UNITED STATES – COUNTERVAILING DUTY MEASURES ON CERTAIN PRODUCTS FROM CHINA

Recourse to Article 22.6 of the DSU by the United States

(DS437)

**WRITTEN SUBMISSION
OF THE UNITED STATES OF AMERICA**

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I. INTRODUCTION

1.   On January 14, 2020, China submitted to the Arbitrator a methodology paper explaining the basis for China's request to suspend concessions or other obligations in this dispute.[1] In its methodology paper, China asserts that the level of nullification or impairment totals $1.02 billion annually.[2] This is <u>less than half</u> of the figure China initially asserted in its request for authorization to suspend the application of concessions or other obligations under the covered agreements pursuant to Article 22.2 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU"). This drastic revision of the asserted level of nullification or impairment demonstrates that the U.S. objection to China's Article 22.2 request for authorization was well-founded, and China has effectively conceded that the level set out in its request was in excess of the correct level of nullification or impairment. Accordingly, the Arbitrator is tasked with assessing the correct level of nullification or impairment. As demonstrated in this written submission, China's revised figure still grossly overstates the level of nullification or impairment, by nearly a factor of ten. The actual level of nullification or impairment is no more than **$117 million** per year.

2.   In its methodology paper, China applies an economic model that China represents is "similar"[3] to the modeling approach adopted by the arbitrators in two recent proceedings under Article 22.6 of the DSU, *i.e.*, *US – Washing Machines (Korea)* (DS464) and *US – Anti-Dumping Methodologies (China)* (DS471). In DS464 and DS471, the arbitrators applied an Armington-based imperfect substitutes partial equilibrium model in two steps, which attempted to estimate the effects of the WTO-inconsistent duties in the respective product markets while addressing the small market shares resulting from the purported depressing effects of the duties.[4] China, however, proposes two "advancements" to the two-step approaches used in those prior arbitrations, namely using a "nested" approach to the elasticity of substitution and purportedly "correct[ing]" errors in the computer programming code used by the arbitrator in DS471.[5]

3.   The United States agrees with China that a two-step Armington-based imperfect substitutes partial equilibrium model can be used in this proceeding to estimate the level of nullification or impairment, and the United States further agrees with China that the approaches taken by the arbitrators in DS464 and DS471 would benefit from certain advancements. Indeed, as the United States explains in this submission, without modification, the two-step approaches

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[1] *See* Methodology Paper of the People's Republic of China (January 14, 2020) ("China's Methodology Paper").

[2] *See*, *e.g.*, China's Methodology Paper, paras. 3, 104. China initially asserted, in its October 18, 2019 request pursuant to Article 22.2 of the DSU, that the level of nullification or impairment totaled $2.4 billion. In its methodology paper, China states that the downward adjustment to $1.02 billion resulted from its "revised […] analytical approach." China's Methodology Paper, para. 4.

[3] China's Methodology Paper, para. 4.

[4] *See US – Washing Machines (Korea) (Article 22.6 – US)*, para. 3.119; *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, paras. 6.68–6.81.

[5] *See*, *e.g.*, China's Methodology Paper, paras. 8-9.

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used in DS464 and DS471 necessarily would significantly overstate the level of nullification or impairment.

4.   China's attempts to make "advancements" to the model suffer from serious flaws. China's nested approach to the elasticity of substitution relies on an assumption known as the "rule of two", which is not based on established economic theory and is not applicable to the type of product-by-product, partial equilibrium modeling required in this proceeding. Further, China's revision to the computer code used in DS471 inappropriately changes the definition of nullification or impairment. In sum, China's proposed "advancements" to the two-step approach lack any basis in established economic theory and distort the results of the estimation of the level of nullification or impairment.

5.   China also relies on incorrect data inputs. First, China identified incorrect years for the year prior to the imposition of certain countervailing duty ("CVD") measures. Second, for some products, China used domestic shipment data whose scope includes products other than the subject product. Third, for all of the products, China relied on very rough, ill-supported estimates based on a one-size-fits-all GDP deflator in calculating the total market value (*i.e.*, actual U.S. apparent consumption). China made other data errors as well. China's reliance on incorrect data results in a further overstatement of the level of nullification or impairment.

6.   Finally, China included a nullification or impairment estimate for Lawn Groomers. However, because the CVD measure on Lawn Groomers was revoked within the reasonable period of time ("RPT"), the correct level of nullification or impairment necessarily is zero.

7.   In this submission, the United States makes two modifications to the two-step Armington model in DS471, which improve the approach and reduce the extent to which the two-step approach overstates the level of nullification or impairment. The first adjustment is made to account for the effect of both subsidies and dumping on China's U.S. market shares, prior to the imposition of the relevant CVD measures, in order to correct for distortions in the perceived competitiveness of Chinese firms in the U.S. market. The second adjustment is made to account for factors other than trade remedy measures that influenced the evolution of market shares in the period between the imposition of the trade remedy measures and the base year of the analysis (2017). These adjustments are necessary to capture China's true relative competitiveness and thus construct a counterfactual 2017 U.S. market for China that is better grounded in the relative competitiveness of market suppliers. Such a counterfactual is more suitable for the nullification or impairment analysis in this proceeding.

8.   The United States also takes the opportunity in this submission to correct the errors in China's data inputs discussed above. The United States has correctly identified the years for the year prior to the imposition of the CVD measures. Moreover, the United States has used the correct import data by relying on data collected by U.S. Customs and Border Protection, where available, which are tailored to the specific products within the product scope of the relevant CVD measures, rather than data based on tariff classification categories. Similarly, the value of the U.S. market for each product that the United States uses for its analysis is based on actual shipment data for the product and is thus significantly more accurate than China's simplistic estimate based on a GDP deflator.

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9.   Finally, the United States correctly estimates the level of nullification or impairment attributable to Lawn Groomers to be zero.

10.   In the discussion below, following a brief recounting of the procedural background of this proceeding, the United States explains the considerations to determine the correct level of nullification or impairment and why the approach taken by the United States is appropriate. As demonstrated in this submission, the actual level of nullification or impairment is no more than $117 million per year.

II.   PROCEDURAL BACKGROUND

11.   At its meeting on January 16, 2015, the Dispute Settlement Body ("DSB") adopted the report of the Appellate Body,[6] and the report of the Panel as modified by the Appellate Body, in *United States – Countervailing Duty Measures on Certain Products from China* (DS437).[7]

12.   On October 9, 2015, an arbitrator determined pursuant to Article 21.3(c) of the DSU that the RPT for the United States to implement the recommendations of the DSB in this proceeding was 14 months and 16 days from the date on which the DSB adopted the panel and Appellate Body reports in the original proceeding.[8] Accordingly, the RPT expired in April 2016.[9]

13.   Before the expiration of the RPT, in order to bring the United States into compliance with the DSB's recommendations, the U.S. Department of Commerce (the "USDOC") conducted extensive proceedings pursuant to section 129 of the Uruguay Round Agreements Act ("URAA"). Based on its analysis of the evidence and arguments on the records of the section 129 proceedings, as well as information from the original proceedings, the USDOC made and published revised determinations with respect to some of the CVD measures at issue in the original proceedings.

14.   On July 8, 2016, China requested the establishment of a compliance panel pursuant to Articles 6 and 21.5 of the DSU, alleging that certain determinations in the section 129 proceedings were inconsistent with the *Agreement on Subsidies and Countervailing Measures* ("SCM Agreement") and thus the United States had not implemented the DSB's recommendations. As relevant to this proceeding, the compliance panel found that the United States had acted inconsistently with its obligations under Article 2.1(c) of the SCM Agreement with respect to the preliminary and final input specificity determinations in the Aluminum Extrusions, Kitchen Shelving, Lawn Groomers, Line Pipe, OCTG, Pressure Pipe, Print Graphics, Seamless Pipe, Solar Panels, Steel Cylinders, and Wire Strand section 129 proceedings.[10] The

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[6] The term "report of the Appellate Body" or "Appellate Body report" is utilized without prejudice to the adoption procedure applied by the DSB.

[7] *See* Action by the Dispute Settlement Body, WT/DS437/11 (Jan. 19, 2015); Action by the Dispute Settlement Body: Corrigendum, WT/DS4437/11/Corr.1 (Jan. 21, 2015).

[8] *US – Countervailing Measures (China) (Article 21.3(c))*, para. 4.1.

[9] *US – Countervailing Measures (China) (Article 21.3(c))*, para. 4.1.

[10] The United States refers to the short names of the products at issue in the underlying proceedings as established in China's methodology paper. *See* China's Methodology Paper, footnote 3.

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compliance panel also found that the United States had acted inconsistently with its obligations under Articles 1.1(b) and 14(d) of the SCM Agreement with respect to the preliminary and final benchmark determinations in the Line Pipe, OCTG, Pressure Pipe, and Solar Panels section 129 proceedings. Specifically, the inconsistencies found by the compliance panel pertain to the provision of inputs for less than adequate remuneration ("LTAR") for the following 11 products[11] and inputs:

- Aluminum Extrusions – primary aluminum;
- Kitchen Shelving – wire rod;
- Lawn Groomers – hot-rolled steel;
- Line Pipe – hot-rolled steel;
- OCTG – steel rounds and billets;
- Pressure Pipe – stainless steel coil;
- Print Graphics – caustic soda;
- Seamless Pipe – steel rounds and billets; coking coal;
- Solar Panels – polysilicon;
- Steel Cylinders – hot-rolled steel; seamless tube steel; steel billets and blooms;
- Wire Strand – wire rod.

15.   The persons serving on the appeal circulated a report on July 16, 2019, that did not reverse the relevant findings of the compliance panel, with one person dissenting from the findings of the majority, including on the issue of benchmarks for input subsidies.[12]

16.   As the United States indicated at the August 15, 2019, meeting of the DSB, the United States does not view the appellate report as an Appellate Body report within the meaning of Article 17 of the DSU.[13] Nonetheless, for purposes of this proceeding, the DSB has not adopted findings that the United States has taken measures to comply in this dispute that have brought the United States into compliance with the covered agreements.

17.   On October 18, 2019, China requested authorization from the DSB to suspend the application of concessions or other obligations under the covered agreements pursuant to Article 22.2 of the DSU, at a level of $2.4 billion annually, more than double the level of nullification or impairment now advocated by China in its methodology paper.[14] On October 25, 2019, the United States objected to the level of suspension proposed by China, referring the matter to arbitration pursuant to Article 22.6 of the DSU.[15]

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[11] For reference, the applicable Harmonized Tariff Schedule of the United States ("HTSUS") classifications for the 11 products at issue are provided in Exhibit USA-27.

[12] *See* WT/DS437/AB/RW.

[13] *See* Dispute Settlement Body, Minutes of Meeting of August 15, 2019, WT/DSB/M/433 (Oct. 29, 2019), paras. 9.22 and 9.34.

[14] *See* WT/DS437/30.

[15] *See* WT/DS437/31.

III.   APPROPRIATE CALCULATION OF THE LEVEL OF NULLIFICATION OR IMPAIRMENT

18.   Pursuant to Article 22.6 of the DSU, the United States objected to China's proposed level of suspension of concessions or other obligations because the level of suspension that China proposed is not equivalent to the level of nullification or impairment attributable to the measures maintained following the expiration of the RPT. As noted above, China, by drastically reducing the level of nullification or impairment that it proposed in its Article 22.2 request, has effectively conceded that the level set out in its request was in excess of the correct level of nullification or impairment, and that the U.S. objection was well-founded.

19.   Article 22.4 of the DSU explicitly requires that the "level of suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of nullification or impairment." Accordingly, the task of the Arbitrator in this proceeding is to determine the level of nullification or impairment by estimating the impact of removing the WTO-inconsistent measures following the expiration of the RPT (which, in this matter, is calendar year 2017). It is, however, *not* an arbitrator's task to attempt to simulate a return to a time before the imposition of the WTO-inconsistent measures.

20.   China's estimation of the level of nullification or impairment is inconsistent with these DSU requirements and is contrary to the evidence. China's calculations suffer from flawed assumptions and data errors that result in estimates of the level of nullification or impairment that are inaccurate, unsupportable, and grossly overstated. Section III of this submission discusses the specific errors in China's economic analysis.

21.   To assist the Arbitrator in setting the correct level of suspension, the United States provides in this submission a correct estimation of the level of nullification or impairment, which the evidence shows is no more than $117 million annually. This submission first discusses the requirement of Article 22 of the DSU that the proposed level of suspension be equivalent to the level of nullification or impairment, and then discusses the proper methodological approach to calculating the level of nullification or impairment in this proceeding.

A.   Article 22 of the DSU Requires that the Proposed Level of Suspension Be Equivalent to the Level of Nullification or Impairment

22.   Pursuant to Article 22.4 of the DSU, the DSB will not authorize the suspension of concessions or other obligations unless "the level" of suspension is "equivalent" to the level of nullification or impairment. Arbitrators in the past have recognized that "equivalence" is an exacting standard:

> [T]he ordinary meaning of the word "*equivalence*" is "equal in value, significance or meaning", "having the same effect", "having the same relative position or function", "corresponding to",

> "something equal in value or worth", also "something tantamount
> or virtually identical."[16]

23.   Article 22.7 of the DSU further provides that where a matter is referred to arbitration, the arbitrator "shall determine whether the level of . . . suspension is equivalent to the level of nullification or impairment." The starting point in the analysis of a suspension request is to determine the extent to which any WTO-inconsistent measure maintained following the expiration of the RPT nullifies or impairs benefits accruing to the complaining Member under the relevant covered agreement(s).

24.   Thus, an analysis of the level of nullification or impairment must focus on the "benefit" accruing to the complaining Member under a covered agreement that is allegedly nullified or impaired as a result of the breach found by the DSB.[17] Arbitrators in past proceedings have uniformly based their determinations on hard evidence and have refused to "accept claims that are 'too remote', 'too speculative', or 'not meaningfully quantified.'"[18] As the arbitrators in *EC – Hormones (US) (Article 22.6 – EC)* and *EC – Hormones (Canada) (Article 22.6 – EC)* found, "we need to guard against claims of lost opportunities where the causal link with the inconsistent [measure] is less than apparent, i.e., where exports are allegedly foregone not because of the [inconsistent measure] but due to other circumstances."[19]

25.   In this proceeding, China's revised estimate of the appropriate level of suspension is far in excess of the level of nullification or impairment – and therefore is not "equivalent" to it.[20] As explained in section III.C below, if the WTO-inconsistent U.S. CVD measures on products from China were brought into compliance following the expiration of the RPT in the manner identified in this submission, the value of exports of those products from China to the United States would

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[16] *EC – Bananas III (US) (Article 22.6 – EC)*, para. 4.1. *See also US – COOL (Article 22.6 – US)*, para. 4.3.

