UNITED STATES – COUNTERVAILING DUTY MEASURES ON CERTAIN PRODUCTS FROM CHINA

RECOURSE TO ARTICLE 22.6 OF THE DSU BY THE UNITED STATES

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EC – Bananas III (Ecuador) (Article 22.6 – EC)	Decision by the Arbitrator, *European Communities – Regime for the Importation, Sale and Distribution of Bananas – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU*, WT/DS27/ARB/ECU, 24 March 2000, DSR 2000:V, p. 2237
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Exhibit CHN-5	USITC Final Determination (November 2016), Publication No. 4644 (related case involving same product)
Exhibit CHN-8	Notice of Amended Final Affirmative Countervailing Duty Determination and Notice of Countervailing Duty Order, 74 Federal Register 4136 (23 January 2009)
Exhibit CHN-11	USITC Final Determination (January 2009), Publication No. 4055
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Exhibit CHN-73	USITC Review (October 2017), Publication No. 4738
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Exhibit USA-22	U.S. International Trade Commission, *Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products)*, Investigation No. TA-201-75, Volume 1: Determination and Views of Commissioners, USITC Publication 4739 (November 2017)
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ABBREVIATIONS USED IN THIS DECISION

Abbreviation	Description
BCI	business confidential information
CGE	computable general equilibrium
CVD	countervailing duty
CSPV	crystalline silicon photovoltaic
DSB	Dispute Settlement Body
DSU	Understanding on Rules and Procedures Governing the Settlement of Disputes
GATT 1994	General Agreement on Tariffs and Trade 1994
GDP	gross domestic product
HTS	Harmonized Tariff Schedule
HTSUS	Harmonized Tariff Schedule of the United States
NAICS	North American Industry Classification System
N/I	nullification or impairment
OCTG	oil country tubular goods
PE	partial equilibrium
PPI	producer price index
PV	photovoltaic
RoW	rest of the world
RPT	reasonable period of time
SCM Agreement	Agreement on Subsidies and Countervailing Measures
USBEA	United States Bureau of Economic Analysis
USCBP	United States Customs and Border Protection
USDOC	United States Department of Commerce
USITC	United States International Trade Commission
WTO	World Trade Organization

LIST OF TABLES IN THIS DECISION

1 INTRODUCTION

1.1. The present arbitration proceedings arise in a dispute initiated by China against the United States. The challenged measures of the United States relate to the imposition of countervailing duties on a range of Chinese products, and the investigations leading to the imposition of such duties. These measures were found to be WTO-inconsistent in the original and compliance proceedings[1], following which China has requested the DSB authorization to suspend concessions at an annual amount of USD 2.4 billion.[2] The United States has objected to this request[3], leading to the present arbitration proceedings.[4]

1.2. Our task in this arbitration is to establish whether the level of suspension of concessions that China requests authorization for is equivalent to the level of nullification or impairment (N/I).[5] In its methodology paper, China has reduced the amount of concessions that it seeks to suspend to USD 1.02 billion.[6] During the proceedings, China has further reduced this amount to USD 788.75 million as a result of adjustments to its approach, in part due to agreements with certain arguments by the United States.[7] According to its latest calculations, the United States considers that the proper level of N/I – and hence, the suspension of concessions that China could be authorized to impose – should be no more than USD 106 million annually.[8]

1.3. In light of the parties' arguments and evidence in these proceedings, we have determined that the appropriate level of N/I is **USD 645.121 million per annum**. We have calculated this figure based on the parties' agreement to use a two-step Armington model similar to that applied in the arbitration decisions in *US – Washing Machines (Article 22.6 – US)* and *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*. We have also taken into account the parties' agreement on a "net-of-duties" approach whereby duty payments are excluded from the final calculation of N/I. Further, we have decided to exclude Lawn Groomers from these proceedings in light of the parties' agreement that the relevant countervailing duty (CVD) measures had been withdrawn before the end of the reasonable period of time (RPT) and are thus out of scope.

