, August 2017.

²⁰ ESBR and SSBR, butadiene rubber (BR), styrene butadiene block copolymers (SBC), ethylene propylene diene (EPDM), and isobutene-isoprene (IIR) butyl rubbers.

*** at the global level, with SSBR following similar trends following a round of capacity expansions.

Global growth patterns overall were flat during the 2018-20 period and were underpinned by *** percent volume growth of SBC block copolymer rubbers. Projections for all synthetic rubber elastomers in aggregate indicate growth of about *** percent, with the SBC block copolymer rubbers continuing to lead with robust *** percent growth ***. SBC thermoelastic rubbers demonstrate many of the properties of conventional vulcanized rubbers, are more easily processed, and may be recycled comparable to thermoplastic polymers. SBCs are used in a large variety of consumer goods in addition to tire applications.²¹

Table VII-14
ESBR: Global synthetic rubber capacities, by product type and period

Quantity in 1,000 metric tons

Item	2018	2019	2020	Projection 2021	Projection 2022	Projection 2023
ESBR	***	***	***	***	***	***
SSBR	***	***	***	***	***	***
BR	***	***	***	***	***	***
SBC	***	***	***	***	***	***
EPDM	***	***	***	***	***	***
IIR	***	***	***	***	***	***
IR	***	***	***	***	***	***
NBR	***	***	***	***	***	***
CR	***	***	***	***	***	***
All global capacity	***	***	***	***	***	***

Source: Worldwide Rubber Statistics 2020, IISRP.

IISRP points to some notable global capacity trends in the synthetic rubber industry. First, *** has been more normalized and helped to temper the *** in global markets. China is the *** of ESBR with an annual capacity of *** million metric tons, or about *** percent of global ESBR capacity.²²

²¹ IISRP, “Styrenic Block Copolymers (SBC), <https://www.iisrp.com/wp-content/uploads/08SBC16Aug2012.pdf>, retrieved October 13, 2022.

²² Worldwide Rubber Statistics 2020, IISRP, pp. 24-26.

Annual capacities of ESR and SSBR by country in 2020 are presented in table VII-15.

Table VII-15
ESBR: Global synthetic rubber capacities, by country and product type, 2020

Quantity in 1,000 metric tons

Producer	ESBR	SSBR	All other types	All types
Belgium	***	***	***	***
Czechia	***	***	***	***
France	***	***	***	***
Germany	***	***	***	***
Hungary	***	***	***	***
Italy	***	***	***	***
Netherlands	***	***	***	***
Poland	***	***	***	***
Serbia	***	***	***	***
Spain	***	***	***	***
United Kingdom	***	***	***	***
Subtotal, Europe	***	***	***	***
Russia	***	***	***	***
Iran	***	***	***	***
Saudi Arabia	***	***	***	***
Subtotal, Middle East and Africa	***	***	***	***
Canada	***	***	***	***
United States	***	***	***	***
Subtotal, North America	***	***	***	***
Argentina	***	***	***	***
Brazil	***	***	***	***
Mexico	***	***	***	***
Subtotal, Latin America	***	***	***	***
India	***	***	***	***
Indonesia	***	***	***	***
Japan	***	***	***	***
South Korea	***	***	***	***
Malaysia	***	***	***	***
Singapore	***	***	***	***
Taiwan	***	***	***	***
Thailand	***	***	***	***
Subtotal, Asia minus China	***	***	***	***
China	***	***	***	***
All global capacity	***	***	***	***

Source: Worldwide Rubber Statistics 2020, International Institute of Synthetic Rubber Producers (IISRP).

ESBR is one of the many volume elastomers produced globally as shown by the data of Table VII-15. By volume it amounts to 20.5 percent of total synthetic rubber capacity and is produced and consumed across many countries around the globe in the northern and southern hemispheres.

A global view of the overall ESBR landscape shows that more than 50 percent of capacity is spread across populous Asia. China itself commands 27.3 percent of total ESBR capacity, and together with the other Asian countries' 29.3 percent, the region accounts for 56.6 percent of the global total. Most other volume (43.4 percent) is spread primarily across Europe (12.6 percent), Latin America (11.6 percent), the United States (10.3 percent), Russia (7.2 percent), and the Middle East and Africa (1.7 percent). In Asia, South Korea is the only country in the region presently subject to U.S. antidumping duty orders, leaving China, Japan, India, Taiwan, and Thailand as other notable countries in the region with capacity. In Europe, Czechia and Russia are subject to these investigations and Poland is currently subject to antidumping duty orders. Italy and Germany (with 43.8 percent of capacity in the region) are other notable countries with capacity in Europe. In Latin America, Brazil and Mexico (89.1 percent of capacity in the region) are subject to antidumping duty orders. Argentina represents the remaining capacity in the Latin America region (11.1 percent).

Exports of all forms of styrene-butadiene synthetic rubber (SBR) declined across the globe in 2020 (see table VII-16). SBR exports typically followed a similar pattern, with declines in 2020 and strong recoveries in 2021. Russia was a notable exception, its export volumes increased throughout period. As the COVID-19 pandemic spread in 2020, its impacts included SBR-related plant curtailments and reduced demand, employee/consumer lockdowns, changes in supply and demand patterns, and a global economic downturn in general.²³ Export volume in 2020 fell 2.7 percent, value by 20.2 percent, and unit price by 18.0 percent from their 2019 levels. In 2021, global SBR exports rebounded, indicative of a return to growth in SBR supply and demand fundamentals. SBR export volume was up 8.4 percent, value by 46.2 percent, and unit price by 34.8 percent year-over-year compared to 2020. Overall, during the period 2019-21, total SBR export volume increased from 6.52 billion pounds to 6.87 billion pounds, 5.4 percent, representing average annual growth of 2.7 percent. Values during the period increased \$0.91 billion to \$6.39 billion, 16.7 percent, and prices per pound \$0.09 to \$0.84 per pound (10.7 percent).

Aggregate export volume from Czechia and Russia during the 2019-21 period increased from 8.7 percent of total global SBR volume in 2019 to 11.1 percent (2.3 percentage point

²³ Information submitted in response to Commission questionnaires; IHS Markit, ***.

increase), with all the volume increase (33.7 percent) due to Russian exports. The increase in Russian exports during this period (0.197 billion pounds) accounted for about 55.7 percent of the total reported increase in global exports of 0.355 billion pounds. Pricing trends for each country followed global trends, downwards in 2020 and upwards in 2021, although at prices ranging variably by some 10-20 cents per pound lower than the global averages, 69-93 cents per pound during the 2020-21 period.

South Korea is the leading global and nonsubject exporter of SBR product forms, accounting for 18.8-19.5 percent of the global volume total between 2019-21. Country volume and pricing trends reported by South Korea closely followed those of the global averages, although 0.7 percentage points were lost in global market share, and pricing trends were nearly 10 cents per pound lower. Of the additional 10 nonsubject exporting countries reported, the leading six countries in export order (Germany, Taiwan, Poland, France, Japan and Singapore) in aggregate fell consecutively in global market share volume from 42.0 percent in 2019 to 39.7 percent in 2021. Poland and Taiwan were the only countries in this group falling below average global pricing during the 2019-21 period, Poland in all subject years, and Taiwan in 2021. Pricing in France, Japan, and Spain was above the global average and topped \$1.00 per pound. German pricing, although higher than the global average, was more marginal. The final four countries reported (Spain, Thailand, China and Belgium) in aggregate increased in global export market share from 12.5 percent in 2019 to 12.9 percent in 2021. China was responsible for the largest increase in global market share volume, a 1.2 percentage point increase to 3.1 percent, while Thailand's volume share fell 0.9 percentage points to 3.2 percent. Prices in the EU countries of Spain and Belgium recovered from significant downturns in 2020, back to above \$1.00 per pound in 2021. Thailand prices generally ranged above global averages, while China's pricing fell to \$0.07 per pound below the global average in 2021.