[17] The concept of nullification or impairment derives from Article XXIII of the GATT 1994. Article XXIII provides: "If any contracting party should consider that any benefit accruing to it directly or indirectly under this Agreement is being nullified or impaired ... as a result of ... the failure of another contracting party to carry out its obligations under this Agreement ... the matter may be referred to the CONTRACTING PARTIES." This concept is then reflected in the DSU, including Article 3.3 ("The prompt settlement of situations in which a Member considers that any benefits accruing to it directly or indirectly under the covered agreements are being impaired by measures taken by another Member is essential to the effective functioning of the WTO and the maintenance of a proper balance between the rights and obligations of Members."), as well as Articles 3.5, 10.4, and 23. For example, in *US – Section 110(5) Copyright Act (Article 25)*, the arbitrator found that the analysis of nullification or impairment analysis must focus on what benefits the EC would receive if the measure at issue – Section 110(5)(B) – were modified in accordance with the DSB recommendation. *See US – Section 110(5) Copyright Act (Article 25)*, paras. 3.20-3.35.

[18] *US – 1916 Act (EC) (Article 22.6 – US)*, para. 6.10. *See also id.,* paras. 5.54 ("In determining the level of nullification or impairment ... we need to rely, as much as possible, on credible, factual, and verifiable information. We cannot base any such estimates on speculation.") and 5.69 ("We are of the view that any claim for a deterrent or 'chilling effect' by the European Communities in the present case would be too speculative, and too remote.").

[19] *EC – Hormones (US) (Article 22.6 – EC)*, para. 41; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 40. *See also EC – Hormones (US) (Article 22.6 – EC)*, para. 77 (refusing to consider, as "too speculative," lost exports that would have resulted from foregone marketing campaigns).

[20] *See* DSU, Art. 22.4.

increase by (and thus, the level of nullification or impairment is no more than) $117 million annually. China's estimation is grossly in excess of the "equivalent" level – approximately nine times higher.

26.   China's gross overstatement of the level of nullification or impairment, as explained in section III.C.5, is the result of China's flawed economic approach, which is premised on false assumptions. China compounds its error by making numerous mistakes in compiling the data inputs used in its estimation of the level of nullification or impairment.

27.   As China explains in its methodology paper, the arbitrators in previous Article 22.6 proceedings have compared the level of trade for the complaining party under the WTO-inconsistent measure to what the complaining party's level of trade would be expected to be where the Member concerned has brought the WTO-inconsistent measure into conformity following the expiration of the RPT. The situation in which the Member concerned has removed the WTO inconsistency is referred to as the "counterfactual." The difference in the level of trade under these two situations typically represents the level of nullification or impairment attributable to the maintenance of the WTO-inconsistent measures. Other Article 22.6 arbitrators have recognized that a counterfactual was an appropriate method in those proceedings to calculate a level of nullification or impairment,[21] and China itself proposes the use of a counterfactual in this proceeding.[22]

28.   The United States generally agrees with China that analysis using a counterfactual is appropriate to determine the level of nullification or impairment caused by the WTO-inconsistent U.S. CVD measures. That is, the appropriate analysis requires consideration of the present trading relationship between China and the United States (as represented by the 2017 baseline),[23] as well as what that relationship would be if the U.S. measures had been brought into compliance with the DSB recommendations following the expiration of the RPT (*i.e.*, the counterfactual). Nevertheless, the counterfactual proposed by China, as we explain in section III.C.5, has several flaws contributing to China's overall gross overestimation of the level of nullification or impairment.

B.   The Appropriate Counterfactual Eliminates the WTO-Inconsistent Portion of the U.S. Countervailing Duty Measures

29.   The United States generally agrees with China that the appropriate counterfactual analysis would entail modifying the relevant CVD rates by deducting the portion of the total

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[21] *See*, *e.g.*, *US – Gambling (Article 22.6 – US)*, para. 3.14 ("the use of a counterfactual to assess the level of exports that would have accrued to Antigua, had the United States complied with the rulings, constitutes an appropriate basis for assessing the level of nullification or impairment of benefits accruing . . . ."); *US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US)*, para. 4.22; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 37; *EC – Bananas III (US) (Article 22.6 – EC)*, para. 7.1 *et seq.*; *US – Tuna (Article 22.6 – US)*, para. 4.4.

[22] *See*, *e.g.*, China's Methodology Paper, para. 15.

[23] China proposes using full year 2017 data as the baseline for a counterfactual analysis in this proceeding. *See* China's Methodology Paper, para. 4. The United States does not object to using 2017 as the baseline. 2017 is a recent period of time for which data are available.

CVD rate attributable to the input subsidy programs.[24] However, as discussed below, for a number of products, China misstates both the initial CVD rates and the counterfactual CVD rates that are to be used to determine the level of nullification or impairment.

30.   China incorrectly identifies the relevant CVD determinations and thus the total CVD rates for four of the 11 CVD measures. For four of the 11 CVD measures, China also incorrectly identifies the portion of the CVD rate attributable to the input subsidy programs that are subject to the DSB's recommendations. The incorrect CVD rates and/or input subsidy program rates result in seven incorrect counterfactual WTO-consistent CVD rates reported in China's methodology paper.

31.   Further, China uses an incorrect method to calculate the counterfactual WTO-consistent CVD rate for the "All Others" category where the rate is based on the counterfactual WTO-consistent CVD rates of two or more individual respondents.

32.   Finally, China fails to take into account that one of the CVD measures – Lawn Groomers – was already brought into compliance prior to the expiration of the RPT (the CVD order on Lawn Groomers was revoked in 2014),[25] and thus the correct level of nullification or impairment attributable to the CVD measure on Lawn Groomers is zero (in other words, there is no applicable counterfactual for the Lawn Groomers measure).

33.   Exhibit USA-28 provides the correct WTO-inconsistent CVD rates and counterfactual WTO-consistent rates.

1.   The Relevant CVD Determinations for the Counterfactual Analysis are the Section 129 Determinations Found WTO-Inconsistent in the Most Recent DSB Recommendations, Not the CVD Orders

34.   Article 22.1 of the DSU provides that compensation and the suspension of concessions is available in the "event that the recommendations" of the DSB "are not implemented within a reasonable period of time." Thus, Article 22.1 of the DSU directs an arbitrator to base an Article 22.6 decision on the "recommendation" of the DSB, consistent with Article 19.1 of the DSU, to bring a WTO-inconsistent measure into conformity with the WTO covered agreements.

35.   Similarly, Article 22.2 of the DSU, which is explicitly referenced in the first sentence of Article 22.6, limits the role of an arbitrator to assessing the effects of the WTO-inconsistent U.S. CVD measures in accordance with the DSB's recommendations. To go beyond the DSB recommendations, as China proposes, would be contrary to the DSU.

36.   Past arbitrators have understood the DSU consistently on this point. In *US – 1916 Act (EC) (Article 22.6 – US)*, the arbitrator explained that:

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[24] *See*, *e.g.*, China's Methodology Paper, paras. 16, 21.

[25] *See Tow Behind Lawn Groomers and Parts and Thereof From the People's Republic of China: Final Results of Sunset Review and Revocation of Countervailing Duty Order*, 79 Fed. Reg. 56769 (Sep. 23, 2014) (Exhibit USA-9).

> [T]he mandate of the arbitrators is to determine whether the level
> of suspension of concessions or other obligations sought by the
> complaining party is equivalent to the level of nullification or
> impairment sustained by the complaining party as a result of the
> failure of the responding party to bring its WTO-inconsistent
> measures into compliance.[26]

37.   The compliance measures taken by the United States, *i.e.*, the section 129 determinations, were not found to be consistent with the SCM Agreement. In its methodology paper, China acknowledges that the relevant determinations in the section 129 proceedings are those with respect to certain LTAR programs in the 11 CVD investigations.[27] Yet, China has disregarded this fact and modified the CVD <u>orders</u>, rather than the determinations in the section 129 proceedings, to carry out its counterfactual analysis.[28] China did not even place the section 129 determinations on record of this Article 22.6 proceeding, nor does China explain in its methodology paper why it has failed to base its counterfactual analysis on the compliance measures.

38.   Notwithstanding China's failure, the relevant CVD rates to be used as the WTO-inconsistent CVD rates – *i.e.*, the baseline rates for the counterfactual analysis – are the CVD rates resulting from the section 129 proceedings that superseded the rates under the investigations challenged in the original proceeding.[29]

39.   The United States in this submission refers to the CVD rates resulting from the section 129 proceedings as the "section 129 rates," even where the USDOC came to the same conclusion as in the original investigation and the CVD rate was unchanged from the original investigation rate. Where the outcome of a section 129 proceeding did not change the net subsidy rates from the original investigation, the proceeding entailed the USDOC revisiting and revising its analysis and affirmatively determining that the original net subsidy rates in the particular investigation[30] were the correct outcome.

40.   However, China's proposed WTO-inconsistent CVD rates shown in Exhibit CHN-52 appear to be the original net subsidy rates, rather than the section 129 rates. Because the section

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[26] *US – 1916 Act (EC) (Article 22.6 – US),* para. 4.5

[27] China's Methodology Paper, paras 10–11.

[28] China's Methodology Paper, para. 16.

[29] While the DSB findings also included findings of WTO-inconsistency in certain administrative reviews, sunset reviews, and an original investigation with respect to some products, China's methodology paper does not discuss China's claims and the DSB recommendations regarding those measures. *See* China's Methodology Paper, paras. 11-12. The United States agrees that those administrative reviews, sunset reviews, and original investigation are irrelevant to the counterfactual analysis in this proceeding because the section 129 determinations are the latest determinations in time that are subject to DSB findings, and thus are the proper starting point of the counterfactual analysis.

[30] That is, the original net subsidy rates as amended by any correction of ministerial errors and/or redetermination pursuant to court remand that had occurred since the time of the investigation, as of the time of the section 129 determination.

129 proceedings resulted in revised CVD rates for Line Pipe, OCTG, and Pressure Pipe, Exhibit USA-28 corrects the error for the three products by replacing the pre-section 129 net subsidy rates with the section 129 rates. For ease of reference, the corrected WTO-inconsistent CVD rates are denoted in red in Exhibit USA-28.

2. China Incorrectly Identifies the Portion of the CVD Rates Attributable to the Input Subsidy Programs for Line Pipe, Seamless Pipe, Steel Cylinders, and Wire Strand

41.   In addition, China made several errors in identifying the portion of the section 129 rates attributable to the relevant input subsidy programs for Line Pipe, Seamless Pipe, Steel Cylinders, and Wire Strand. Exhibit USA-28 shows in red the correct total of the relevant input subsidy program rates.

42.   With respect to Line Pipe, China provided the program rate for the provision of hot-rolled steel for LTAR with respect to Huludao Company that was in place prior to the correction of a ministerial error and a subsequent redetermination pursuant to court remand.[31] The correction and the remand redetermination resulted in an overall reduction of the portion attributable to the relevant input subsidy program (and accordingly, the total net subsidy rate) for Huludao.[32] Thus, the correct total portion of the CVD rate attributable to the provision of hot-rolled steel for LTAR is 32.49 percent (as opposed to China's 33.59 percent).

43.   With respect to Seamless Pipe, China omitted the program rate for the provision of coking coal for LTAR with respect to Hengyang.[33] When the coking coal program rate is included (in addition to the program rate for the provision of steel rounds for LTAR), the total portion attributable to the relevant input subsidy programs for Hengyang is increased.[34] Thus,

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[31] *See* Memorandum to The File, *Section 129 Proceedings: United States - Countervailing Duty Measures on Certain Products from the People's Republic of China (WTO/DS437)*: Placement of Final Calculations on Record of Proceeding (Oct. 23, 2015) (Exhibit USA-10). *See also* Notice of Amended Final Affirmative Countervailing Duty Determination and Notice of Countervailing Duty Order: *Circular Welded Carbon Quality Steel Line Pipe from the People's Republic of China*, 74 Fed. Reg. 4136 (Jan. 23, 2009) (Exhibit CHN-8); Notice of Amended Final Determination Pursuant to Final Court Decision: *Circular Welded Carbon Quality Steel Line Pipe from the People's Republic of China*, 75 Fed. Reg. 16071 (Mar. 31, 2010) (Exhibit CHN-10); Correction to Notice of Amended Final Determination Pursuant to Final Court Decision: *Circular Welded Carbon Quality Steel Line Pipe from the People's Republic of China*, 75 Fed. Reg. 20334 (Apr. 19, 2010) (Exhibit USA-11).

[32] *See* Memorandum to The File, *Section 129 Proceedings: United States - Countervailing Duty Measures on Certain Products from the People's Republic of China (WTO/DS437)*: Placement of Final Calculations on Record of Proceeding, Attachment I (Exhibit USA-10).

[33] *See US – Countervailing Measures (China) (Article 21.5 – China)*, footnote 450. *See also* Memorandum to Paul Piquado, Assistant Secretary for Enforcement and Compliance, *Section 129 Proceeding: United States - Countervailing Duty Measures on Certain Products from the People's Republic of China (WTO/DS437)*: Preliminary Determination of Public Bodies and Input Specificity (Feb. 25, 2016), p. 9 (Exhibit USA-2).

[34] *See* Memorandum to Susan H. Kuhbach Acting Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations, "Countervailing Duty Investigation: Certain Seamless Carbon and Alloy Steel Standard, Line, and Pressure Pipe from the People's Republic of China: Ministerial Errors for Final Determination" (Oct. 14, 2010), Attachment 1 (Exhibit USA-15).

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the correct total portion attributable to the relevant input subsidy programs is 6.395 percent (as opposed to China's 3.64 percent).

44.   With respect to Steel Cylinders, China omitted the program rates for the provision of stainless tube steel for LTAR and the provision of steel billets and blooms for LTAR with respect to Tianhai.[35] When the stainless tube steel LTAR program rate (14.18 percent)[36] and the steel billets and blooms LTAR program rate (0.03 percent)[37] are included (in addition to the program rate for the provision of hot-rolled steel for LTAR), the total portion attributable to the relevant input subsidy programs is increased. Thus, the correct total portion attributable to the relevant input subsidy programs is 14.34 percent (as opposed to China's 0.13 percent).