1.4. In calculating the above figure, we did not accept certain methodological suggestions proposed by the parties, which they describe as "adjustments" to the two-step Armington model applied in *US – Washing Machines (Article 22.6 – US)* and *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*. We have declined the United States' suggestion to take into account the anti-dumping duties imposed on the ten products at issue largely contemporaneously to the CVDs in question. It is not evident how any impact of those anti-dumping duties would translate into what both parties agree should be the focus of this arbitration: the impact of the CVDs at issue on China's market shares. We have also rejected the United States' suggestion to take into account the alleged impact of certain private investments and government measures in third countries other than China, the so-called "Rising Suppliers", for lack of direct evidence for such impact and absent sufficient explanation of its exogeneity to the CVDs at issue.

1.5. China proposed that we apply a "nested approach" to elasticities of substitution under which micro-elasticities (i.e. elasticities of substitution among different import varieties), would be larger than macro-elasticities (i.e. elasticities of substitution between domestic and imported varieties).

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[1] Panel Reports, *US – Countervailing Measures (China)*, section 8; *US – Countervailing Measures (China) (Article 21.5 – China)*, section 8; Appellate Body Reports, *US – Countervailing Measures (China)*, section 5; *US – Countervailing Measures (China) (Article 21.5 – China)*, section 6; DSB, Minutes of the meetings held on 16 January 2015, WT/DSB/M/355, section 1 (with regard to the original proceedings), and 15 August 2019, WT/DSB/M/433, section 9 (with regard to the compliance proceedings).

[2] WT/DS437/30.

[3] WT/DS437/31.

[4] WT/DS437/32.

[5] Under Article 22.4 of the DSU, "the level of the suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of the nullification or impairment." Accordingly, as a recent arbitrator emphasised, "Article 22.7 of the DSU defines the mandate for an arbitrator acting exclusively under Article 22.6; that is, the arbitrator 'shall determine whether the level of suspension is equivalent to the level of nullification or impairment'." Decision by the Arbitrator, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 3.3.

[6] China's methodology paper, para. 106.

[7] China's comments on the United States' response to Arbitrator question No. 98, para. 57, and No. 100, para. 58.

[8] United States' closing statement at the meeting of the Arbitrator, para. 27; response to Arbitrator question No. 114, para. 157; and Exhibit USA-160.

As regards the specific ratio under such a nested approach, China suggested a "Rule of Two", whereby micro-elasticities would be the double of macro-elasticities. Conversely, the United States suggested a "Rule of One", with equal micro- and macro-elasticities. We conclude that the United States has not demonstrated this alternative "non-nested approach". That said, the United States has successfully called into question applying a nested approach with China's proposed Rule of Two. We have therefore rejected China's proposed Rule of Two. Our calculations are based on a nested approach, with the ratio between micro- and macro-elasticities at the square root of two (i.e. approximately 1.41), as the most reasonable figure in light of the parties' limited evidence.

1.6. As regards the counterfactual compliance scenario, we have relied on the final CVD rates determined by the United States Department of Commerce (USDOC) in the relevant Section 129 proceedings as a starting point for the calculation of the duties that would have been WTO-consistent, as suggested by the United States. Although these rates took effect a few weeks after the end of the RPT, their calculation has been multilaterally determined to be WTO-inconsistent in the compliance stage of the present dispute, and China's request for suspension of concessions is based on the WTO-inconsistency of these determinations. In the interest of prompt dispute settlement, we have decided to rely on these rates instead of those in force at the end of the RPT as suggested by China.

1.7. The parties agreed that the remedy year is 2017, and our calculation is based on this calendar year. As for the calendar year prior to the imposition of the WTO-inconsistent CVDs at issue (year-prior), the parties agreed on the year-prior for four products and disagreed with regard to six products. Again, where the parties agreed, we followed them. For the six products where the parties disagreed, we decided to accept the earlier years-prior suggested by China. We agree with China about the importance of relying on data uncontaminated by the preliminary CVDs imposed in the subsequent calendar years alternatively advanced by the United States.