Table VII-16
Styrene-butadiene rubber: Global exports, by reporting country and by period

Quantity in 1,000 pounds; Value in \$1,000

Exporting country	Measure	2019	2020	2021
United States	Quantity	315,391	266,392	365,690
Czechia	Quantity	186,999	175,922	181,440
Russia	Quantity	382,492	519,935	579,982
Subject exporters	Quantity	569,491	695,857	761,422
South Korea	Quantity	1,271,356	1,191,813	1,294,165
Germany	Quantity	570,442	518,183	598,503
Taiwan	Quantity	520,098	545,473	536,088
Poland	Quantity	520,338	558,194	528,461
France	Quantity	414,264	384,259	410,269
Japan	Quantity	445,413	368,513	376,254
Singapore	Quantity	265,061	276,960	278,923
Spain	Quantity	217,253	213,518	241,464
Thailand	Quantity	263,794	203,918	218,462
China	Quantity	125,885	156,216	214,891
Belgium	Quantity	206,450	201,568	210,395
All other exporters	Quantity	811,388	760,356	836,283
All reporting exporters	Quantity	6,516,625	6,341,220	6,871,271
United States	Value	335,164	250,919	418,361
Czechia	Value	121,727	91,306	150,329
Russia	Value	239,533	246,581	441,122
Subject exporters	Value	361,261	337,887	591,451
South Korea	Value	921,781	701,418	1,119,199
Germany	Value	511,355	375,221	577,954
Taiwan	Value	469,633	378,408	456,731
Poland	Value	340,433	293,081	441,983
France	Value	371,696	332,144	445,120
Japan	Value	428,336	311,219	393,471
Singapore	Value	273,477	241,045	272,167
Spain	Value	220,825	175,147	265,912
Thailand	Value	239,460	166,307	208,432
China	Value	113,831	108,791	184,683
Belgium	Value	203,856	169,543	227,024
All other exporters	Value	685,366	530,139	787,731
All reporting exporters	Value	5,476,474	4,371,270	6,390,218

Table continued.

Table VII-16 Continued
Styrene-butadiene rubber: Global exports, by reporting country and by period

Unit values in dollars per pound; Shares in percent

Exporting country	Measure	2019	2020	2021
United States	Unit value	1.06	0.94	1.14
Czechia	Unit value	0.65	0.52	0.83
Russia	Unit value	0.63	0.47	0.76
Subject exporters	Unit value	0.63	0.49	0.78
South Korea	Unit value	0.73	0.59	0.86
Germany	Unit value	0.90	0.72	0.97
Taiwan	Unit value	0.90	0.69	0.85
Poland	Unit value	0.65	0.53	0.84
France	Unit value	0.90	0.86	1.08
Japan	Unit value	0.96	0.84	1.05
Singapore	Unit value	1.03	0.87	0.98
Spain	Unit value	1.02	0.82	1.10
Thailand	Unit value	0.91	0.82	0.95
China	Unit value	0.90	0.70	0.86
Belgium	Unit value	0.99	0.84	1.08
All other exporters	Unit value	0.84	0.70	0.94
All reporting exporters	Unit value	0.84	0.69	0.93
United States	Share of quantity	4.8	4.2	5.3
Czechia	Share of quantity	2.9	2.8	2.6
Russia	Share of quantity	5.9	8.2	8.4
Subject exporters	Share of quantity	8.7	11.0	11.1
South Korea	Share of quantity	19.5	18.8	18.8
Germany	Share of quantity	8.8	8.2	8.7
Taiwan	Share of quantity	8.0	8.6	7.8
Poland	Share of quantity	8.0	8.8	7.7
France	Share of quantity	6.4	6.1	6.0
Japan	Share of quantity	6.8	5.8	5.5
Singapore	Share of quantity	4.1	4.4	4.1
Spain	Share of quantity	3.3	3.4	3.5
Thailand	Share of quantity	4.0	3.2	3.2
China	Share of quantity	1.9	2.5	3.1
Belgium	Share of quantity	3.2	3.2	3.1
All other exporters	Share of quantity	12.5	12.0	12.2
All reporting exporters	Share of quantity	100.0	100.0	100.0

Table continued.

Table VII-16 Continued
Styrene-butadiene rubber: Global exports, by reporting country and by period

Shares in percent

Exporting country	Measure	2019	2020	2021
United States	Share of value	6.1	5.7	6.5
Czechia	Share of value	2.2	2.1	2.4
Russia	Share of value	4.4	5.6	6.9
Subject exporters	Share of value	6.6	7.7	9.3
South Korea	Share of value	16.8	16.0	17.5
Germany	Share of value	9.3	8.6	9.0
Taiwan	Share of value	8.6	8.7	7.1
Poland	Share of value	6.2	6.7	6.9
France	Share of value	6.8	7.6	7.0
Japan	Share of value	7.8	7.1	6.2
Singapore	Share of value	5.0	5.5	4.3
Spain	Share of value	4.0	4.0	4.2
Thailand	Share of value	4.4	3.8	3.3
China	Share of value	2.1	2.5	2.9
Belgium	Share of value	3.7	3.9	3.6
All other exporters	Share of value	12.5	12.1	12.3
All reporting exporters	Share of value	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 4002.19 as reported by various national statistical authorities in the Global Trade Atlas database, accessed August 9, 2022.

Note: United States is shown at the top followed by the countries under investigation, all remaining top exporting countries in descending order of 2021 data.

Table VII-17 presents the global ESBR supply and demand fundamentals and capacity utilization rates from 2018-20, together with near-term projections. As indicated by the data, ESBR capacity declined *** percent during 2018-20 and is expected to remain relatively unchanged during 2021-2023. ESBR production, however, has shown a *** percent increase from 2018-20. Thus, while global ESBR consumption has outpaced capacity over the period, capacity utilization rates have increased from *** percent in 2018 to *** percent in 2020. This trend is projected to result in a further increase of capacity utilization to *** percent by 2023. These trends indicate gradual *** global supply-demand fundamentals into the reasonably foreseeable future.

Table VII-17
ESBR: World supply and demand for emulsion SBR

Quantity in 1,000 metric tons; Ratio in percent

Producer	Measure	2018	2019	2020	Projection 2021	Projection 2022	Projection 2023
Annual Capacity	Quantity	***	***	***	***	***	***
Production	Quantity	***	***	***	***	***	***
Imports	Quantity	***	***	***	***	***	***
Exports	Quantity	***	***	***	***	***	***
Actual consumption	Quantity	***	***	***	***	***	***
Operating rate	Ratio	***	***	***	***	***	***

Source: IHS Markit, ***.