45.   With respect to Wire Strand, China provided the program rate for the provision of wire rod for LTAR with respect to Fasten Companies that was in place prior to the correction of a ministerial error.[38] The correction of the ministerial error resulted in an increase of the portion attributable to the relevant input subsidy program (and accordingly, the total net subsidy rate) for Fasten Companies.[39] Thus, the correct total portion attributable to the provision of wire rod for LTAR is 11.03 percent (as opposed to China's 10.745 percent).

        3.   **The Appropriate Counterfactual WTO-Consistent CVD Rate for the "All Others" Category Should, Where Possible, Be Determined Using the Same Methodology Applied by the USDOC in the Underlying Proceedings**

46.   China applies its recalculated CVD rate for the "All Others" category as the counterfactual WTO-consistent CVD rate for each of the products at issue in this proceeding.[40] China asserts that a counterfactual WTO-consistent All Others rate should be calculated as follows: the WTO-inconsistent All Others CVD rate *minus* the LTAR program rate, which is

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[35] Memorandum to Paul Piquado Assistant Secretary for Enforcement and Compliance, *Section 129 Proceeding: United States - Countervailing Duty Measures on Certain Products from the People's Republic of China (WTO/DS437)*: Preliminary Determination of Public Bodies and Input Specificity, p. 13 (Exhibit USA-2).

[36] *See* Issues and Decision Memorandum for the Final Determination in the *Countervailing Duty Investigation of High Pressure Steel Cylinders from the People's Republic of China* (Apr. 30, 2012), p. 20 (Exhibit CHN-38).

[37] *See* Issues and Decision Memorandum for the Final Determination in the *Countervailing Duty Investigation of High Pressure Steel Cylinders from the People's Republic of China*, p. 21 (Exhibit CHN-38).

[38] Memorandum to Paul Piquado, Acting Deputy Assistant Secretary for Import Administration, *Countervailing Duty Investigation: Pre-Stressed Concrete Steel Wire Strand from the People's Republic of China*, Final Determination Ministerial Error Allegation (Jun. 29, 2010), p. 2 (Exhibit USA-23) (referencing Comment 19 of the relevant Issues and Decision Memorandum (Exhibit CHN-25), which pertains to the provision of wire rod for LTAR).

[39] Memorandum to Paul Piquado, Acting Deputy Assistant Secretary for Import Administration, *Countervailing Duty Investigation: Pre-Stressed Concrete Steel Wire Strand from the People's Republic of China*, Final Determination Ministerial Error Allegation, p. 2 (Exhibit USA-23) (showing an increase of Fasten's net subsidy rate from 8.85 percent to 9.42 percent, and as a result, an increase of the All Others net subsidy rate from 27.35 percent to 27.64 percent).

[40] China's Methodology Paper, para. 103. *See also* Exhibit CHN-52.

derived by averaging the LTAR rates calculated for individual respondents.[41] However, China's calculations of these counterfactual WTO-consistent All Others rates fail to apply the methods that the USDOC actually used to derive the All Others rates originally. Because China failed to provide any reason for the deviation, the United States proposes that the Arbitrator use the All Others rate calculation methodology that was actually used by the USDOC in each of the underlying determinations.

47.   The USDOC calculated the All Others rates in the underlying CVD investigations in accordance with 19 U.S.C. § 1671d(c)(5)(A), which is section 705(c)(5)(A) of the Tariff Act of 1930. Pursuant to 19 U.S.C. § 1671d(c)(5)(A)(i), for companies not individually investigated, the USDOC determined an All Others rate equal to the weighted average of the countervailable subsidy rates established for exporters and producers individually investigated ("individually-investigated respondents") based on their relative sales of subject merchandise in the U.S. market, excluding any zero and *de minimis* countervailable subsidy rates, and any rates determined entirely under 19 U.S.C. § 1677e (*i.e.*, based on the facts otherwise available).[42]

48.   However, 19 U.S.C. § 1671d(c)(5)(A)(ii) provides that, if the countervailable subsidy rates established for all individually-investigated respondents are zero or *de minimis* rates, or are determined entirely under 19 U.S.C. § 1677e (*i.e.*, based on the facts otherwise available), the USDOC "may use any reasonable method to establish an all-others rate for exporters and producers not individually investigated, including averaging the weighted average countervailable subsidy rates determined for the exporters and producers individually investigated."[43]

49.   Importantly, where the USDOC determines that weight-averaging the countervailable subsidy rates established for the individually-investigated respondents risks disclosure of business proprietary information, the USDOC typically will request publicly-ranged data from those respondents to calculate a weighted-average All Others rate equal to the weighted average countervailable subsidy rates based on those publicly-ranged data. For example, as explained in the Solar Panels CVD investigation:

> Notwithstanding the language of section 705(c)(5)(A)(i) of the
> [Tariff] Act [(19 U.S.C. § 1671(c)(5)(A)(i))], we have not
> calculated the "all others" rate by weight averaging the rates of
> Trina Solar and Wuxi Suntech, because doing so risks disclosure

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[41] China's Methodology Paper, para. 103.

[42] 19 U.S.C. § 1671d(c)(5)(A)(i) (Exhibit USA-29). *See*, *e.g*., *Certain Oil Country Tubular Goods from the People's Republic of China: Final Affirmative Countervailing Duty Determination, Final Negative Critical Circumstances Determination*, 74 Fed. Reg. 64045, 64047-48 (Dec. 7, 2009) (Exhibit CHN-21); *Certain Oil Country Tubular Goods from the People's Republic of China: Amended Final Affirmative Countervailing Duty Determination and Countervailing Duty Order*, 75 Fed. Reg. 3203, 3204 (Jan. 20, 2010) (Exhibit CHN-22); *TMK IPSCO et al v. United States*, Final Results of Redetermination Pursuant to Court Remand (Consol. Court No. 10-00055), Slip Op. 16-62, p. 56 (Dec. 21, 2016) (Exhibit USA-13).

[43] 19 U.S.C. § 1671d(c)(5)(A)(ii) (Exhibit USA-29).

of proprietary information. Therefore, we have calculated an
average rate using other information on the record.[44]

50.   Further, in certain circumstances where weight-averaging the rates of the individually-investigated respondents risks disclosure of business proprietary information, the USDOC sometimes will use a simple average of the individually-investigated respondents' countervailable subsidy rates to determine the All Others rate.[45]

51.   The United States proposes that the Arbitrator use the All Others rate calculation methodology used in each of the underlying determinations to determine the counterfactual WTO-consistent All Others rate for each product. Accordingly, as presented in Exhibit USA-28, the correct counterfactual WTO-consistent All Others rate for <u>Kitchen Shelving</u>, <u>Pressure Pipe</u>, <u>Print Graphics</u>, and <u>Steel Cylinders</u> is equal to the counterfactual WTO-consistent rate for the only individually-investigated respondent whose rate was not zero, *de minimis*, or based on facts available. The correct counterfactual WTO-consistent All Others rate for <u>Aluminum Extrusions</u> and <u>Solar Panels</u> is a weighted average of the individually-investigated respondents' countervailable subsidy rates based on publicly-ranged data for their sales of subject merchandise in the United States. And the correct counterfactual WTO-consistent All Others rate for <u>Line Pipe</u>, <u>Seamless Pipe</u>, and <u>Wire Strand</u> is a simple average of the individually-investigated respondents' countervailable subsidy rates.[46]

52.   The United States proposes an exception for <u>OCTG</u>, wherein the WTO-inconsistent All Others rate was calculated as a weighted average of four individually-investigated respondents' countervailable subsidy rates based on their relative sales of subject merchandise in the United States using sales data that are BCI. On February 12, 2020, the United States requested China's assistance in obtaining authorization letters from the four companies to permit the United States and China to access and submit BCI for the purpose of this proceeding, and China confirmed receipt of the request.[47] However, as stated in China's February 17, 2020, response, China was unable to obtain the authorizations before the due date of this submission.[48] As a result, at the time of the filing of this submission, the United States is unable to use the BCI sales data to calculate a weighted average based on the companies' actual relative sales of subject

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[44] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Final Affirmative Countervailing Duty Determination and Final Affirmative Critical Circumstances Determination*, 77 Fed. Reg. 63788, 63789 and 63798 at footnote 5 (Oct. 17, 2012) (Exhibit CHN-43) (explaining that the rate was calculated relying on public information).

[45] *See*, *e.g.*, *Certain Seamless Carbon and Alloy Steel Standard, Line, and Pressure Pipe from the People's Republic of China*: *Final Affirmative Countervailing Duty Determination, Final Affirmative Critical Circumstances Determination*, 75 Fed. Reg. 57444, 57498 (Sept. 21, 2010) (Exhibit CHN-30); *Certain Seamless Carbon and Alloy Steel Standard, Line, and Pressure Pipe from the People's Republic of China*: *Amended Final Affirmative Countervailing Duty Determination and Countervailing Duty Order*, 75 Fed. Reg. 69050, 69051 (Nov. 10, 2010) (Exhibit CHN-31).

[46] *See* Exhibit USA-28.

[47] *See* Exhibit USA-14.

[48] *See* Exhibit USA-87. The United States will continue to work with China to try alternative channels to obtain the authorizations.

merchandise. Further, the United States is unable to calculate a weighted average based on publicly-ranged sales data because the investigation record does not contain such values.[49] Given these constraints, the United States has calculated a simple average of the four companies' countervailable subsidy rates, as the best alternative available. As noted above, while this was not the methodology that the USDOC used in the original CVD proceeding on OCTG, the USDOC used this methodology in other proceedings at issue in this arbitration (*i.e.*, Line Pipe, Seamless Pipe, and Wire Strand).

53.   The United States notes that China did not challenge the USDOC's methodology of calculating All Others rates in the underlying dispute. As there is no reason to deviate from the methodology applied by the USDOC in the original proceedings (except in the case of OCTG), the United States disagrees with China's novel methodology for calculating All Others rates and proposes that the All Others rates be determined in the manner described above, consistent with the methodologies applied by the USDOC in the underlying investigations.

<div style="margin-left: 2em;">

4.   The Level of Nullification or Impairment Attributable to Lawn Groomers Is Zero Because the Lawn Groomers CVD Order Was Revoked Prior to the Expiration of the RPT

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54.   The CVD measure on <u>Lawn Groomers</u> was revoked in 2014, which is prior to the expiration of the RPT in 2016.[50] Accordingly, the level of nullification or impairment attributable to the maintenance of the CVD measure on Lawn Groomers <u>beyond the expiration of the RPT</u> is zero. Although China ignores the lack of any CVD measure on Lawn Groomers maintained beyond the expiration of the RPT and includes Lawn Groomers in its estimation of the level of nullification or impairment, there can be no counterfactual analysis for Lawn Groomers since any counterfactual scenario would be identical to the actual situation – *i.e.*, the portion of the total CVD rate attributable to the input subsidy programs was already eliminated when the CVD order was revoked in its entirety prior to the expiration of the RPT.

<div style="margin-left: 2em;">

C.   The Correct Methodology for Determining the Level of Nullification or Impairment Requires Certain Adjustments to the Two-Step Armington-Based Approach Adopted by Prior Arbitrators

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55.   The key issue in this proceeding is the impact on trade flows of the maintenance of the WTO-inconsistent U.S. CVD measures following the expiration of the RPT. The United States generally agrees with China that a modified version of the DS471 two-step Armington approach is appropriate. However, the United States does not agree with China's proposed

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[49] During the remand proceeding in 2016, China and the four companies did not respond to the USDOC's questionnaire, which included a request for publicly-ranged sales data. As a result, publicly-ranged sales data were not provided to the USDOC. *See* Letter from the USDOC to GOC regarding: *Countervailing Duty Investigation of Certain Oil Country Tubular Goods from the People's Republic of China*; Questionnaire Pursuant to June 24, 2016 Remand, p. 21 (Jul. 25, 2016) (Exhibit USA-88); *TMK IPSCO et al v. United States*, Final Results of Redetermination Pursuant to Court Remand (Consol. Court No. 10-00055), Slip Op. 16-62, pp. 19, 50 (Dec. 21, 2016) (Exhibit USA-13).

[50] *See Tow Behind Lawn Groomers and Parts and Thereof From the People's Republic of China: Final Results of Sunset Review and Revocation of Countervailing Duty Order*, 79 Fed. Reg. 56769 (Sep. 23, 2014) (Exhibit USA-9).

"advancements" to the DS471 two-step Armington approach because China's proposed modifications are based on flawed assumptions and distort the model results.

56.   Instead, the United States implements two different adjustments to the DS471 model. The U.S. adjustments are necessary to capture China's true competitiveness and thus construct a counterfactual U.S. market that is actually grounded in the relative competitiveness of market suppliers in 2017. With the U.S. adjustments, the two-step Armington approach can yield far more accurate estimates of the level of nullification or impairment.

1.   An Armington-Based Partial Equilibrium Model is the Appropriate Model for Estimating the Level of Nullification or Impairment

57.   The United States considers that the appropriate model for analyzing the effects of trade policy changes in the respective product markets would be an Armington-based partial equilibrium model that assumes three varieties of products[51] that are imperfect substitutes. The Armington model is a preferred method for generating trade effect estimates that are consistent with a market outcome that would be expected based on economic theory, where products are differentiated by source countries and consumers view products from different countries as imperfect substitutes.

58.   To assist the Arbitrator's understanding of the Armington model in simplified terms, consider an example in which a CVD on Kitchen Shelving from China is reduced. Duty reduction acts like a price cut. According to economic theory, a price cut may have two kinds of effects on demand: first, kitchen shelving from China becomes cheaper relative to kitchen shelving from other sources (*i.e.*, the United States and the rest of the world). Therefore, buyers will substitute Chinese kitchen shelving to some degree. The degree to which the Chinese variety captures market share from competitors depends on characteristics of the product and the market. The Armington model accounts for these limits on buyers' willingness to substitute in favor of Chinese kitchen shelving.[52] Second, a price cut effectively makes buyers richer: they can now purchase more kitchen shelving with the same budget. Alternatively, buyers may divert resources to products other than kitchen shelving. The Armington model accounts for the limits on buyers' desire to increase total purchases of kitchen shelving.[53] Together, these effects amount to an overall increase in U.S. demand for kitchen shelving from China.

59.   Another aspect of the analysis is the degree to which Chinese firms are able to respond to this increase. The Armington model can account for limits on China's ability to expand supply.[54] By accounting for the limits on the demand and supply response to lower duties, the Armington

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[51] The number of varieties can be expanded as necessary, as in the five-variety model used in DS471.

[52] The elasticity of substitution governs how willing buyers are to substitute in favor of the Chinese variety.

[53] The elasticity of demand governs how willing buyers are to purchase more of a good.

[54] The elasticity of supply governs the ability of Chinese producers to increase production and shift between export markets in response to a price change. A large elasticity of supply is appropriate in cases where there is evidence that the Chinese producer response is likely to be strong.

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model can estimate the level of nullification or impairment in a manner that is consistent with economic theory.

60.   In DS471, the United States argued that the appropriate methodology to estimate nullification or impairment is to simulate modifications to WTO-inconsistent antidumping duties in a standard partial equilibrium Armington model. The U.S.-proposed Armington model was calibrated to replicate observed 2017 market outcomes, as 2017 represented the expiration of the RPT. The arbitrator determined that an Armington-type model was the appropriate methodology, although with certain adjustments to account for "small market shares resulting from the trade depressing effect of the WTO inconsistent antidumping duties at issue."[55]

61.   As the arbitrator in DS471 explained, a standard Armington model (*i.e.*, applied in one step) may underestimate the trade response to changes in duties if the subject entity has a small market share and the duties at issue are the proximate reason for its minimal presence.[56] An Armington model has this shortcoming because, by assumption, it relies on observed market shares to reveal each entity's relative competitiveness. Entities with larger market shares are assumed to be more competitive in the destination market, and thus to have a proportionately larger increase in exports in response to lower duties.

62.   If duties cause an entity's market share to be very small, masking the entity's relative competitiveness, a standard Armington model calibrated to match observed market outcomes may generate a smaller increase in trade than the entity's underlying competitiveness would imply. The arbitrator declared this to be the case in DS471, *i.e.,* the small 2017 market share of the subset of Chinese firms subject to WTO-inconsistent antidumping duties was attributed to the presence of those duties. As a rationale, the arbitrator pointed only to the large observed decline in market share following the imposition of the duties.

63.   Aware of this shortcoming of a standard Armington model, the United States suggested an alternative approach, called the "formula-based approach,"[57] for some of the products at issue in DS471, but the arbitrator in DS471 rejected the use of the formula-based approach.[58] Instead, the arbitrator applied a so-called "two-step Armington" approach despite concerns from both parties in DS471 (as well as both parties in DS464) regarding whether this new method has sufficient basis in economic theory.[59] Upon further examination of the two-step Armington

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[55] *See US – Anti-Dumping Measures (China) (Article 22.6 – US)*, para. 6.67.

[56] To be clear, this does not mean that the fact that a standard Armington model only seeks to capture trade effects of higher duties following the expiration of the RPT is an improper underestimation of the relevant trade effects. Any allegation of a "downward bias" in a standard Armington model should not conflate trade effects arising from higher duties between the imposition of the CVD measure and the expiration of the RPT – which is not subject to this proceeding – with effects following the expiration of the RPT.

[57] Where the formula-based approach was applied, the United States used available data to calculate a company's share of U.S. imports during the original period of investigation, and applied that share to total U.S. imports from China subject to the antidumping duty in 2017. This method almost certainly overstated the level of nullification or impairment.

[58] *US – Anti-Dumping Measures (China) (Article 22.6 – US)*, paras. 6.63–6.67.

[59] *US – Anti-Dumping Measures (China) (Article 22.6 – US)*, paras. 6.68–7.5.

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approach, the United States considers that the two-step approach may be an adequate method of estimating the level of nullification or impairment if modified with certain adjustments discussed below. Accordingly, the United States proposes that the Arbitrator use an adjusted two-step Armington approach in this Article 22.6 proceeding, as further discussed in section III.C.3 below.

        2.   **Absent the Adjustments Proposed by the United States, the Two-Step Approach Adopted in Previous Arbitrations is Not an Appropriate Model for Estimating the Level of Nullification or Impairment**

64.   Applied to the present case, the two-step approach followed by the arbitrator in DS471 would begin by calibrating a standard partial equilibrium Armington model using market share data from the year prior to the imposition of the CVD measure ("the year-prior") for three entities: China, U.S. domestic producers, and the rest of the world ("ROW").[60] In this type of model, market shares observed in the year-prior data, by assumption, capture relative competitiveness in the U.S. market <u>in that year</u>. In this case, the year-prior data would not reflect an accurate picture of China's underlying competitiveness. Rather, it would provide a picture distorted by subsidies and dumping.

65.   Using the year-prior data and calibrated parameters, the first step would be to model the trade effects of the WTO-inconsistent CVD rates. This is done by applying the Armington model to simulate the application of WTO-inconsistent CVD rates on the relevant Chinese firms. Results from this step include an estimate of market share for each entity after adjustment to the WTO-inconsistent duties, holding all other factors constant. For ease of comparison, we refer to these market shares as "counterfactual market shares", as China does in its methodology paper.[61] These counterfactual market shares are then ostensibly assumed to represent the relative competitiveness of each entity in 2017.

66.   In the second step, these model-generated counterfactual market shares are used to calibrate a new benchmark model. The shares are used to divide up the total value of the U.S. market in 2017, constructing an alternative 2017 market in which no factors other than CVDs on imports from China have altered relative competitiveness among producers during the five to ten years that the CVD measures had been in place. This constructed market, in which the only factor affecting competitiveness relative to the year-prior is CVDs, is assumed to be representative of the market in 2017. This new benchmark model is then used to simulate the effects of modifying CVD rates to be WTO-consistent in 2017, including estimating each entity's market share under the WTO-consistent rates. The level of nullification or impairment is the difference between the value of China's counterfactual market share as applied to the 2017 market and the predicted value after modifying duty rates in the second step.

67.   The DS471 arbitrator's adjustments to the standard Armington model had a laudable goal of adjusting the model's calibration so that the impact of large duties would not mask each entity's underlying competitiveness in 2017, and the estimate of the level of nullification or

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[60] The number of entities can be expanded as necessary, as in the five-entity model used in DS471.

[61] *See, e.g.*, China's Methodology Paper, para. 30.

impairment would be more accurate. However, these adjustments were applied uniformly, without regard for whether China's observed market share for particular subject merchandise was sufficiently large to be immune to the small shares problem of the standard Armington model or whether the drop in China's 2017 U.S. market share for subject merchandise may be explained by key factors other than trade remedy duties on China, *i.e.,* antidumping ("AD") measures in that case.

68.   The United States submits that the two-step Armington approach adopted by the arbitrator in DS471, without incorporating the adjustments the United States has implemented in our modeling approach as explained in the next section, falls short of adequately uncovering relative competitiveness that is representative of the realities of the 2017 market, and results in an inflated estimate of the level of nullification or impairment for the following reasons. First, the DS471 model relies on trade data that are from the year-prior to the imposition of the relevant duties and are thus inherently distorted by subsidies and dumping, the existence of which is not in dispute in this proceeding. Accordingly, a simulated 2017 market that fails to take into account such market distortions inevitably reflects an inappropriately high counterfactual market share for China. Moreover, because the appropriate counterfactual is the withdrawal of the WTO-inconsistent measures at the end of the RPT (and not the denial of the existence of the measures during the RPT), the DS471 model's failure to account for the relevant antidumping duties that applied to China during the RPT further inflates China's counterfactual market share. A more appropriate two-step approach would thus begin with a proper baseline of conditions relevant to the industry and incorporate both CVD and AD measures.

69.   Second, the DS471 model ignores other factors that have affected China's relative competitiveness during the interim period (*i.e.*, the period between the year-prior and 2017) – such as new market participants and increased capacity of countries other than China to supply the U.S. market – as it concentrates only on the CVD rates in the baseline year.[62] As a result, the counterfactual market shares from the first step of the two-step Armington approach fails to reflect with precision the relative competitiveness of each entity in 2017, with China's market share significantly overstated.

70.   The combined effect of these critical problems with the DS471 two-step approach is that the constructed 2017 market is fundamentally distorted and results in a significantly overstated estimate of the level of nullification or impairment. It is necessary to correct for these distortions because, as the arbitrators in *EC – Hormones (US) (Article 22.6 – EC)* and *EC – Hormones (Canada) (Article 22.6 – EC)* found, "we need to guard against claims of lost opportunities where the causal link with the inconsistent [measure] is less than apparent, i.e., where exports are

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[62] The DS471 arbitrator, in implementing the Armington model in two steps, explained that the intrinsic flaw in the standard Armington model that the two-step approach endeavors to remedy (*i.e.*, the "small shares" problem) is not a flaw to the extent that the "small market share is not caused by the … duties at issue." *US – Anti-Dumping Measures (China) (Article 22.6 – US)*, para. 6.65. Implicit in this explanation is that, to the extent other factors do contribute to the small observed market share in the remedy year, they should properly be incorporated into the model. Consistent with this reasoning, the U.S. approach properly corrects the two-step model by incorporating some of these factors.

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allegedly foregone not because of the [inconsistent measure] but due to other circumstances."[63] The following section describes how the DS471 two-step model should be adjusted to properly take account of circumstances other than the maintenance of the WTO-inconsistent U.S. CVD measures beyond the expiration of the RPT and limit the overstatement of the estimated level of nullification or impairment.

3. The Two-Step Approach Must Incorporate Certain Adjustments to Correct for Its Shortcomings

71.   As discussed above, the United States proposes using an adjusted version of the DS471 two-step model to partially correct the overestimation problem. We note that the U.S.-proposed adjustments to the two-step approach do not eliminate all distortions. It is not possible to quantify and adjust all existing problems with the DS471 two-step approach. However, the adjustments described below are critical to address the most important flaws of the two-step approach and remedy the gross overestimation of the level of nullification or impairment.

a. First Necessary Adjustment: Accounting for the Effect of Both Subsidies and Dumping on China's U.S. Market Shares

72.   The first adjustment accounts for the effect of both subsidies and dumping on China's U.S. market shares by simulating the effect of AD measures and the corresponding CVD measures in step one of the DS471 model (hereinafter referred to as the "CVD+AD model").[64] In addition to the subsidies that are the subject of this dispute, China's market share in the year-prior to the imposition of the CVDs is distorted by the fact that Chinese firms were also selling merchandise in the U.S. market at prices that were less than fair value, *i.e.*, dumping. Failing to account for dumping would generate counterfactual market shares that overstate China's underlying competitiveness. This can be seen in Figure 1, below, which contrasts the step one counterfactual market shares predicted by the CVD-only model (*i.e.*, the DS471 two-step approach without incorporating AD duties) versus the CVD+AD model in the markets covered by the CVDs on OCTG and Aluminum Extrusions. Estimates of the level of nullification or impairment based on these inflated step one counterfactual market shares would likewise be inflated.

Figure 1: 2017 Data versus Counterfactual Market Shares

[[***   ]]

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[63] *EC – Hormones (US) (Article 22.6 – EC)*, para. 41; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 40. *See also EC – Hormones (US) (Article 22.6 – EC)*, para. 77 (refusing to consider, as "too speculative," lost exports that would have resulted from foregone marketing campaigns).

[64] For each of the seven cases involved in DS471 (Aluminum Extrusions, Line Pipe, OCTG, Print Graphics, Seamless Pipe, Solar Panels, and Steel Cylinders), we have applied AD duty rates on imports from China under each of the rate categories defined in the relevant case.

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b. Second Necessary Adjustment: Accounting for Factors Other Than Trade Remedies that Influenced the Evolution of Market Shares in the Interim Period

73.   The second adjustment accounts for factors other than trade remedies that influenced the evolution of market shares by implementing a "supply shock" to selected competitor countries where there is evidence of disproportionately fast growth in market share driven by industry investment or government policy. The two-step approach used in China's methodology paper and by the arbitrator in DS471 implicitly assumes that the CVDs imposed on Chinese firms are the only factor contributing to the changes in market share between the year-prior and 2017. In its methodology paper, China effectively asserts that nullification or impairment should represent the effects of modifying CVD rates in a counterfactual market that is identical to the year-prior market in all respects (except for the value of apparent consumption in the United States). In this fabricated market, imports from China are not affected by the AD measures in place during the RPT, and all other producing countries' relative competitiveness is unchanged.[65]

74.   However, myriad other factors beyond duties on imports from China almost certainly influence the evolution of market shares over a period as long as almost ten years. Indeed, the simple fact that the United States took action against countervailable subsidies may have spurred changes in China and elsewhere that altered relative competitiveness beyond what is attributable to the price difference created by the duty on China's imports in 2017. Such changes likely contributed to the decline in imports from China that the arbitrator in DS471 incorrectly attributes entirely to a so-called trade depressive effect of duties.[66]

75.   The United States recalls that the objective of step one is to generate counterfactual market shares that represent each entity's relative competitiveness in 2017, *i.e.*, the year following the expiration of the RPT. The counterfactual market shares are then used to calibrate the model in step two, with which the level of nullification or impairment is calculated. Incorporating antidumping measures in step one serves to predict counterfactual market shares that better represent conditions faced by China in 2017. Likewise, changes during the period between the year-prior and the expiration of the RPT that asymmetrically boost China's competitors are important characteristics of the market in 2017. These changes should be reflected in the market shares used to calibrate the model with which the level of nullification or impairment is calculated.[67]

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[65] China's Methodology Paper, para. 31.

[66] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, paras. 6.65–6.67.

[67] Note that this is why the United States argued that a standard Armington model is more appropriate when observed market shares are sufficiently greater than zero such that there is enough information to characterize relative competitiveness.

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76.   In the context of the simple graphical depiction in China's methodology paper (emulated below), the industry investments and/or government policy support would correspond to an outward shift in the supply curve for certain non-subject countries, which we refer to as "Rising Suppliers." Figure 2 depicts the typical market as in Figure 1 of China's methodology paper.   In the below graph, Point A is the initial equilibrium. The outward shift in the Rising Supplier supply curve is depicted in the far right panel as the movement from S^1 to S^2. This shift causes the equilibrium to move from point A to point B, resulting in an increase in the quantity sold by the Rising Suppliers in the U.S. market and a lower price paid by U.S. consumers. This shift has a corresponding effect on other suppliers: the demand curve for Chinese exports and for U.S. and ROW products both shift inward. The Rising Suppliers thus expand their market share at the expense of all other suppliers.