The Russian invasion of Ukraine on February 24, 2022, has impacted global energy and petrochemical sectors, including disruptions in synthetic rubber supply, demand, trade, and trade routes. A number of tire producers and major rubber consuming firms operating in the United States have withdrawn operations from Russia, including Michelin and Nokian, while Bridgestone, Continental, Pirelli, Titan, and Yokohama were also known to have operations there.²⁴ The UK, effective June 1, 2022, imposed additional import duties of 35 percent on Russian synthetic rubbers of HTS Chapter 4002.²⁵ Mr. Dimitri Konov, former head of Sibur operations, referenced corresponding changes in Russian rubber trade routes to China and other Asian countries albeit at lower price points.²⁶

²⁴ Rubber News, "Tire production facilities," December 27, 2021.

²⁵ UK announces further import sanctions against Russia, <https://www.gov.uk/government/news/uk-announces-further-import-sanctions-against-russia>, retrieved September 29, 2022.

²⁶ Rubber News, "Former Sibur CEO Konov says sanctions stunt synthetic rubber industry," <https://www.rubbernews.com/opinion/former-sibur-ceo-konov-says-sanctions-stunt-synthetic-rubber-industry>, retrieved September 29, 2022.

APPENDIX A
FEDERAL REGISTER NOTICES

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

Citation	Title	Link
86 FR 66335, November 22, 2021	<i>Emulsion Styrene-Butadiene Rubber From Czechia, Italy, and Russia; Institution of Anti-Dumping Duty Investigations and Scheduling of Preliminary Phase Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2021-11-22/pdf/2021-25322.pdf
86 FR 70447, December 10, 2021	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic, Italy, and the Russian Federation: Initiation of Less-Than-Fair-Value Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2021-12-10/pdf/2021-26832.pdf
87 FR 478, January 5, 2022	<i>Emulsion Styrene-Butadiene Rubber From Czechia, Italy, and Russia</i>	https://www.govinfo.gov/content/pkg/FR-2022-01-05/pdf/2021-28568.pdf
87 FR 18767, March 31, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic and the Russian Federation: Postponement of Preliminary Determinations in the Less-Than-Fair-Value Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2022-03-31/pdf/2022-06828.pdf
87 FR 25447, April 29, 2022	<i>Emulsion Styrene-Butadiene Rubber From Italy: Preliminary Affirmative Determination of Sales at Less Than Fair Value</i>	https://www.govinfo.gov/content/pkg/FR-2022-04-29/pdf/2022-09246.pdf
87 FR 28807, May 11, 2022	<i>Emulsion Styrene-Butadiene Rubber From Italy: Termination of Less-Than Fair-Value Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2022-05-11/pdf/2022-10121.pdf
87 FR 29877, May 17, 2022	<i>Emulsion Styrene-Butadiene Rubber (ESBR) From Italy; Termination of Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2022-05-17/pdf/2022-10546.pdf

Citation	Title	Link
87 FR 38057, June 27, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Russian Federation: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2022-06-27/pdf/2022-13543.pdf
87 FR 38060, June 27, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2022-06-27/pdf/2022-13542.pdf
87 FR 42498, July 15, 2022	<i>Emulsion Styrene-Butadiene Rubber (ESBR) From Czechia and Russia; Scheduling of the Final Phase of Antidumping Duty Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2022-07-15/pdf/2022-15101.pdf
87 FR 58371, September 26, 2022	<i>Emulsion Styrene-Butadiene Rubber from Czechia and Russia; Hearing update for the subject investigations</i>	https://www.govinfo.gov/content/pkg/FR-2022-09-26/pdf/2022-20690.pdf
87 FR 68998, November 17, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic: Final Affirmative Determination of Sales at Less Than Fair Value</i>	https://www.govinfo.gov/content/pkg/FR-2022-11-17/pdf/2022-25049.pdf
87 FR 69002, November 17, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Russian Federation: Final Affirmative Determination of Sales at Less Than Fair Value and Classification of the Russian Federation as a Non-Market Economy</i>	https://www.govinfo.gov/content/pkg/FR-2022-11-17/pdf/2022-25050.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing:

Subject: Emulsion Styrene-Butadiene Rubber (ESBR) from Czechia and Russia
Inv. Nos.: 731-TA-1575 & 731-TA-1577 (Final)
Date and Time: November 8, 2022 - 9:30 a.m.

OPENING REMARKS:

In Support of Imposition (**Mert E. Arkan**, Buchanan Ingersoll & Rooney PC)
In Opposition to Imposition (**Ron Kendler**, White & Case LLP)

In Support of the Imposition of Antidumping Duty Orders:

Buchanan Ingersoll & Rooney PC
Washington, DC
on behalf of

Lion Elastomers LLC

Bobby Rikhoff, Vice President of SBR Operations, Lion Elastomers LLC

Sherry Ballard, Accounting Manager, Lion Elastomers LLC

Seth Kaplan, President, International Economic Research LLC

Travis Pope, Project Manager, Capital Trade, Inc.

Mert E. Arkan)
) – OF COUNSEL
Daniel B. Pickard)

**In Opposition to the Imposition of
Antidumping Duty Orders:**

White & Case LLP
Washington, DC
on behalf of

Synthos Kralupy a.s. (“Synthos”)
PJSC “TATNEFT” (“Tatneft”)

Jan Kurilla, Sales Director Synthetic Rubber, Synthos S.A.

Jon Nienaber, Synthetic Rubber Sales Manager-NAFTA, Synthos North America

Stan Rybalov, President, Intertex World Resources Inc.

Kirk Dortch, Partner and Vice President, Intertex World Resources Inc.

Darrin Layton, President, Mountville Rubber Company

Jay Campbell)
Ron Kendler) – OF COUNSEL
Cristina Cornejo)

Neville Peterson LLP
Washington, DC
on behalf of

Michelin North America, Inc. (“MNA”)

Steven Prior, Purchasing Director – Raw Materials, MNA

John M. Peterson)
Richard F. O’Neill) – OF COUNSEL
Patrick B. Klein)

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Daniel B. Pickard**, Buchanan Ingersoll & Rooney PC)

In Opposition to Imposition (**John M. Peterson**, Neville Peterson LLP)

-END-

APPENDIX C
SUMMARY DATA

Total market

Table C-1

ESBR: Summary data concerning the U.S. total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes				
	Calendar year			Jan-Jun		Comparison years			Jan-Jun	
	2019	2020	2021	2021	2022	2019-21	2019-20	2020-21	2021-22	
U.S. total market consumption quantity:										
Amount.....	***	***	***	***	***	▼***	▼***	▲***	▲***	
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***	
Importers' share (fn1):										
Czechia.....	***	***	***	***	***	▼***	▼***	▼***	▼***	
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***	
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***	
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
U.S. total market consumption value:										
Amount.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***	
Importers' share (fn1):										
Czechia.....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***	
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***	
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
U.S. importers' U.S. shipments of imports from:										
Czechia:										
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***	
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Russia:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Subject sources:										
Quantity.....	32,074	25,868	43,426	16,927	15,097	▲35.4	▼(19.3)	▲67.9	▼(10.8)	
Value.....	24,012	16,417	41,664	13,644	16,586	▲73.5	▼(31.6)	▲153.8	▲21.6	
Unit value.....	\$0.75	\$0.63	\$0.96	\$0.81	\$1.10	▲28.2	▼(15.2)	▲51.2	▲36.3	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Italy:										
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***	
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***	
All other sources:										
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***	
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***	
Nonsubject sources:										
Quantity.....	27,995	22,485	27,752	13,496	12,858	▼(0.9)	▼(19.7)	▲23.4	▼(4.7)	
Value.....	23,567	15,194	29,587	13,576	15,686	▲25.5	▼(35.5)	▲94.7	▲15.5	
Unit value.....	\$0.84	\$0.68	\$1.07	\$1.01	\$1.22	▲26.6	▼(19.7)	▲57.8	▲21.3	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***	
All import sources:										
Quantity.....	60,069	48,353	71,178	30,423	27,955	▲18.5	▼(19.5)	▲47.2	▼(8.1)	
Value.....	47,579	31,611	71,251	27,220	32,272	▲49.8	▼(33.6)	▲125.4	▲18.6	
Unit value.....	\$0.79	\$0.65	\$1.00	\$0.89	\$1.15	▲26.4	▼(17.5)	▲53.1	▲29.0	
Ending inventory quantity.....	5,391	9,024	13,631	12,371	8,269	▲152.8	▲67.4	▲51.1	▼(33.2)	

Table continued.