Figure 2: Graphical Depiction of the Supply Shock on Select Third Country Exporters
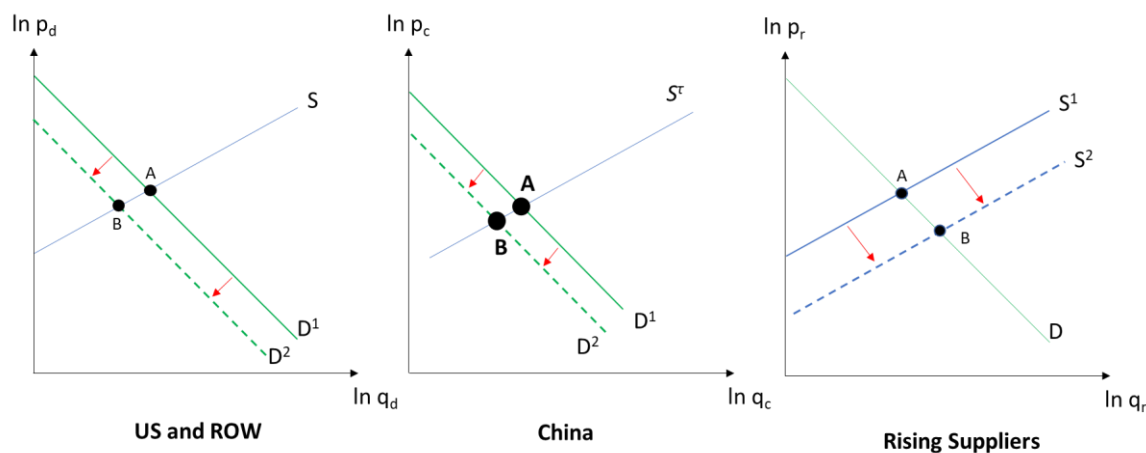
77.   As a concrete example, in the market covered by the Solar Panels AD and CVD measures, investments by producers in Korea, Malaysia, the Netherlands, Thailand, and Vietnam dramatically increased their overall competitiveness between 2012 and 2016.[68] In Figure 3, below, this is evidenced by the dramatic expansion of U.S. market share for these "Rising Suppliers" relative to the ROW aggregate.[69]

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[68] *See* U.S. International Trade Commission, Investigation No. TA-201-75, *Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products)*, Volume 1: Determination and Views of Commissioners, USITC Publication 4739 (Nov. 2017), p. 40 (Exhibit USA-22) ("Indeed, without closing any of their existing capacity in China, the six largest firms producing CSPV cells and CSPV modules in China increased their global capacity to produce CSPV cells […] between 2012 and 2016, with four of the six firms adding CSPV cell manufacturing capacity in one or more of the following five countries during that time: Korea, Malaysia, the Netherlands, Thailand and Vietnam.").

[69] The ROW aggregate is the total imports into the United States, less imports from China and the Rising Suppliers.

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Figure 3: U.S. Import Market Share 2011 vs. 2017

⎡ ⎡   **✳✳✳**   ⎤ ⎤

78.   As shown above in Figure 3, in 2011 (the year to which the step one model is calibrated), the Rising Suppliers' market share was approximately **[[***]]** that of ROW. In 2017 (the year the step one counterfactual market shares ostensibly represent), the Rising Suppliers' observed market share was **[[***]]** that of ROW. This suggests that the growth in the Rising Suppliers' ability to supply the U.S. market substantially outpaced the rest of the world. Because neither the approach proposed by China nor the approach used by the DS471 arbitrator takes this into account, their results necessarily overestimate China's relative competitiveness in the 2017 market and thus the level of nullification or impairment.

79.   Further, to illustrate the degree to which the two-step approach used by China and the DS471 arbitrator misrepresents the 2017 market, we implement the CVD-only and CVD+AD models with Rising Suppliers as an additional entity. Figure 4, below, contrasts the counterfactual market shares predicted by the CVD-only and CVD+AD models, with the actual 2017 market share data for the Solar Panels market. The CVD-only model vastly underestimates the increase in the Rising Suppliers' and ROW market shares because it assumes that the only change relative to 2011 is the modification of the CVD rate on imports from China from 15.24 percent to 14.62 percent. The counterfactual market shares in the CVD+AD model are slightly higher for both the Rising Suppliers and ROW, as it incorporates the 238.95 percent AD rate on imports from China subject to the PRC-wide rate and the **[[***]]** percent AD rate on other imports from China.[70] However, like the CVD-only model, the CVD+AD model does not capture the disproportionate increase in the Rising Suppliers' market share relative to ROW.

Figure 4: Actual 2017 Market Shares vs. Counterfactual Market Shares
under CVD-Only and CVD+AD Models

⎡ ⎡   **✳✳✳**   ⎤ ⎤

80.   The disproportionate increase in Rising Suppliers' market share is relevant to the measurement of the level of nullification or impairment in this dispute because the investments made in these countries explain a portion of the observed decline in China's market share between 2011 and 2017. This effect is distinct from that of increased relative prices for imports from China attributable to duties applied to remedy dumping and subsidies. Since these investments occurred prior to the expiration of the RPT, their effect on 2017 market shares should properly be represented in the model.

81.   Accordingly, the U.S. methodology incorporates the effect of improved capacity to supply the U.S. market by implementing a "supply shock" that amplifies the value of the

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[70] *See* Exhibit USA-74.

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parameter that describes their relative competitiveness. Shocking the model to reflect a change in market conditions in this manner is akin to the common practice of updating the base year in large, multi-sector trade models. For example, to account for the above-described investments by producers in South Korea, Malaysia, the Netherlands, Thailand, and Vietnam in the Solar Panels market, we introduce imports from these countries as a new "Rising Suppliers" variety in the model. We then calibrate the model to the year-prior data (2011 for Solar Panels) and implement the CVD+AD approach, applying AD duties and CVDs to imports from China in step one. The step one model is completed by introducing the supply shock to the parameter that describes changes in the Rising Suppliers' relative competitiveness.[71] The magnitude of the shock is calibrated to equate the ratio of the step one counterfactual market shares of the Rising Suppliers and ROW to the ratio of their market shares observed in the 2017 data. That is, we calibrate the model to replicate the observed 2017 market shares of the Rising Suppliers relative to ROW.

82.   Figure 5, below, adds the counterfactual market shares generated by the model adjusted for both CVD+AD and supply shock, to the results presented in Figure 4. We note that the ranking of market shares across varieties predicted by this model, which integrates both the CVD+AD and supply shock adjustments, is the same as the ranking observed in the actual 2017 market data. This demonstrates that the U.S. methodology captures the significant increase in the market share of the Rising Suppliers, unlike the two-step approach used in China's methodology paper and by the DS471 arbitrator. This is critical to an accurate measure of the level of nullification or impairment because it more accurately reflects China's relative competitiveness in 2017. Because the relative magnitude of the step one counterfactual market shares is a key determinant of the predicted trade effects of the CVD rates at issue, overestimating China's relative competitiveness in 2017 inappropriately inflates the level of nullification or impairment.

Figure 5: Actual 2017 Market Shares vs. Counterfactual Market Shares
under CVD-Only, CVD+AD, and CVD+AD plus Supply Shock Models

⌈ ⌈   ***   ⌉ ⌉

83.   We implement a supply shock adjustment with respect to three CVD measures for which there are (1) documented evidence of industry investment or government policy linked to specific countries' increased market share between the imposition of the order and 2017, and (2) sufficient information to separate imports from rising suppliers from the ROW aggregate. These three CVD measures are Solar Panels, Aluminum Extrusions, and OCTG.

84.   In its 2017 sunset review of the CVD measures on Aluminum Extrusions, the United States International Trade Commission ("USITC") noted an "emerging aluminum extrusions

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[71] This is the supply shift parameter, denoted ψ in section III.C.4.

industry" in Vietnam.[72] We observe that Vietnam's share of the ROW aggregate market share rose from 0.01 percent in 2010 to 7.15 percent in 2017.[73] We therefore disaggregate imports from Vietnam from ROW and apply a supply shock such that the counterfactual ratio of Vietnam's U.S. market share to ROW less Vietnam is equal to the ratio observed in the data.

85.   The 2014 sunset review of the CVD measures on OCTG describes petitions from the U.S. domestic industry in 2013, which spurred investigations into subsidies and dumping by nine countries (India, Korea, the Philippines, Saudi Arabia, Taiwan, Thailand, Turkey, Ukraine, and Vietnam) following a surge of imports.[74] Regardless of whether the increased imports were ultimately determined to be supported by government policy or were simply the result of industry investment, these countries' ability to supply the U.S. market increased in the period between the imposition of CVDs on OCTG in 2009 and the expiration of the RPT in 2017. As such, we define India, Korea, the Philippines, Saudi Arabia, Taiwan, Thailand, Turkey, Ukraine, and Vietnam as Rising Suppliers in the OCTG market and apply a supply shock to equate the counterfactual and observed market share ratio between these Rising Suppliers and the ROW aggregate. Exhibit USA-43 provides further details of the application of the supply shock adjustment.

4.   Technical Discussion of the U.S. Proposed Two-Step Armington-Based Approach

86.   In this section, the United States will generally follow the notations in China's methodology paper, for the convenience of the Arbitrator. However, we present our model with prices (p_i) defined as market prices paid by buyers, not prices received by sellers. This is consistent with the DS471 arbitrator's approach.[75]

87.   We begin by denoting total U.S. expenditures on a given product as V and expressing it as the product of quantity A and a price index P such that $V = PA$. A represents a Constant-Elasticity-of-Substitution ("CES") composite of the domestic variety and a set F of foreign

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[72] U.S. International Trade Commission, Investigation Nos. 701-TA-475 and 731-TA-1177 (Review), *Certain Aluminum Extrusions from China*, USITC Publication 4677 (Mar. 2017), p. IV-11 (Exhibit CHN-37).

[73] *See* Exhibit USA-43.

[74] U.S. International Trade Commission, Investigation Nos. 701-TA-499-500 and 731-TA-1215-1217 (Final), *Certain Oil Country Tubular Goods from India, Korea, the Philippines, Taiwan, Thailand, Turkey, Ukraine, and Vietnam*, USITC Publication 4489 (Sep. 2014), pp. 1, 21 (Exhibit CHN-24).

[75] The U.S. model will produce the same results as the model proposed by China's methodology paper, notwithstanding China's alteration of the DS471 arbitrator's definition of nullification or impairment. In a competitive market, the distribution of the economic burden of a tariff is determined by the elasticity of supply and the elasticity of demand, not the statutory incidence of the tariff. Therefore, so long as the model is properly derived and parameterized, an Armington CES model will generate the same result if tariffs are explicitly included in the demand or supply equations. *See* E. Hutchinson, *Principles of Microeconomics* (2017), p. 219, available at https://pressbooks.bccampus.ca/uvicecon103/chapter/4-6-taxes (Exhibit USA-31).

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varieties, which is consistent with the approach in the original Armington paper.[76] P represents a price index over domestic and foreign varieties. Demand for A takes the form:

$$A = \phi P^{\theta} \tag{1}$$

where ϕ is a demand shifter, $\theta < 0$ is the elasticity of demand, and P is the Armington CES price index.

88.   At this point, our model departs from the model in China's methodology paper, and instead follows the approach used by the arbitrator in DS471 by assuming a constant elasticity of substitution between all varieties. As explained in detail in section III.C.5.a, below, there is no evidence that the elasticity of substitution across imported varieties differs from the elasticity of substitution between domestic and imported varieties for the products at issue in this case. A nested model is therefore inappropriate. The price index, as a result, is as follows:

$$P = \left(\alpha_d^{\sigma} p_d^{(1-\sigma)} + \alpha_f^{\sigma} p_f^{(1-\sigma)}\right)^{1/(1-\sigma)} \tag{2}$$

where α_d and α_f, $f \in F$ are CES weights defined as in DS471, p_d is the market price of the domestic variety, p_f is the market price (*i.e.*, gross of duty price) of imported varieties, and σ is the constant elasticity of substitution between all varieties.[77]

89.   We follow the arbitrator in DS471 by defining conditional domestic and import demand functions as follows:[78]

$$X_d = \alpha_d^{\sigma} A \left(\frac{P}{p_d}\right)^{\sigma}, \text{ and} \tag{3}$$

$$X_f = \alpha_f^{\sigma} A \left(\frac{P}{p_f}\right)^{\sigma} \tag{4}$$

where X_d and X_f are the quantity demanded of domestic and foreign varieties, respectively.

90.   As in China's methodology paper and in the DS471 decision, we assume constant elasticity supply functions. Market clearing thus implies:

$$X_d = \psi_d (p_d)^{\epsilon_d}, \text{ and} \tag{5}$$

$$X_f = \psi_f \left(\frac{p_f}{(1+\tau_f)}\right)^{\epsilon_f}; \tag{6}$$

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[76] Armington, P.S. 1969. "A Theory of Demand for Products Distinguished by Place of Production." Staff Papers (International Monetary Fund), 16(1): 159–178 (Exhibit CHN-59).

[77] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 6.41.

[78] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 6.41.

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where τ_f is the *ad valorem* duty rate applied to imported variety f, $\epsilon_j > 0$ are supply elasticities and ψ_j are supply shifters, $j = d, f \in F$.

91.   Equations (1)–(6), above, characterize equilibrium. We follow the convention in China's methodology paper and use "hat" ($\widehat{}$) to denote counterfactual values.

92.   The U.S. model components, including data, parameters, and model predictions are summarized in Table 1, below. Key variables that are calculated from model results are summarized in Table 2, below. The United States notes that market shares sum to one: ($\omega^d + \sum_f \omega^f = 1$).

<p align="center">Table 1 – U.S. Two-Step Armington-Based Approach Summary</p>

Economic data (inputs)	V^d and V^f, $f \in F$
Elasticities	θ, σ, ϵ_d, and ϵ_f, $f \in F$
WTO-Inconsistent CVD Rate, Counterfactual WTO-Consistent CVD Rate, and Applied AD Rate	τ_f^{incons}, τ_f^{cons}, τ_f^{AD}
Parameters calibrated such that the known equilibrium (using the benchmark data) is a solution to the equation system (1)-(6)	ϕ, α_d^σ, ψ_d, and α_f^σ, ψ_f, $f \in F$
Supply shock	π_f
Output, Results (from the counterfactual analysis)	$\widehat{P}$, $\widehat{A}$, $\widehat{X}_d$, $\widehat{p}_d$, and $\widehat{X}_f$, $\widehat{p}_f$, $f \in F$

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Table 2 – Additional Variables Defined by the U.S. Two-Step Approach

Description:	Derived Data	Calculation
Total Size of the Market ($)	$\widehat{V}^{Total}$	$= \hat{P}\hat{A}$
Value of Domestic Shipments ($)	$\widehat{V}^d$	$= \hat{p}_d \hat{X}_d$
Value of Imports from Region f ($)	$\widehat{V}^f$	$= (1 + \tau_f)\hat{p}_f \hat{X}_f$
Domestic Market Share	$\widehat{\omega}^d$	$= \dfrac{\hat{p}_d \hat{X}_d}{\hat{P}\hat{A}}$
Region f Imports Market Share	$\widehat{\omega}^f$	$= \dfrac{(1+\tau_f)\hat{p}_f \hat{X}_f}{\hat{P}\hat{A}}$

a. Calibration under the Two-Step Approach

i. Step One

93.   To implement the first step, we use the following information:

- values of U.S. domestic shipments, imports from China, and imports from the rest of the world in the year prior to the CVD measure;[79]

- share of imports from China that are covered by different AD rates in the year-prior;[80]

- share of imports from the Rising Suppliers in the year-prior and 2017;[81]

- WTO-inconsistent CVD rates and AD rates for each product;[82] and

- elasticity parameters.[83]

94.   Shift parameter values α_d, α_f, ϕ, ψ_d, and ψ_f are calibrated to equate the model's equilibrium solution (*i.e.*, the <u>benchmark</u> equilibrium) with observed data in the year-prior. As in China's methodology paper, we denote the year-prior as t_0.