Table C-1 Continued

ESBR: Summary data concerning the U.S. total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes			
	Calendar year		Jan-Jun			Comparison years			Jan-Jun
	2019	2020	2021	2021	2022	2019-21	2019-20	2020-21	2021-22
U.S. producers':									
Average capacity quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Production quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Capacity utilization (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
U.S. shipments:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Export shipments:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Inventories/total shipments (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Production workers.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Hours worked (1,000s).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Wages paid (\$1,000).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Hourly wages (dollars per hour).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Productivity (pounds per hour).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit labor costs.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Net sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Cost of goods sold (COGS).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Gross profit or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit COGS.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Capital expenditures.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Research and development expenses.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net assets.....	***	***	***	***	***	▲***	▼***	▲***	***

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables containing these data are contained in parts III, IV, VI, and VII of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "--". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Merchant market

Table C-2

ESBR: Summary data concerning the U.S. merchant market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes			
	2019	Calendar year 2020	2021	Jan-Jun 2021	2022	2019-21	2019-20	2020-21	Jan-Jun 2021-22
U.S. merchant market consumption quantity:									
Amount.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Producers' share (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▲***
Importers' share (fn1):									
Czechia.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
All import sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
U.S. merchant market consumption value:									
Amount.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
Czechia.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. importers' U.S. shipments of imports from:									
Czechia:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Russia:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources:									
Quantity.....	32,074	25,868	43,426	16,927	15,097	▲35.4	▼(19.3)	▲67.9	▼(10.8)
Value.....	24,012	16,417	41,664	13,644	16,586	▲73.5	▼(31.6)	▲153.8	▲21.6
Unit value.....	\$0.75	\$0.63	\$0.96	\$0.81	\$1.10	▲28.2	▼(15.2)	▲51.2	▲36.3
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Italy:									
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
All other sources:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources:									
Quantity.....	27,995	22,485	27,752	13,496	12,858	▼(0.9)	▼(19.7)	▲23.4	▼(4.7)
Value.....	23,567	15,194	29,587	13,576	15,686	▲25.5	▼(35.5)	▲94.7	▲15.5
Unit value.....	\$0.84	\$0.68	\$1.07	\$1.01	\$1.22	▲26.6	▼(19.7)	▲57.8	▲21.3
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***
All import sources:									
Quantity.....	60,069	48,353	71,178	30,423	27,955	▲18.5	▼(19.5)	▲47.2	▼(8.1)
Value.....	47,579	31,611	71,251	27,220	32,272	▲49.8	▼(33.6)	▲125.4	▲18.6
Unit value.....	\$0.79	\$0.65	\$1.00	\$0.89	\$1.15	▲26.4	▼(17.5)	▲53.1	▲29.0
Ending inventory quantity.....	5,391	9,024	13,631	12,371	8,269	▲152.8	▲67.4	▲51.1	▼(33.2)

Table continued.

Table C-2 Continued

ESBR: Summary data concerning the U.S. merchant market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes			
	Calendar year			Jan-Jun		Comparison years			Jan-Jun
	2019	2020	2021	2021	2022	2019-21	2019-20	2020-21	2021-22
U.S. producers':									
Commerical U.S. shipments:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Commerical sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Cost of goods sold (COGS).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Gross profit or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit COGS.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables containing these data are contained in parts III, IV, VI, and VII of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "--". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

APPENDIX D

BUTADIENE FEEDSTOCK TECHNOLOGY AND ANALYSIS

Butadiene

Description and Uses

ESBR elastomeric polymer is made up predominately of butadiene, 75 percent, and to a lesser extent by styrene, 25 percent.¹ Butadiene is a highly reactive volatile organic chemical compound composed of four carbon (C) atoms, six hydrogen (H) atoms, and two reactive double bond (=) sites, as indicated by the chemical structure $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$. The intentional chemical synthesis of butadiene is minor with most produced as a byproduct of the petroleum and petrochemical industries, most particularly from naphtha, an oil refinery derivative, and ethane, a natural gas derivative. Butadiene is a flammable gas at ordinary temperatures and pressure, but is more commonly transported and used as a pressured liquid via barge, rail, truck, and pipeline, although refrigeration may be used for ocean vessel transport and larger-scale storage.^{2 3} It is used in the production of a large number of synthetic rubbers, ESBR, SSBR, polybutadiene ("BR") rubber, styrene block copolymer rubbers (SBC), acrylonitrile-butadiene rubbers (nitrile rubbers), and polychloroprene (Neoprene) rubber. Butadiene is also used in the production of acrylonitrile butadiene styrene (ABS) plastics and nylon 66 polymer.^{4 5}

Butadiene is typically stored as a pressurized liquid in spheres at plants, and incremental shipments may be typically received to balance supply and demand, but liquified storage under pressure without refrigeration for more than two to three months maximum would appear to exceed limits.⁶ It is not advisable to store butadiene for extended periods as there is a possibility of butadiene dimer formation during transportation and storage which produces carbon-8 (C₈) formation during transfer and storage, leading to off-specification material.⁷ Although there is no known dimer inhibitor for this problem, refrigeration has been shown to be effective. Larger volume butadiene storage at terminals is typically refrigerated. When mixed

¹ Styrene is a product of the petrochemical industry; it is produced principally from ethylene and benzene which when reacted results in ethyl benzene (C₆H₅-CH₂-CH₃), which in turn is dehydrogenated to produce reactive styrene (C₆H₅-CH=CH₂) and hydrogen (H₂). Certain Russian producers use alphasethyl styrene (C₆H₅C(CH₃)=CH₂), a styrene derivative resulting as a byproduct of phenol and acetone production by cumene oxidation. "Petrochemicals in Nontechnical Language," pp. 95-97.

² IHS Markit, ***.

³ Staff phone notes, Edgar L. Mohundro, PhD, Petrochemicals Engineering Consultant, December 2021.

⁴ TPC website, <https://www.tpcgrp.com/products/butadiene>, retrieved December 12, 2021.

⁵ IISRP, "Worldwide Rubber Statistics," Houston, Texas.

⁶ In November 2019 during normal operations, petitioner had 30 days of butadiene storage onsite, Conference transcript (Rikhoff), p. 34.