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[79] *See* Exhibit USA-44, columns 4-6.

[80] Applies only to products covered by DS471. *See* Exhibit USA-49, columns 2-4.

[81] *See* Exhibit USA-43.

[82] *See* Exhibit USA-50.

[83] *See* Exhibit USA-46.

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95.   Following the DS471 arbitrator's approach, we have chosen physical units such that modelled prices are 1 at the year-prior benchmark. Table 3, below, defines the year-prior equilibrium.

<div align="center">Table 3 – Step-One (Year-Prior) Benchmark Equilibrium</div>

$$A = V_{t_0}^{Total}, \qquad X_d = V_{t_0}^{d}, \qquad X_f = V_{t_0}^{f}, f \in F$$

$$P = 1, \qquad p_d = 1, \qquad p_f = 1, f \in F$$

96.   Table 4 defines the calibration of the demand and supply shift parameters consistent with the solution in the benchmark in which no duties were applied (*i.e.*, $\tau_f = 0$) following the Stata program code used by the arbitrator in DS471.

<div align="center">Table 4 – Step-One (Year-Prior) Calibration</div>

$$\alpha_f^{\sigma} = \left(V_{t_0}^{f}/V_{t_0}^{Total}\right), \qquad \psi_f = V_{t_0}^{f},$$

$$\alpha_d^{\sigma} = \left(V_{t_0}^{d}/V_{t_0}^{Total}\right) \qquad \psi_d = V_{t_0}^{d},$$

$$\phi = V_{t_0}^{Total}$$

97.   We use this benchmark model calibrated to year-prior data to simulate counterfactual market shares representing the 2017 market.

98.   The U.S. model may require up to five foreign varieties. The set F of foreign varieties included as appropriate in the model for each product is presented in Table 5, below.

<div align="center">Table 5 – Foreign Varieties Used in U.S. Model</div>

Variety Definition	Denoted As
Imports from China with AD rates calculated using the weighted average-to-transaction ("WA-T") methodology (as in DS471)	wat
Imports from China with PRC-wide AD rate (as in DS471)	prc
Other imports from China (as in DS471)	roc

Imports from the Rising Suppliers	rs
All other imports	row

99.   To complete step one, we first simulate the imposition of duties in the amount of the sum of the WTO-inconsistent CVD rates and corresponding AD rates on imports from China. For the seven products that were at issue in DS471, AD rates differ across the three varieties of imports from China (wat, prc, roc) in accordance with the AD rates used in DS471. For the three products that were not at issue in DS471 but are at issue in this proceeding (Kitchen Shelving, Pressure Pipe, and Wire Strand), AD rates are constant across varieties. CVD rates are constant across varieties for all ten products.

100.   In the same step, we apply a supply shock to the Rising Suppliers variety. As explained above in section III.C.3.b, the purpose of this shock is to incorporate changes in the Rising Suppliers' ability to supply the U.S. market, as documented in USITC reports, attributable to increased industry investment or domestic policies such as subsidies.[84] As suggested by Dixon, et al. (2017),[85] the supply shock is applied through a historical simulation: we observe changes in the Rising Suppliers' relative competitiveness as a change in the ratio of ω_{rs}/ω_{row} between the year-prior and 2017. To incorporate this into the model, we introduce an exogenous shock to the supply shift parameter ψ_{rs}, the magnitude of which is calibrated such that the ratio of market shares predicted by the step one model is equal to the observed ratio in 2017, that is:

$$\frac{\widehat{\omega}_{rs}}{\widehat{\omega}_{row}} = \frac{\omega_{rs}^{2017}}{\omega_{row}^{2017}} \tag{7}$$

where $\widehat{\omega}_f$ is the market share of variety f predicted by the step one model and ω_f^{2017} is the observed market share of variety f in 2017. The supply function for the Rising Suppliers in step one can thus be written as follows:

$$X_{rs} = \pi_{rs}\psi_{rs}(p_{rs})^{\epsilon_{rs}} \tag{8}$$

where π_{rs} represents the supply shock. For simplicity and clarity, we treat this shock like a subsidy (or negative tariff rate) on imports from the Rising Suppliers, for the purpose of applying it to the computer code. This is without loss of generality with respect to the mathematical representation of the shock.

101.   With these adjustments, step one of the two-step approach results in counterfactual market shares that better account for key characteristics of the 2017 market: *i.e.*, a market in which both AD duties and CVDs are applied to imports from China, and industry investment and domestic policies in third countries have increased their relative competitiveness in the U.S. market relative to the year-prior.

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[84] *See* Exhibit USA-43, column 3.

[85] P. Dixon, et al., "Updating USAGE: Baseline and Illustrative Application," (Exhibit USA-32).

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ii.   Step Two

102.   The United States agrees with China that 2017 is an appropriate baseline year, which is denoted as t_1. To carry out step two, a new benchmark model is defined, which uses the following information:

- total value of the U.S. market in 2017, $V_{t_1}^{Total}$;[86]

- WTO-inconsistent CVD rates, counterfactual WTO-consistent CVD rates, and AD rates for each product;[87]

- elasticity parameters;[88] and

- counterfactual 2017 market shares produced in step one: $\widehat{\omega}_{t_0}^d$, and $\widehat{\omega}_{t_0}^f, f \in F$.[89]

103.   To set up the new benchmark model, we normalize prices gross of tariff revenue as shown in Table 6, below, which follows the approach of the DS471 arbitrator. We then recalibrate demand and supply shift parameters as shown in Table 7, below.

<u>Table 6 – Step-Two (2017) Benchmark Equilibrium</u>

$A = V_{t_1}^{Total}$,	$X_d = \widehat{\omega}_{t_0}^d V_{t_1}^{Total}$,	$X_f = \widehat{\omega}_{t_0}^f V_{t_1}^{Total}, f \in F$
$P = 1$,	$p_d = 1$,	$p_f = 1, f \in F$

<u>Table 7 – Step-Two (2017) Calibration</u>

$\alpha_f^\sigma = \widehat{\omega}_{t_0}^f$,	$\psi_f = \widehat{\omega}_{t_0}^f V_{t_1}^{Total} \left(1 + \tau_f^{t_0}\right)^{\epsilon_f}$,
$\alpha_d^\sigma = \widehat{\omega}_{t_0}^d$,	$\psi_d = \widehat{\omega}_{t_0}^d V_{t_1}^{Total}$,
$\phi = V_{t_1}^{Total}$	

104.   Next, we use the step two benchmark model to evaluate the effect of reducing the WTO-inconsistent CVD rates to counterfactual WTO-consistent CVD rates. The total duties applied

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[86] *See* Exhibit USA-45, column 2.

[87] *See* Exhibits USA-50 and USA-51.

[88] *See* Exhibit USA-46.

[89] *See* Exhibit USA-48.

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thus fall from $\tau_f^{t_0} = \tau_f^{incons} + \tau_f^{AD}$ to $\tau_f^{t_1} = \tau_f^{cons} + \tau_f^{AD}$. Lower duties on imports from China increases its market share, while market shares of all other varieties decline.

b.   Nullification or Impairment Calculation

105.   Using the calibrated parameters, we apply the method used in the Stata program code used by the arbitrator in DS471 to estimate the level of nullification or impairment by calculating "the difference between the 2017 value of US imports from China, simulated under the first step, and the counterfactual value of US imports from China, simulated under the second step."[90] The calculation can be algebraically represented as follows:

$$N/I \equiv \left(\widehat{\omega}_{t_1}^{wat} + \widehat{\omega}_{t_1}^{prc} + \widehat{\omega}_{t_1}^{roc}\right)\widehat{V}_{t_1}^{Total} - \left(\widehat{\omega}_{t_0}^{wat} + \widehat{\omega}_{t_0}^{prc} + \widehat{\omega}_{t_0}^{roc}\right)\widehat{V}_{t_1}^{Total}.$$

The first term is the value of 2017 imports from China predicted by the step two benchmark model under the counterfactual WTO-consistent CVD duties. The second term (that is being subtracted from the first term) is the value of 2017 imports from China based on the counterfactual market shares.

5.   China's Proposed Changes to the Two-Step Approach Lack Support and Would Distort the Results of the Estimation of the Level of Nullification or Impairment

106.   China's methodology paper proposes two purported "advancements" to the two-step approach used by the DS471 arbitrator. First, China allows the elasticity of substitution to vary by source, adopting the so-called "rule of two."[91] Second, China purportedly discovered and fixed a "critical programming error in the DS471 computer code."[92] Far from improving the model, China's attempted changes are baseless and distort the results of the estimation of the level of nullification or impairment. These changes should not be incorporated into the model in this proceeding.

a.   Rule of Two

107.   China argues that the Armington model in this case should incorporate a nested demand structure with higher rates of substitution across import varieties than between imported and domestic goods, contending that certain economics literature "indicates that nesting is an important consideration."[93]

108.   China proposes to incorporate this "consideration" by applying the so-called "rule of two," in which the elasticity of substitution across imported varieties (hereinafter, the "micro-elasticity") is assumed to be two-times the elasticity of substitution between imported and

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[90] *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 6.72.

[91] *See*, *e.g.*, China's Methodology Paper, paras. 8, 84.

[92] *See*, *e.g.*, China's Methodology Paper, para. 9.

[93] China's Methodology Paper, para. 89.

domestic goods (hereinafter, the "macro-elasticity"). The result of this purported "adjustment" is a significantly higher estimation of the level of nullification or impairment. However, China has not presented persuasive evidence in support of the rule of two. Oddly, China defends the assumption of the rule of two by referencing recent research that finds estimated sector-level macro-elasticities that are significantly lower than estimated product-level micro-elasticities for <u>only</u> "between one-quarter and one-third of the [sample] goods."[94] This research, in fact, refers to the rule of two as "an *ad hoc* assumption" employed by "some researchers."[95]

109. China suggests that because the rule of two is commonly employed in multisector computable general equilibrium ("CGE") analysis, it should be acceptable to use it in the single-product, partial equilibrium ("PE") analyses here. First of all, that a rule of thumb is widely used is no substitute for evidentiary support. Moreover, contrary to China's assertion, although the USITC has employed the rule of two in multisector CGE modeling, the lack of empirical support demonstrated in the paper cited by China has, in fact, led the USITC to abandon the rule of two in its recent CGE analysis of the impact of the U.S.-Mexico-Canada Agreement:[96]

> The Commission further modified the GTAP model by adopting a structure in which the substitutability between domestic and imported goods for a particular sector is equal to the substitutability between different import sources. This approach is common in recent models of trade, such as the Eaton and Kortum model ("Technology, Geography, and Trade," 2002), and supported by recent work by Feenstra et al. ("In Search of the Armington Elasticity," 2018). The latter study suggests that for between two-thirds and three-quarters of sample goods, there is no significant difference between the estimates of the upper-level elasticity of substitution (substitution between imports and domestic goods) and lower-level elasticities of substitution (substitution between imports from different sources). That is, the substitution between domestic and foreign products is not significantly different than the substitution between alternative foreign products.

110. That the rule of two appears to be increasingly disfavored even in multisector CGE modeling further confirms that the rule of two is not an appropriate simplifying assumption for a single-product PE model. There is no evidence that it is reasonable to assume the micro-elasticity is close to double for the products under examination in this proceeding. Absent any evidence in favor of the nested approach, and given that the Arbitrator has before it elasticity estimates that are tailored to the specific products at issue in this proceeding, a constant elasticity

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[94] R. Feenstra, P, Luck, M. Obstfeld, and K. Russ, "In Search of the Armington Elasticity," *The Review of Economics and* Statistics 100:1 (2018), p. 147 (Exhibit CHN-63).

[95] R. Feenstra, P, Luck, M. Obstfeld, and K. Russ, p. 146 (Exhibit CHN-63).

[96] U.S. International Trade Commission, *U.S.-Mexico-Canada Trade Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors*, TPA 105-003, No. 4889 (April 2019), p. 59 (Exhibit USA-30).

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of substitution assumption is more appropriate.[97] This is standard practice in partial equilibrium modeling, and has been used in previous arbitrations, including the most recent arbitration involving the United States and China (DS471).

111.   Finally, if China insists on relying on the rule of two, then China <u>must</u> provide evidence, first, that micro- and macro-elasticities differ for the products subject to the orders at issue in this proceeding, and, second, that the rule of two is a reasonable assumption about their relative magnitudes. China has not even attempted to substantiate its argument for the rule of two with evidence.

b.   Alleged Programming Error

112.   In addition to changing the model to apply an incorrect assumption regarding the elasticity of substitution, China further alleges that there is a "serious computer coding mistake" in the programming code used in the two-step model in DS471, and asserts that its revision of the code corrects this purported mistake.[98] China's characterization is misleading because it is based on China's own subjective interpretation of the DS471 arbitrator's intent, and the so-called correction would generate incorrect results by changing the DS471 arbitrator's definition of nullification or impairment and the nature of what is being modeled.

113.   The computer code used in DS471 is consistent with the definition of nullification or impairment in that proceeding, which is also applicable to this proceeding. As discussed above in section III.A, and as the DS471 arbitrator found, the estimated level of nullification or impairment in a two-step Armington model is properly obtained by calculating the difference between the simulated value of 2017 U.S. imports from China under the WTO-inconsistent CVD rates and the simulated value of 2017 U.S. imports from China under the modified, counterfactual WTO-consistent CVD rates.[99]

114.   This can be written algebraically following the DS471 arbitrator's computer code as follows:

$$NI_{WTO} = p_{CHN_2} q_{CHN_2} - p_{CHN_1} q_{CHN_1}$$

where p_{CHN_1} and q_{CHN_2} refer to the simulated prices and quantities for imports from China under the WTO-inconsistent CVD rates and p_{CHN_2} and q_{CHN_2} refer to the simulated prices and quantities for imports from China under the counterfactual WTO-consistent CVD rates. For the price parameters, the computer code in DS471 applies the market prices (*i.e.*, the prices paid by buyers) including duties.