⁷ Staff phone notes, Edgar L. Mohundro, PhD, Petrochemicals Engineering Consultant, December 2021.

with air (oxygen), flammable butadiene forms peroxides which pose explosion hazards and promote polymerization of the monomer. For this reason, peroxide formation in butadiene must be inhibited during transportation and storage. Among some of the commonly known inhibitors are tertiarybutylcatechol (TBC), di-n-butylamine, phenyl-beta-naphthylamine, and phenyl-alpha-naphthylamine. Commercial butadiene is 99.5–99.9 percent pure and contains 0.010–0.015 percent tert-butylcatechol as a peroxide inhibitor, depending on the exposure of the product to oxygen during transportation and storage.⁸

Butadiene Production Process Technology and Market Fundamentals

Butadiene is typically produced as a byproduct of the steam cracking of naphtha derived from crude oil refining, and ethane, a gaseous chemical component extracted from natural gas liquids (NGLs) by cryogenic fractionation.^{9 10} Steam cracking processes are conducted at extremely high temperatures with short residence times wherein complex chemical reactions break down or “crack” the heavy and light fraction carbon bonds (C-C) to reactive unsaturated double bonds (C=C). The cracking process is designed principally to target production of the reactive compound ethylene, $\text{H}_2\text{C}=\text{CH}_2$ (C_2H_4), as the dominant end-use product¹¹ because of its large-scale use globally as the principal feedstock for polyethylene plastics, the largest volume thermoplastic plastic polymer resin demanded worldwide, together with a plethora of other downstream products, while butadiene is produced as a byproduct of ethylene production in relatively smaller amounts.^{12 13}

Butadiene yield from the light feed ethane cracking process in the United States amounts to some 2 to 3 percent of the ethylene output, but the desired ethylene output is significantly higher than naphtha cracked feedstock, while butadiene from naphtha amounts to a larger 13 to 15 percent relative to lower ethylene output. Naphtha feedstock cracking processes dominate in Asia and Europe, while ethane cracking has trended higher in the United States relative to naphtha cracking due to the large number of ethane cracker plants brought

⁸ IHS Markit, ***.

⁹ Naphtha is a “heavy” component of crude oil refining containing large numbers of organic carbon compounds having five or more carbon atoms (C_5 and up).

¹⁰ Ethane is the largest non-methane NGL component of natural gas. It is a “light” fraction organic chemical, a saturated hydrocarbon compound absent of reactive double bonds which contains two carbon atoms and six hydrogen atoms, $\text{CH}_3\text{-CH}_3$ (C_2H_6).

¹¹ AFPM, “Ethylene, the World’s Most Important Chemical,” <https://www.afpm.org/newsroom/blog/ethylene>, retrieved December 19, 2021.

¹² IHS Markit, ***.

¹³ Conference transcript, (Rikhoff), p. 48.

onstream during the past few years based on attractive prices for U.S. shale gas ethane feedstocks.

Butadiene in the United States is recovered from C4 streams (principally butenes, isobutene, and butadiene) by selective solvent fractionation, whereby a high boiling solvent is employed to selectively extract and recover butadiene.¹⁴ *** are the major captive extraction producers in the United States,¹⁵ while a substantial volume of C4 streams exiting crackers in the United States is shipped to dedicated extractors such as Texas Petroleum, TPC,¹⁶ for butadiene recovery.¹⁷ TPC Group secures its crude C4 feedstocks from ethylene crackers around the world. Prior to November 2019, it operated two world-scale C4 processing plants designed to extract and produce butadiene at Houston and Port Neches, Texas, where approximately 35 percent of the butadiene in North America was produced by extraction. Crude C4 raw materials and products are delivered by pipeline, ship, rail tank car, and tank truck. TPC Group has storage facilities, more than 200 miles of pipeline and multiple ship docks that can accommodate both barges and ocean-going vessels.¹⁸

In November 2019, an explosion at the TPC butadiene extraction plant adjacent to the Lion ESRB plant at Port Neches, Texas, destroyed the 425,000 metric ton plant and disrupted butadiene supply capability to the surrounding SBR plants in the southeast Gulf Coast area. TPC following a subsequent study and report on the incident by the Chemical Safety Board, continued to use the site as a storage and supply terminal. Some of the TPC Port Neches butadiene supply loss was recovered through a tolling agreement with a C4 extractor in the vicinity. Recently, TPC has sought protection under Chapter 11, and been cited by EPA for violations at its Houston, Texas, butadiene facility thought similar to those leading up to the Port Neches explosion.¹⁹

¹⁴ C4 streams recovered from ethylene crackers prior to extraction, typically contain up to 42 percent butadiene, Burdock Donald L, and William L. Leffler, "Petrochemicals in Nontechnical Language," PennWell, 1990, pp. 59; 76.

¹⁵ IHS Markit,***.

¹⁶ TPC website, <https://www.tpcgrp.com/>, retrieved December 1, 2021.

¹⁷ The long-term multi-year outage at TPC's large, dedicated extraction plant in Port Neches, Texas, in November 2019, resulted from irreparable damage to one of the two plants there, and disrupted U.S. extraction capability. Chemical Safety Board, "Fires and Explosion at TPC Group Port Neches, Texas," October 29, 2020, https://www.csb.gov/assets/1/17/tpc_factual_update_10-29-2020.pdf?16614, retrieved December 8, 2021.

¹⁸ TPC website, <https://www.tpcgrp.com/>, retrieved December 1, 2021.

¹⁹ Deleveraging and Capitalization, <https://www.tpcgrp.com/news>, June 1, 2022; EPA, <https://www.epa.gov/newsreleases/search/press-office/region-06-226171>, September 12, 2022.

European supplies of butadiene are traditionally “long” and prices lower than in the United States and Asia,²⁰ because of a substantial surplus of butadiene from naphtha cracking; thus, Europe is typically a net exporter of the chemical, principally to ***.²¹ The United States and Asian prices generally trend directionally, but during the tight 2016-18 supply period, Asian ***. The U.S. to date has traditionally been a *** of butadiene.²² The added butadiene output from new low-cost U.S. shale gas derivative ethylene plants was expected to conceptually balance supply and demand during 2022.²³

North American Butadiene Market Fundamentals

With developments in the North American nonconventional oil and gas markets, significant changes have been *** after more than a decade of ***. Significant differences in *** between North American natural gas-based raw materials (natural gas liquids) and those derived from crude oil (primarily naphtha) ***, and many global chemical companies have *** petrochemical facilities in the region.

In the context of high energy market volatility, the lingering COVID-19 pandemic, and the Russia-Ukraine conflict, the global petrochemical industry is forecast to *** in Northeast Asia and North America. The COVID-19 pandemic and the Russia-Ukraine conflict and their economic implications are ***, as most of ***. Nevertheless, with fast-rising inflation, economic growth faces a *** for the months to come. The chemical industry is expected to experience a *** eventually slows.²⁴

²⁰ Conference transcript, (Kurilla), p. 113.

²¹ The ongoing energy crisis in the EU was further compounded by the Russian Invasion of Ukraine in February 2022 and accompanying petroleum sanctions have created a clouded outlook. European Union Imposes Partial Ban on Russian Oil, <https://www.csis.org/analysis/european-union-imposes-partial-ban-russian-oil>, June 8, 2022.

²² IHS Markit, ***.

²³ Conference transcript, (Rikhoff), p. 36.

²⁴ IHS Markit,***.

In 2022, butadiene annual capacity by region is reported as Northeast Asia ***, *** million metric tons; West Europe, *** million; North America, *** million; Southwest Asia *** million, and total World, 17.8 million metric tons. During the forecast period 2022-2017, average annual North American capacity is projected to *** in virtually all petrochemicals markets, leading to a *** in most industry-wide operating rates, thus *** the oversupply situation. In 2021–22, operating rates have *** thanks to the economic recovery, but they remain under ***. This situation is not expected to *** as the pace of newly built plants *** and as the recent Russia-Ukraine conflict further weighs on the global economy. The industry is projected to initiate its *** onward, when the pace of *** finally slows.