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[97] The United States has provided more detailed technical explanations on problems with China's proposed application of the rule of two in Exhibit USA-33.

[98] China's Methodology Paper, para. 26.

[99] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 6.72.

115.   China's attempt to tamper with the code, however, would change the price parameters and further inflate the level of nullification or impairment by hundreds of millions of dollars, as demonstrated by China. Such a change effectively values nullification or impairment in terms of prices *net of duties*. This change, therefore, would not be a "correction" of an "inadvertent" technical mistake, as China put it, but would effectively introduce a substantive change to the definition of nullification or impairment used in DS471, which is fundamental to this proceeding. The United States submits that the programming code used in DS471 reflects a deliberate choice by the arbitrator in that proceeding to define nullification or impairment, and the Arbitrator here should make the same choice. Barring any valid evidence, which China has not provided, the programming code should not be revised as proposed by China.

D.   Correct Data Inputs that Would Be Used in Applying an Adjusted Two-Step Armington-Based Approach

116.   The United States and China generally agree on the input variables necessary to apply a two-step Armington approach in this proceeding. However, the United States and China disagree on many of the specific data for each of these input variables. As discussed above, the United States also disagrees with China's speculative use of the so-called "rule of two" and assumption of a nested substitution elasticity approach.

117.   Furthermore, the United States has made two adjustments to the model adopted by the DS471 arbitrator: (i) incorporating the antidumping duties associated with each of the products, and (ii) taking into account other factors that occurred during the interim period (*i.e.*, between the year the measure was imposed on the particular product and 2017), which affected U.S. imports from China but which are not associated with the AD or CVD.

118.   The following subsections discuss the sources of the data inputs used in the calculation of the level of nullification or impairment under this adjusted two-step Armington approach, the differences between the data inputs used by the United States and China, and the additional data elements necessary to adjust the two-step model to make it more accurate.

119.   For background, the data necessary to apply the basic two-step Armington model, as applied by the arbitrators in DS471 and DS464, include the following:

U.S. apparent consumption:

- domestic shipments of domestic producers;

- trade value of subject imports from China;

- trade value of subject imports from ROW;

U.S. elasticity parameters:

- supply elasticity for domestic producers;

- supply elasticity for subject imports from China;

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- elasticity of substitution within the industry between domestic and foreign products;

change in duty rates on subject imports:

- WTO-inconsistent CVD rates;

- counterfactual WTO-consistent CVD rates.

120.   With respect to the seven products for which AD measures were at issue in the DS471 arbitration proceeding, we have generally used the data that the arbitrator in DS471 chose to use to estimate the trade effect attributable to the WTO-inconsistent AD rates on those seven products. One exception to this approach is that we have made a downward adjustment to U.S. imports from the rest of the world for two of the products, as explained below in section III.D.2.c.

121.   For the three products that were not at issue in DS471,[100] we have estimated the relevant information by using techniques that are similar to those used by the DS471 arbitrator. We have also similarly adjusted U.S. imports from the rest of world in 2017 for two of the products.

1.   Data Needed for Step One of the U.S. Two-Step Armington Approach

122.   The United States agrees with China on three types of data required for the first step of the two-step Armington-based approach: (i) U.S. apparent consumption data for the year prior to the imposition of the relevant CVD measure (the sales of the U.S. domestic producers, U.S. imports of the subject product from China, and U.S. imports of the subject product from the rest of the world); (ii) elasticity parameters; and (iii) the WTO-inconsistent CVD rates.[101] As discussed below, however, China has erred in compiling certain data inputs within those sets of data. In sections III.D.1.a, III.D.1.b, and III.D.1.c, below, the United States explains China's errors and provides corrected data inputs.

123.   As demonstrated above in section III.C.3, the DS471 arbitrator's two-step approach overstates the level of nullification or impairment because it does not take into account the fact that China's year-prior market share includes the effects of both dumping and subsidies. Furthermore, the DS471 arbitrator's approach fails to recognize the fact that events between the year-prior and 2017 (other than trade remedies) also may have contributed to the decline of China's competitiveness in the U.S. market. In particular, developments in other competing countries that increased their competitiveness relative to China drove, in part, the decline in China's market share in the interim period. Accordingly, the United States proposes two adjustments to the DS471 two-step approach that would address these flaws and prevent a significant overestimation of the level of nullification or impairment that would result from overstating China's actual market competitiveness: (i) incorporating AD rates, and (ii) a supply

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[100] Because the CVD order on Lawn Groomers was revoked before the expiration of the RPT, there are, in actuality, a total of ten CVD measures at issue in this arbitration proceeding.

[101] China's Methodology Paper, para. 91.

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shock in the interim period. In sections III.D.1.d, III.D.1.e, and III.D.1.f, below, the United States discusses the data required to implement these two necessary adjustments to the model.

a. Year-Prior Shipments: U.S. Domestic Shipments, Imports from China, and Imports from the Rest of the World

124. As described in Exhibit USA-44, the United States has used the same shipment data that was used in DS471 for seven products that were also at issue in the DS471 arbitration. Shipment data for the other three products at issue in this proceeding (but which were not at issue in DS471) also are reported in Exhibit USA-44.

125. With respect to seven of the 10 products,[102] the data that the United States is providing differ from the data that China provided for a number of reasons. First, with respect to three of these products (OCTG, Line Pipe, and Pressure Pipe), China incorrectly identified the relevant year-prior, thereby basing its analysis on incorrect sales data. For each of these three products (as well as the remaining seven products), the United States has identified the year-prior as the full calendar year prior to the final determination by the USITC and the imposition of the relevant CVD order. With respect to two of these three products that were at issue in DS471 (OCTG and Line Pipe), the United States has used the same year-prior that was used in DS471, whereas China used the year before the correct year-prior. With respect to Pressure Pipe, which was not at issue in DS471, the United States has used the same process that was used in DS471, and has identified the year-prior based on the timing of the final determination for this product. China, on the other hand, again selected the year before the year-prior to the final determination. China has not explained why it departed from the method of identifying the year-prior that was used previously with respect to OCTG, Line Pipe, and Pressure Pipe. The years identified by the United States, consistent with the approach taken in DS471, are the correct year-prior years to use for the adjusted two-step Armington model.

126. Second, for three products (Print Graphics, Steel Cylinders, and Solar Panels), the United States reported the same data that was used by the arbitrator in DS471, whereas China reported different data. China has not explained why it would be appropriate to rely in this proceeding on data that are different from the data upon which the arbitrator in DS471 relied.[103] The United States considers it appropriate to use the same data for the purpose of this proceeding.

127. Lastly, with respect to one product (Kitchen Shelving), the data that the United States is providing differs from data China has provided due to different sources and analysis. The sources and analytical method chosen by the United States are superior to those chosen by China

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[102] Pressure Pipe, Line Pipe, Kitchen Shelving, OCTG, Print Graphics, Steel Cylinders, and Solar Panels.

[103] For Print Graphics, China appears to have used a definition of subject merchandise that is different from that used by the DS471 arbitrator: China reported U.S. domestic shipments for "certain coated paper (all integrated producers)", while the DS471 arbitrator based its decision on U.S. domestic shipments for "certain coated paper other than coated packaging paperboard." For Steel Cylinders, the DS471 arbitrator and China both used information from a TriMas 10K filing but appears to have applied different assumptions, and also relied on different additional data sources. For Solar Panels, the DS471 arbitrator and China both cited the same USITC report but provided different U.S. domestic shipment values.

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because the data used by the United States estimate, to the extent possible, the actual values of U.S. domestic shipments and imports for subject merchandise within the scope of the CVD measure. On the contrary, China used import values based on HTSUS categories that the USITC has reported to be "basket categories" containing a number of products outside of the scope of the relevant CVD measure.[104] The more precise data that the United States has used, which are derived based on adjustments to the information in the original USITC publication, are described in detail in Exhibit USA-61.

b. Elasticity Parameters

128. The two-step model requires the following elasticity estimates: U.S. demand elasticity for the subject products; U.S. supply elasticity for the subject products; U.S. import supply elasticity from China; U.S. import supply elasticity from the ROW; and elasticity of substitution between the domestic and foreign product.

129. With respect to the U.S. demand and supply elasticities, both China and the United States propose using the elasticities reported in the USITC investigation reports for the 10 products. These elasticities are estimated for the specific product under investigation and have been reviewed by all parties subject to the investigation (U.S. petitioner companies, U.S. importers of the subject product from China, and Chinese respondents). The arbitrator in DS471 also determined that the USITC estimated elasticities were appropriate and used these elasticities in the calculation of the level of nullification or impairment in those arbitrations.[105] The range and midpoint for each of these elasticity estimates for each of the 10 products are listed in Exhibit USA-46. The United States agrees with China's proposal to use the midpoint of the elasticity ranges. The arbitrator in DS471 did the same.[106]

130. For three of the products (OCTG, Aluminum Extrusions, and Solar Panels), the United States and China propose different elasticity estimates because they rely on different USITC investigation reports. For OCTG, China used the original USITC report as the source of the U.S. demand elasticity of -0.25 to -0.75.[107] The United States has used information from the more

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[104] *See* U.S. International Trade Commission, *Certain Kitchen Appliance Shelving and Racks from the People's Republic of China*, Final Determination, USITC Publication No. 4098 (Aug. 2009), p. I-6 (Exhibit CHN-19) ("Certain KASAR [*i.e.*, kitchen appliance shelving and racks] is classifiable in the Harmonized Tariff Schedule of the United States ('HTSUS') under subheadings 7321.90.50, 7321.90.60, 8418.99.80, and 8516.90.80, and reported for statistical purposes under 7321.90.5000, 7321.90.6090, 8418.99.8050, 8418.99.8060, and 8516.90.8000. All of these statistical reporting numbers are residual or 'basket' categories and contain a number of other products besides certain KASAR.").

[105] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.36; *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.97–3.98.

[106] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.36; *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.97–3.98.

[107] *See* China's Methodology Paper, paras. 96, 99. *See also* U.S. International Trade Commission, Investigation No. 701-TA-463 (Final), *Certain Oil Country Tubular Goods from China,* USITC Publication 4124 (Jan. 2010), p. 22 (Exhibit CHN-23).

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recent USITC report for the U.S. demand elasticity of -0.75 to -1.0.[108] The arbitrator in DS471 used this more recent elasticity estimate as well.[109]

131.   For Aluminum Extrusions, China used the original USITC report as the source of the U.S. domestic supply elasticity of 4 to 6.[110] The United States has used information from the more recent USITC report for the U.S. domestic supply elasticity of 3 to 5.[111] The arbitrator in DS471 used this more recent elasticity estimate as well.[112]

132.   For Solar Panels, China used the original USITC report as the source of the U.S. domestic supply elasticity of 5 to 7.[113] The United States has used information from the more recent USITC report for the U.S. domestic supply elasticity of 4 to 7.[114]

133.   With respect to the elasticity of substitution between the domestic and foreign product, China proposes to use a separate elasticity of substitution between subject product from China and that from ROW by applying the "rule of two," which, as demonstrated in section III.C.5.a, lacks any basis in established economic theory. Taking China's approach would double the substitution elasticity estimates reported in the USITC investigation reports, which would significantly overstate the level of nullification or impairment. Instead, the substitution elasticity estimates reported in the USITC investigation reports should be used in the two-step approach in this proceeding. First, these USITC elasticities are tailored to the specific products subject to the duties. Second, both U.S. and Chinese interested parties to the USITC investigations have commented on these elasticities, and these positions are taken into account in estimating the elasticities. Moreover, the USITC demand and supply elasticity estimates, which China agrees are appropriate to use in this proceeding, are developed within the framework of a constant elasticity of substitution model.

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[108] *See* U.S. International Trade Commission, Investigation Nos. 701-TA-499-500 and 731-TA-1215-1217 and 1219-1223 (Final), *Certain Oil Country Tubular Goods from India, Korea, the Philippines, Taiwan, Thailad, Turkey, Ukraine, and Vietnam*, USITC Publication 4489 (Sep. 2014), p. 47 (Exhibit CHN-24).

[109] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.36.

[110] *See* China's Methodology Paper, para. 99. *See also* U.S. International Trade Commission, Investigation Nos. 701-TA-475 and 731-TA-1177 (Final), *Certain Aluminum Extrusions from China,* USITC Publication 4229 (May 2011), p. 15 (Exhibit CHN-36).

[111] *See* U.S. International Trade Commission, Investigation Nos. 701-TA-475 and 731-TA-1177 (Review), *Certain Aluminum Extrusions from China,* USITC Publication 4677 (March 2017), p. 14 (Exhibit CHN-37).

[112] *See US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.36.

[113] *See* China's Methodology Paper, para. 96. *See also* U.S. International Trade Commission, Investigation Nos. 701-TA-481 and 731-TA-1190 (Final), *Crystalline Silicon Photovoltaic Cells and Modules From China,* USITC Publication 4360 (Nov. 2012), p. 31 (Exhibit CHN-45).

[114] *See* U.S. International Trade Commission, Investigation Nos. 701-TA-481 and 731-TA-1190 (Review), *Crystalline Silicon Photovoltaic Cells and Modules from China,* USITC Publication 4874 (March 2019), p. 28 (Exhibit CHN-46).