Butadiene petrochemical byproduct is produced as a consequence of ethane steam cracking to the primary product ethylene, or ethylene from naphtha feed, so it is highly dependent upon ethylene supply and demand fundamentals. In 2022 for example, butadiene production *** percent of the global primary petrochemicals output compared to a leading 32.1 percent for on-purpose ethylene.

North American ethylene capacity, production, and consumption volume are projected to be second only to Northeast Asia between 2022-27. Capacity in North America during the 2022-17 period is projected to grow at an average annual rate of 1.1 percent, 51.3 million to 54.1 million tons, and consumption from 43.0 million to 47.9 million tons, representing 2.2 percent average annual demand growth, so butadiene output would be expected to follow projected ethylene demand growth trends. Global growth is pegged at 3.4 percent.²⁵

²⁵ IHS Markit, ***.

Global Butadiene Situation and Outlook²⁶

In 2021, despite the persistence of pandemic-related shipping bottlenecks, markets benefited from a broad recovery across all major manufacturing sectors. The Russia-Ukraine conflict that began in early 2022 has nevertheless fueled prevailing global energy markets, adding significantly to volatility in the world economy and a feedstock *** for the chemical industry. During the height of the COVID-19 pandemic in 2020, petrochemical derivatives such as methanol and butadiene *** owing to their dependence on cyclical markets such as the fuel, tire, automotive, and construction markets, while ethylene, propylene, and para-xylene showed *** such as online shopping, work-from-home, a shift of consumer spending away from services toward consumer goods, and *** for medical protective equipment and individual packaging requirements. Overall, global consumption of the primary petrochemical feedstocks posted moderate growth in 2020.²⁷

In 2020, the annual global production of butadiene amounted to about *** million metric tons. Butadiene was sourced principally as a byproduct of ethylene production which accounted for some *** percent of the total, while on-purpose butadiene production accounted for about *** percent of the world total. Global production of butadiene was dominated by Northeast Asia, principally China, estimated at some ***, Western Europe, ***, and North America ***. About *** percent of butadiene production was traded globally, with Western Europe being the *** and Northeast Asia the ***. The butadiene production landscape is dominated by large integrated oil and gas companies as well as chemical corporations. The 10 largest producers account for some *** percent of global capacity and include ***, international chemical companies ***, and international oil companies ***.

Butadiene demand was dominated by the production of several synthetic commodity rubbers such as styrene-butadiene rubber (SBR), polybutadiene rubber (BR), styrene block copolymer rubbers (SBC), and butyl rubber (IIR), which altogether accounted for about *** percent of the overall global market in 2020. There are many other nonrubber chemical applications for butadiene such as ***, the largest end use sector outside of rubber

²⁶ Descriptions, outlook and estimates, based on IHS Markit ***, including certain modifications to IHS Markit, ***.

²⁷ IHS Markit, ***.

markets. Tire manufacturing is the *** consumer of butadiene and its demand is therefore *** influenced by mobility and the automotive industry. In 2020, Northeast Asia accounted for about *** percent of global butadiene demand with *** the largest market owing to its *** footprint. *** growth are fundamentally driving the consumption for *** in the region, with *** extraction capacity being ***.

Overall, world butadiene consumption was estimated to have *** percent between 2019 and 2020, with *** being the most affected derivatives.²⁸ *** rubber latex disposable gloves for healthcare and *** demand increased. In 2021, however, demand rebounded despite the persistence of some shipping bottlenecks, and markets benefited from a broad recovery across all major manufacturing sectors. The Russian invasion of Ukraine in February 2022, however, and its global reverberations to date, create many uncertainties in market fundamentals moving forward into 2023. The conflict to date has created inordinate volatility in global energy markets, significant downside aspects to the world economy and a feedstock price uncertainty for the chemical industry.

Between 2015 and 2018, global butadiene markets *** owing to butadiene production capacity ***. A large portion of the *** ethylene capacity has been based on ***, most particularly based on *** shale gas feedstock in North America (U.S.), serving to *** global capacity utilization rates and create a somewhat *** market. During the forecast period (2020-25), however, ***.²⁹ A new round of *** during the forecast period leading up to 2025. Most *** butadiene capacity is projected to come from the ***, as key importing markets and regions are forecast to enhance their ***, as trade at the global level for butadiene is currently projected to *** during the period

²⁸ In 2020, global pandemic had a significant effect on travel and transportation because of stay-at-home orders or countrywide lockdowns, and travel bans. Passenger vehicle use decreased leading to lower tire replacement. Automotive and tire manufacturing was affected by temporary plant closures and computer chip shortages, leading to declines in new vehicle production and OEM tire demand.

²⁹ As the COVID pandemic gradually came under control and vaccine programs further rolled out, recovery funds and stimulus packages supported economic activity across major world economies but projected second half 2021 into 2022 were nevertheless likely to ***.

leading up to 2025. Northeast Asia is expected to ***, accounting for about *** percent of the total by 2025.

Mainland China Butadiene Supply and Demand³⁰

Mainland China has been the *** butadiene-producing country *** since 2011. In 2020, mainland Chinese butadiene capacity was about *** metric tons, accounting for some *** percent of global capacity. Since the early 2000s, strong economic growth in mainland China has *** in *** steam cracking units. Butadiene extraction capacity has *** at an average rate of *** percent per year over the past 10 years, supported by the *** of several *** units as well as *** units.³¹ In addition, several *** units have also been commissioned, accounting for about *** percent of the territory's overall butadiene capacity in 2020. Operations of *** are nevertheless more limited because of a *** position.

In 2020, mainland China's largest butadiene producers were *** and ***, which combined accounted for some *** percent of the territory's overall capacity. *** are also the world's *** butadiene producers and mainland China's leading petrochemical producers, including stakes in several companies.

During the forecast period, mainland China was expected to *** more than *** metric tons of *** ethylene capacity. A considerable portion of this *** capacity is expected to come from *** using conventional *** with a more limited influence of ***. Consequently, crude C4 availability is expected to *** and *** butadiene extraction units will be ***. Overall, mainland China is projected to *** its butadiene capacity by nearly *** metric tons ***. This *** is expected to have a major effect on global butadiene ***, as mainland Chinese *** requirements gradually ***.

Mainland China is the *** of butadiene in the ***, with about *** percent of global production and more than *** production in 2020. Mainland China is also the *** of butadiene, accounting for *** percent

³⁰ IHS Markit, ***.

³¹ Wood MacKenzie, <https://www.woodmac.com/news/editorial/how-are-olefins-made-from-cto-mto/>, retrieved December 9, 2021.

of the world's total. Demand for BR, especially for mainland China's BR synthetic rubber industry, continues to drive BR for butadiene. In 2020, the COVID-19 pandemic had a relatively small impact on mainland China's BR for butadiene, which posted a small year-on-year increase. An early and efficient control of the pandemic led to a recovery of the mainland Chinese BR before mid-year. Overall, mainland China constituted the sole major economy that managed to grow during 2020.

With a fast-rising domestic BR, mainland China has remained a major consumer of butadiene. However, the region's reliance on BR will be reduced in 2021 as domestic production increases along with BR capacity. Consequently, the territory is forecast to turn to a net exporter of butadiene as early as in 2021.

In 2020, the total butadiene consumption was 1.2 million metric tons in mainland China. Mainland China produces all major butadiene products except for BR rubber. Mainland China and its economic zone has constituted a major market for the global butadiene market during the past decade. Polybutadiene rubber (BR) production is the largest for butadiene in mainland China, accounting for about 60 percent of butadiene consumption in 2020. BR of butadiene for styrene-butadiene rubber (SBR) is the second largest, accounting for nearly 30 percent of the total. Demand for BR production has increased over the last five years, driven by an expanding BR market. Ultimately, the improvement in living standards, a rising average disposable income across mainland China, as well as the development of road infrastructure are key drivers for the local BR. Moreover, with its BR, mainland China has been in a position to export to several markets in the world, further increasing its BR. Major BR producers include BR. During 2020-25, with the global economic recovery anticipated and the further growth of the mainland Chinese BR market, production of BR are forecast to increase, leading to increased butadiene requirements.

In 2020, BR resins were the largest BR application for butadiene in mainland China, accounting for some 20 percent of the total. The region is the largest BR globally. The appliance market accounts for about 10 percent in the region, followed by the BR market, 5 percent. In 2015-20, butadiene demand for BR production increased at an average rate of 5 percent per year, and during 2020-25, BR resin capacity is forecast to increase.

In 2020, *** accounted for almost *** percent of the butadiene consumed in mainland China including *** resins. Steady demand has also come from ***, which are the largest and most mature end-use applications. Overall, demand for this application will *** and is expected to account for approximately *** metric tons of butadiene demand by 2025. Other major butadiene applications include *** and ***. Production of *** in mainland China commenced in 2020 with the commissioning of the *** domestic plant by the ***, and butadiene demand for *** is forecast to *** through 2025.

In 2020-25, mainland Chinese demand for butadiene is *** at an average rate of *** percent per year, driven by ***. Mainland China is expected to remain the *** butadiene market over the near future.

Historically an *** of finished goods, mainland China has so far remained a *** of butadiene to meet ***. During 2020-25, with the coming of *** capacity expected to be ***, mainland Chinese ***, leading to a greater level of ***.

APPENDIX E

U.S. PRODUCERS' AND U.S. IMPORTERS' U.S. SHIPMENTS CHANNELS DETAIL

Table E-1
ESBR: U.S. producers' U.S. shipments, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-1 Continued
ESBR: U.S. producers' U.S. shipments, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-1 Continued
ESBR: U.S. producers' U.S. shipments, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table E-2
ESBR: U.S. importers' U.S. shipments of imports from Czechia, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-2 Continued
ESBR: U.S. importers' U.S. shipments of imports from Czechia, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-2 Continued
ESBR: U.S. importers' U.S. shipments of imports from Czechia, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table E-3
ESBR: U.S. importers' U.S. shipments of imports from Russia, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-3 Continued
ESBR: U.S. importers' U.S. shipments of imports from Russia, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-3 Continued
ESBR: U.S. importers' U.S. shipments of imports from Russia, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table E-4
ESBR: U.S. importers' U.S. shipments of imports from subject sources, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-4 Continued

ESBR: U.S. importers' U.S. shipments of imports from subject sources, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-4 Continued**ESBR: U.S. importers' U.S. shipments of imports from subject sources, by series, channel, and period**

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table E-5
ESBR: U.S. importers' U.S. shipments of imports from Italy, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-5 Continued
ESBR: U.S. importers' U.S. shipments of imports from Italy, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-5 Continued
ESBR: U.S. importers' U.S. shipments of imports from Italy, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "--".

Table E-6
ESBR: U.S. importers' U.S. shipments of imports from all other sources, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-6 Continued
ESBR: U.S. importers' U.S. shipments of imports from all other sources, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-6 Continued**ESBR: U.S. importers' U.S. shipments of imports from all other sources, by series, channel, and period**

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table E-7
ESBR: U.S. importers' U.S. shipments of imports from nonsubject sources, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-7 Continued
ESBR: U.S. importers' U.S. shipments of imports from nonsubject sources, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-7 Continued
ESBR: U.S. importers' U.S. shipments of imports from nonsubject sources, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table E-8
ESBR: U.S. importers' U.S. shipments of imports from all sources, by series, channel, and period

Quantity in 1,000 pounds; Value in 1,000 dollars

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-8 Continued**ESBR: U.S. importers' U.S. shipments of imports from all sources, by series, channel, and period**

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-8 Continued**ESBR: U.S. importers' U.S. shipments of imports from all sources, by series, channel, and period**

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Figure E-1
ESBR: U.S. producers' and U.S. importers' average unit values, by series type

* * * * *

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

Table E-9
ESBR: U.S. producers' and importers' U.S. shipments to distributors, by source and period

Quantity in 1,000 pounds; Shares in percent; Ratios to overall apparent consumption quantity in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***
U.S. producers	Ratio	***	***	***	***	***
Czechia	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	Ratio	***	***	***	***	***

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table E-10**ESBR: U.S. producers' and importers' U.S. shipments to tire manufacturers, by source and period**

Quantity in 1,000 pounds; Shares in percent; Ratios to overall apparent consumption quantity in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***
U.S. producers	Ratio	***	***	***	***	***
Czechia	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	Ratio	***	***	***	***	***

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

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

Table E-11
ESBR: U.S. producers' and importers' U.S. shipments to other end users, by source and period

Quantity in 1,000 pounds; Shares in percent; Ratios to overall apparent consumption quantity in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***
U.S. producers	Ratio	***	***	***	***	***
Czechia	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	Ratio	***	***	***	***	***

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

APPENDIX F

**U.S. PRODUCERS' U.S. SHIPMENTS AND FOREIGN PRODUCERS' PRODUCTION
BY STYRENE AND ADDITIVE TYPE**

Table F-1
ESBR: U.S. producers' U.S. shipments and foreign producers' production, by source and styrene type, 2021

Quantity in 1,000 pounds

Source	Alphamethyl styrene	Bound styrene	Other styrene	All types of styrene
U.S. producers	***	***	***	***
Czechia	***	***	***	***
Russia	***	***	***	***
Subject sources	***	***	***	***

Table continued.

Table F-1 Continued
ESBR: U.S. producers' U.S. shipments and foreign producers' production, by source and styrene type, 2021

Share across in percent

Source	Alphamethyl styrene	Bound styrene	Other styrene	All types of styrene
U.S. producers	***	***	***	100.0
Czechia	***	***	***	100.0
Russia	***	***	***	100.0
Subject sources	***	***	***	100.0

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

Figure F-1
ESBR: U.S. producers' U.S. shipments and foreign producers' production, by source and styrene type, 2021

* * * * *

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

Table F-2
ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic extracts, by source and additive type, 2021

Quantity in 1,000 pounds

Source	Aromatic extracts	Not aromatic extracts	All shipments/production
U.S. producers' U.S. shipments	***	***	***
Czechia's production	***	***	***
Russia's production	***	***	***
Subject sources' production	***	***	***

Table continued.

Table F-2 continued
ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic extracts, by source and additive type, 2021

Quantity in 1,000 pounds

Source	Aromatic extracts	Not aromatic extracts	All shipments/production
U.S. producers' U.S. shipments	***	***	100.0
Czechia's production	***	***	100.0
Russia's production	***	***	100.0
Subject sources' production	***	***	100.0

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

Figure F-2
ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic extracts, by source and additive type, 2021

* * * * *

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

Table F-3

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic oils, by source and additive type, 2021

Share across in percent

Source	Aromatic oils	Not using aromatic oils	All shipments/production
U.S. producers' U.S. shipments	***	***	***
Czechia's production	***	***	***
Russia's production	***	***	***
Subject sources' production	***	***	***

Table continued.