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134.   Accordingly, the United States has used the midpoint of the range of elasticity of substitution within the industry (σ) published by the USITC, and these elasticities are presented for each product in Exhibit USA-46.

c.   WTO-Inconsistent CVD Rates

135.   As discussed above in section III.B, the correct WTO-inconsistent CVD rates can be found in Exhibits USA-28 and USA-50.

d.   AD Duty Rates

136.   As discussed in section III.C.3.a, the U.S. methodology incorporates AD measures in order to more accurately simulate China's relative competitiveness in 2017. In taking AD rates into account, the United States uses the AD rates and CVD rates presented in Exhibit USA-50. For each of the seven products that were at issue in DS471, AD rates differ across the two or three varieties of imports from China (*i.e.*, companies subject to the China-wide rates, companies subject to rates calculated using the weighted average-to-transaction ("WA-T") methodology, and all other Chinese companies), as presented in Exhibit USA-74. For the other three products that were not at issue in DS471, we use the simple average of AD rates assigned to all China exporter/producer excluding PRC-wide rates, which are presented in Exhibit USA-77.

e.   Year-Prior Market Shares of Imports from China

137.   Incorporating AD rates also requires information on the relevant market shares of imports from China in the year-prior. This information for the seven products that were at issue in DS471 is presented in Exhibit USA-49, broken down by variety described above. Because, as explained above, the AD rates for the seven products at issue in DS471 differ across the varieties of imports from China, the AD rate for each variety for each of the products is applied to the year-prior market share for that specific variety. For the three additional products not at issue in DS471 that are at issue in this proceeding, we do not break down the year-prior market shares in a similar fashion.

f.   Rising Suppliers and the Rest of World Shipments in the Year-Prior and 2017

138.   As discussed in section III.C.3.b, in addition to incorporating AD rates, the United States implements a supply shock with respect to three products (Aluminum Extrusions, OCTG, and Solar Panels) where there are documented increases in the ability of certain non-Chinese exporters to supply the U.S. market between the year-prior and 2017. In order to define such "Rising Suppliers" as a separate entity in the model, the U.S. methodology obtains current imports data (from the U.S. Census Bureau) corresponding to the relevant HTSUS categories for imports from the world less China to replicate the ROW aggregate from DS471. Next, the value of trade attributable to the Rising Suppliers is deducted from this amount and the percentage of the ROW aggregate attributable to Rising Suppliers is calculated. Since the current value of trade reported by U.S. Census differs slightly from the values used in DS471 due to standard data revisions, the Rising Suppliers' U.S. market share in the year-prior and 2017 is calculated by applying this percentage to the market share of the ROW aggregate used in DS471. The change

in the Rising Suppliers' relative competitiveness is reflected in the difference between the year-prior ratio of imports from the Rising Suppliers over imports from ROW and the 2017 ratio of the same. The current U.S. Census import data for the Rising Suppliers and ROW for the three products that are required for this calculation are presented in Exhibit USA-43.

2.　　Data Needed for Step Two of the U.S. Two-Step Armington Approach

139.　For the second step of the two-step Armington-based approach, the model requires actual U.S. apparent consumption for each product in 2017. To calculate U.S. apparent consumption, the United States provides shipment data for U.S. domestic shipments, U.S. imports of the subject product from China, and U.S. imports from the rest of the world in 2017. The shipment data and the sources for the data are reported in Exhibit USA-45.

a.　　U.S. Domestic Shipments

140.　U.S. domestic shipment data are either drawn from public sources or estimated using data from public sources. As was done for the year-prior data, the United States has used the same U.S. domestic shipments data for 2017 that was used by the DS471 arbitrator. Specified exhibits are listed in Exhibit USA-45 supporting the relevant sources that the DS471 arbitrator referenced for these seven products in the DS471 decision. Exhibit USA-45 also reports the estimated U.S. domestic shipment data for the three remaining products (Kitchen Shelving, Pressure Pipe, and Wire Strand).

b.　　U.S. Imports from China

141.　The source for U.S. imports from China in 2017 is U.S. Customs and Border Protection ("USCBP"), which reports actual imports of the subject products that are subject to duties. USCBP data is more accurate than HTSUS category data because USCBP data are collected using the description of the product as defined in the USDOC's CVD order, which establishes the scope of products to which CVDs are applied. HTSUS categories, on the other hand, often include products outside the product scope of the CVD order and thus are not subject to the duty.

142.　Table 8, below, shows the difference between the value of U.S. imports of the subject product from China to which duties were applied as reported by USCBP and the value of U.S. imports of the product from China covered by the relevant HTSUS categories. The United States notes that, for each of the products, the level of imports based on USCBP data is between 0 percent and 89 percent of the level of imports reported under HTSUS categories.

Table 8 – U.S. Imports of Subject Products from China
(in $ Thousands)

Product	Customs data	HTSUS (Census data)	Customs Share of HTSUS (Census data)
Aluminum Extrusions 1/	[[***]]	31,625	[[***]]
Print Graphics 1/	[[***]]	98,100	[[***]]
OCTG 1/	[[***]]	19,800	[[***]]

Solar Panels 1/	[[***]]	897,800	[[***]]
Steel Cylinders 1/	[[***]]	6,000	[[***]]
Line Pipe 1/	[[***]]	900	[[***]]
Seamless Pipe 1/	[[***]]	69,500	[[***]]
Kitchen Shelving 2/	[[***]]	305,988	[[***]]
Pressure Pipe 2/	[[***]]	3,911	[[***]]
Wire Strand 2/	[[***]]	78	[[***]]

1/ *See* Exhibits USA-59 and USA-64.

2/ *See* Exhibits USA-65 and USA-66.

143. In DS471, the arbitrator accepted and relied on USCBP data on 2017 U.S. imports of the subject product from China.[115] These data are reported in Exhibit USA-45, and the underlying source data are provided in Exhibit USA-64 for the seven products that were at issue in DS471 and in Exhibit USA-65 for the three additional products at issue here that were not at issue in DS471.

c. U.S. Imports from the Rest of World

144. In DS471, the arbitrator used the value of U.S. imports from ROW based on HTSUS categories to calculate U.S. subject imports from ROW in 2017.[116] This source is suitable when the product scope is defined specifically by HTSUS categories. However, this source is inadequate where the subject product is a subset of the HTSUS categories and cannot be described solely in terms of HTSUS categories. In such cases, import data must be adjusted downward to exclude products that are outside the scope of subject imports. In light of the significant discrepancies, applying the two-step approach without adjusting these data would significantly overstate the value of imports from ROW and the overall U.S. apparent consumption in the current year, and thus would overstate the estimate of the level of nullification or impairment as well.

145. Accordingly, the United States has adjusted the HTSUS categories based data for U.S. imports from ROW for the following four products in order to take this effect into account: two products that were at issue in DS471 (Printed Graphics and Seamless Pipe), and two products that were not at issue in DS471 (Kitchen Shelving and Pressure Pipe).[117]

146. For three of these products (Printed Graphics, Seamless Pipe, and Pressure Pipe), the USITC reported U.S. imports of these products from ROW during the original investigation for a three-year period prior to imposition of the duties. These data were typically collected from responses to the USITC questionnaires. By comparing the value of imports publicly reported

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[115] *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.29.

[116] *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.34.

[117] For the other products in this proceeding, the value of U.S. imports from ROW based on HTSUS categories adequately reflects that of the subject product, or there was not sufficient data available to make similar data adjustments. Thus, the United States did not make similar data adjustments for those products.

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during the relevant USITC investigation with that of imports entered under the HTSUS categories, it is possible to derive a ratio that can be used to adjust HTSUS category data for each of these three products to represent the value of imports of the actual subject product. In the tables below, the United States applies this ratio for U.S. imports from ROW for each of the three products as captured in the HTSUS categories for 2017.

Table 9 – Printed Graphics: U.S. Imports from the Rest of World

($Thousands)	2007	2008	2009			
Public USITC Report	782,794.0	698,900.0	420,989.0			
HTSUS Data	2,301,585.2	2,093,463.9	1,439,753.1	**Average 2007-09**	**2017 HTSUS**	**Adjusted 2017**
ITC Share of HS	34.0%	33.4%	29.2%	32.2%	1,554,800	500,833.7

Sources: Exhibits USA-59 and USA-67.

Table 10 – Seamless Pipe: U.S. Imports from the Rest of World

($Thousands)	2007	2008	2009			
Public USITC Report	352,333.0	597,227.0	348,609.0			
HTSUS Data	644,797.0	1,027,367.0	587,758.0	**Average 2007-09**	**2017 HTSUS**	**Adjusted 2017**
ITC Share of HS	54.6%	58.1%	59.3%	57.4%	680,174	390,161.3

Sources: Exhibits USA-59 and USA-67.

Table 11 – Pressure Pipe: U.S. Imports from the Rest of World

($Thousands)	2005	2006	2007			
Public USITC Report	76,573.0	99,681.0	158,535.0			
HTSUS Data	93,619.3	117,103.8	178,494.1	**Average 2007-09**	**2017 HTSUS**	**Adjusted 2017**
ITC Share of HS	81.8%	85.1%	88.8%	85.2%	183,247	156,207.0

Sources: Exhibits USA-65 and USA-67.

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147. With respect to the fourth product, Kitchen Shelving, the USITC did not report any public import data. The USITC explicitly reports that the HTSUS categories covering this product were basket categories and that the actual product scope was a small subset of these categories.[118] Because there is no USITC public data for this product, the United States has estimated the 2017 U.S. imports for this product using industry data and observed trends in trade, as described in Exhibit USA-61.

> **d.**   **Total Value of the 2017 U.S. Market: China's Deflator Approach is Unsound and Would Overstate the Level of Nullification or Impairment**

148. As explained above, U.S. apparent consumption in 2017 (*i.e.*, total value of the 2017 U.S. market), which is required for step two of the two-step Armington-based approach, is calculated using the above-described shipment data. In China's calculation of U.S. apparent consumption for 2017, China does not take into account specific factors related to the ten products when estimating U.S. domestic shipments, China does not provide the relevant customs information on the actual product, and China does not appear to take into account U.S. imports from the rest of the world. Rather, China applies a GDP deflator for the entire U.S. economy on an earlier U.S. apparent consumption estimate and extrapolates to calculate a 2017 estimate. China's method is not supported by economic theory because the deflator is based on the entire U.S. economy and not tailored for the specified product. On the contrary, the United States, as mentioned above, uses the data already reported by the DS471 arbitrator for the seven products at issue in that arbitration, and, similar to the methodology used in DS471, uses detailed analysis for each component of U.S. apparent consumption to calculate an estimate for the three remaining products.

149. While China's estimates using the deflator methodology are similar (within 10 percent) to the U.S. data for four of the 10 products,[119] China's estimates are larger (25 to 55 percent larger) or significantly larger (733 percent larger) for four products (Print Graphics, Line Pipe, Kitchen Shelving, and OCTG). Magnifying the U.S. apparent consumption for these four products, as China does, will ultimately increase and overstate the estimate of the level of nullification or impairment under the two-step methodology.

150. For two products (Solar Panels and Steel Cylinders), China's estimate was significantly below the U.S. estimate (by 25 to 35 percent). That would decrease the estimate of the level of

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[118] *See* U.S. International Trade Commission, *Certain Kitchen Appliance Shelving and Racks from the People's Republic of China*, Final Determination, USITC Publication No. 4098, p. I-6 (Exhibit CHN-19) ("Certain KASAR [*i.e.*, kitchen appliance shelving and racks] is classifiable in the Harmonized Tariff Schedule of the United States ('HTSUS') under subheadings 7321.90.50, 7321.90.60, 8418.99.80, and 8516.90.80, and reported for statistical purposes under 7321.90.5000, 7321.90.6090, 8418.99.8050, 8418.99.8060, and 8516.90.8000. All of these statistical reporting numbers are residual or 'basket' categories and contain a number of other products besides certain KASAR.").

[119] Aluminum Extrusions, Seamless Pipe, Pressure Pipe, and Wire Strand.

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nullification or impairment. Nevertheless, the United States proposes to use the most accurate data that are available.

e.   Counterfactual WTO-Consistent CVD Rates

151. As discussed above in section III.B, the correct counterfactual WTO-consistent CVD rates are presented in Exhibits USA-28 and USA-51.

f.   AD Duty Rates

152. The same AD rates that are used in step one are used in step two. In step two, only the CVD portion is modified to account for the counterfactual WTO-consistent CVD rate, lowering the total duty rate (*i.e.*, the CVD rate plus the AD rate). Exhibit USA-51 presents the correct AD and counterfactual WTO-consistent CVD rates used for each product.

IV.   THE CORRECT ESTIMATE OF LEVEL OF NULLIFICATION OR IMPAIRMENT IS $117 MILLION PER YEAR

153. As a result of applying the two-step Armington approach with both of the necessary U.S. adjustments described above, the level of nullification or impairment from the maintenance following the expiration of the RPT of the WTO-inconsistent U.S. countervailing duty measures on Aluminum Extrusions, Kitchen Shelving, Lawn Groomers, Line Pipe, OCTG, Pressure Pipe, Print Graphics, Seamless Pipe, Solar Panels, Steel Cylinders, and Wire Strand from China is no more than **$117 million** per year.[120]

154. The following table summarizes the results of the application of the adjusted two-step Armington approach. China's grossly overstated estimate of the level of nullification or impairment is presented for contrast.

(In Millions of Dollars)	China's Estimate of Nullification or Impairment	U.S. Estimate of Nullification or Impairment
Aluminum Extrusions	0.01	10.82
Print graphics	4.62	1.68
OCTG	677.47	85.51
Solar Panels	28.05	7.94

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[120] For purposes of understanding the impact of each adjustment described by the United States above, if a partially corrected two-step Armington approach were applied, adjusting for the effects of AD duties <u>but not</u> for certain supply shocks during the interim period, then the level of nullification or impairment would be no more than $134.40 million per year. Further, if a partially corrected two-step Armington approach were applied, adjusting for certain supply shocks during the interim period <u>but not</u> for the effects of AD duties for three products, then the level of nullification or impairment would be no more than $312.70 million per year. Finally, if the DS471 arbitrator's two-step Armington approach were applied <u>without</u> any of the necessary adjustments described in this submission <u>but with</u> the correct data (as discussed above in section III.D), the level of nullification or impairment would be no more than $335.79 million per year.

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Steel Cylinders	0.05	2.72
Line Pipe	100.96	4.69
Seamless Pipe	5.56	1.60
Kitchen Shelving	107.69	1.43
Pressure Pipe	0.89	0.14
Wire Strand	2.49	0.27
Lawn Groomers	95.15	0
TOTAL	$1,022.93	**$116.79**

155.   The calculations above, and the discussion in this submission, demonstrate that China arrived at its staggering conclusion of a level of nullification or impairment of more than $1 billion per year by not only making unjustified and inappropriate modifications to the DS471 arbitrator's two-step Armington model, but also by using incorrect data.

V.   CONCLUSION

156.   Based on China's revised estimate presented in its methodology paper, abandoning the $2.4 billion estimate presented in its request for authorization pursuant to Article 22.2 of the DSU, the Arbitrator may find that the level requested by China is not "equivalent" to the level of nullification or impairment. In determining the correct level, the United States respectfully requests that the Arbitrator use the correct data provided by the United States and implement both of the necessary adjustments to the two-step Armington-based approach that are described in this submission. The United States further requests that the Arbitrator reject the inappropriate changes China has attempted to make to the methodology used by the arbitrator in DS471, thereby preventing unwarranted distortion of the estimation of the level of nullification or impairment.

157.   For the reasons set forth above, the United States respectfully requests that the Arbitrator find the level of nullification or impairment in this dispute is no more than **$117 million** annually.