Table F-3 continued

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic oils, by source and additive type, 2021

Quantity in 1,000 pounds

Source	Aromatic oils	Not using aromatic oils	All shipments/production
U.S. producers' U.S. shipments	***	***	100.0
Czechia's production	***	***	100.0
Russia's production	***	***	100.0
Subject sources' production	***	***	100.0

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

Figure F-3

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic oils, by source and additive type, 2021

* * * * *

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

Table F-4
ESBR: U.S. producers' U.S. shipments and foreign producers' production using other additives,
by source and additive type, 2021

Share across in percent

Source	Other additives	No other additives	All shipments/production
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***

Table continued.

Table F-4 continued
ESBR: U.S. producers' U.S. shipments and foreign producers' production using other additives,
by source and additive type, 2021

Quantity in 1,000 pounds

Source	Other additives	No other additives	All shipments/production
U.S. producers' U.S. shipments	***	***	100.0
Czechia's production	***	***	100.0
Russia's production	***	***	100.0
Subject sources' production	***	***	100.0

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

Figure F-4
ESBR: U.S. producers' U.S. shipments and foreign producers' production using other additives,
by source and additive type, 2021

* * * * *

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

APPENDIX G

FIRM NARRATIVES ON IMPACT OF COVID-19 PANDEMIC

Table G-1

ESBR: U.S. producers' narratives regarding impact of COVID-19

Firm	Narrative response on COVID-19 impact
Goodyear	***
Lion	***

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

Table G-2
ESBR: U.S. importers' narratives regarding impact of COVID-19

Firm	Narrative response on COVID-19 impact
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***

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

APPENDIX H
NONSUBJECT COUNTRY AND SPOT PRICE DATA

One importer reported price data for Italy for product 1. Price data reported by this firm accounted for *** percent of U.S. commercial shipments from Italy.¹ These price items and accompanying data are comparable to those presented in table V-5. Price and quantity data for Italy are shown in tables H-1 and in figure H-1 (with domestic and subject sources).

In comparing nonsubject country pricing data with U.S. producer pricing data, prices for product imported from Italy were lower than prices for U.S.-produced product in three instances and higher in three instances. In comparing nonsubject country pricing data with subject country pricing data, prices for product imported from Italy were lower than prices for product imported from Czechia in one instance and higher in five instances and lower than the product from Russian in two instances and higher in four. A summary of price differentials is presented in table H-2.

Table H-1
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarter

Price in dollars per pound, quantity in 1,000 pounds.

Period	US price	US quantity	Italy price	Italy quantity
2019 Q1	***	***	***	***
2019 Q2	***	***	***	***
2019 Q3	***	***	***	***
2019 Q4	***	***	***	***
2020 Q1	***	***	***	***
2020 Q2	***	***	***	***
2020 Q3	***	***	***	***
2020 Q4	***	***	***	***
2021 Q1	***	***	***	***
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***

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

Note: Product 1: IISRP 1502 grade of ESBR in all forms.

¹ ***.

Figure H-1

ESBR: Weighted-average prices and quantities of domestic and imported product 1, by quarter

Price of product 1

* * * * *

Volume of product 1

* * * * *

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

Note: Product 1: IISRP 1502 grade of ESBR in all forms.

Table H-2
ESBR: Summary of higher/(lower) unit values, by source, January 2019-June 2022

Quantity in 1,000 pounds.

Comparison source	Benchmark source	Number of quarters lower	Quantity lower	Number of quarters higher	Quantity higher
Italy	United States	***	***	***	***
Italy	Czechia	***	***	***	***
Italy	Russia	***	***	***	***

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

Table H-3
ESBR: Spot prices and quantities of domestic and imported product 1, by firm and quarter

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

Note: Product 1: IISRP 1502 grade of ESBR in all forms.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" thousand pounds. Zeroes and null values are suppressed and shown as "---".

Note: ***.

Table H-4

ESBR: Spot prices and quantities of domestic and imported product 2, by firm and quarter

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***
2019 Q2	***	***	***	***
2019 Q3	***	***	***	***
2019 Q4	***	***	***	***
2020 Q1	***	***	***	***
2020 Q2	***	***	***	***
2020 Q3	***	***	***	***
2020 Q4	***	***	***	***
2021 Q1	***	***	***	***
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

Note: Product 2: IISRP 1507 grade of ESBR in all forms.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" thousand pounds. Zeroes and null values are suppressed and shown as "---".

Note: ***.

Table H-5
ESBR: Spot prices and quantities of domestic and imported product 3, by firm and quarter

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

Note: Product 3: IISRP 1712 grade of ESBR in all forms.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" thousand pounds. Zeroes and null values are suppressed and shown as "---".

Note: ***.

Table H-6
ESBR: Spot prices and quantities of domestic and imported product 4, by firm and quarter

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***
2019 Q2	***	***	***	***
2019 Q3	***	***	***	***
2019 Q4	***	***	***	***
2020 Q1	***	***	***	***
2020 Q2	***	***	***	***
2020 Q3	***	***	***	***
2020 Q4	***	***	***	***
2021 Q1	***	***	***	***
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

Note: Product 4: IISRP 1783 grade of ESBR in all forms.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" thousand pounds. Zeroes and null values are suppressed and shown as "--".

Note: ***.

APPENDIX J

APPENDIX FOR PART VI

Table J-1**ESBR: Firm-by-firm total net sales quantity (total market operations), by period**

Quantity in 1,000 pounds

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm total net sales value (total market operations), by period**

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm cost of goods sold (total market operations), by period**

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm gross profit or (loss) (total market operations), by period**

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm selling, general and administrative (SG&A) expenses (total market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm operating income or (loss) (total market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm net income or (loss) (total market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm ratio of cost of goods sold to net sales value (total market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of gross profit or (loss) to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of SG&A expenses to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of operating income or (loss) to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of net income or (loss) to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit net sales value (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit butadiene cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit styrene cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit other raw material cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit total raw materials cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit direct labor cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit other factory costs (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit conversion costs (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit COGS (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit gross profit or (loss) (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit SG&A expenses (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit operating income or (loss) (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit net income or (loss) (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Note: Unit conversion costs equals the sum of direct labor cost and unit other factory costs.

Table J-2
ESBR: Firm-by-firm total net sales quantity (merchant market operations), by period

Quantity in 1,000 pounds

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm total net sales value (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm cost of goods sold (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm gross profit or (loss) (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm selling, general and administrative (SG&A) expenses (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm operating income or (loss) (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm net income or (loss) (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of cost of goods sold to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of gross profit or (loss) to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of SG&A expenses to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of operating income or (loss) to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm ratio of net income or (loss) to net sales value (merchant market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm unit net sales value (merchant market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm unit butadiene cost (merchant market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm unit styrene cost (merchant market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit other raw material cost (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit total raw materials cost (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit direct labor cost (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit other factory costs (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit conversion costs (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit COGS (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit gross profit or (loss) (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit SG&A expenses (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit operating income or (loss) (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit net income or (loss) (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Note: Unit conversion costs equals the sum of direct labor cost and unit other factory costs.