1.8. While the parties agreed on the key elasticity figures[9], they disagreed on numerous other data points necessary for our calculation. These disagreements concern the market shares of the US domestic variety and the varieties imported from China and the rest of the world (RoW) for each product at issue in the year-prior, as well as the total market size for each product in the remedy year. We have addressed these disagreements based on what we considered to be the most solid evidence, the most reasonable calculation methodology and the best available data – developing our own calculations where necessary.

1.9. The rest of this Decision elaborates on the above points in the following structure:

a. The next, second section addresses procedural matters. It summarises the original and compliance proceedings in this dispute, and the key steps and procedural aspects of this arbitration, including the treatment of business confidential information (BCI).

b. The subsequent, third section deals with the main issue before us: the determination of the level of N/I. It first addresses the scope of these proceedings, followed by the counterfactual compliance scenario. It then turns to the various methodological and data issues raised by the parties or necessary for making our calculation. Once these issues are settled, the third section concludes by implementing the outcome of the earlier methodological and data analyses to calculate the level of N/I.

c. A final, Conclusion section ends the Decision.[10]

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[9] This is without prejudice to their disagreement on the nested approach to the elasticities of substitution (see section 3.3.1 below).

[10] The Addendum to this Decision, WT/DS437/ARB/Add.1, contains all working procedures of the Arbitrator in Annex A, the executive summaries of the parties in Annex B, and the data inputs and calculations of the Arbitrator in Annex C.

2 PROCEDURAL MATTERS

2.1 Prior stages of this dispute

2.1. This dispute commenced on 25 May 2012, upon the filing of China's original request for consultations with the United States.[11] On 20 August 2012, China requested the establishment of a panel.[12] The panel and the Appellate Body in the original proceedings found that the United States acted inconsistently with certain provisions of the SCM Agreement.[13] The DSB adopted the Appellate Body report and the panel report, as modified by the Appellate Body report, on 16 January 2015.[14]

2.2. On 9 October 2015, an arbitrator under Article 21.3(c) of the DSU determined that the RPT for the United States to implement the DSB recommendations and rulings would expire on 1 April 2016.[15]

2.3. The compliance proceedings[16] started with China's request, on 13 May 2016, for consultations with the United States with respect to the alleged failure of the United States to implement the recommendations and rulings of the DSB in this dispute.[17] On 8 July 2016, China requested the establishment of a compliance panel.[18] As upheld by the Appellate Body[19], the compliance panel concluded, in relevant part, that the United States acted inconsistently with: i) Articles 1.1(b) and 14(d) of the SCM Agreement in the Pressure Pipe, Line Pipe, OCTG, and Solar Panels Section 129 proceedings; and ii) Article 2.1(c) of the SCM Agreement in the Section 129 proceedings with respect to all ten products at issue.[20] The DSB adopted the Appellate Body report and the panel report in the compliance proceedings, as upheld by the Appellate Body report, on 15 August 2019.[21]

2.2 Present arbitration proceedings

2.4. On 17 October 2019, China requested authorization from the DSB to suspend concessions or other obligations at an annual amount of USD 2.4 billion, with respect to goods under the agreements described in Article 22.3(g)(i) of the DSU.[22]

2.5. On 25 October 2019, the United States objected to China's proposed level of suspension. At the DSB meeting of 28 October 2019, the DSB took note that the matter raised by China had been referred to arbitration pursuant to Article 22.6 of the DSU.[23] The Arbitrator was constituted on 15 November 2019[24] as follows:

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[11] China's consultation request in the original proceedings was made pursuant to Article 4 of the DSU, Article XXIII:1 of the GATT 1994, and Article 30 of the SCM Agreement (WT/DS437/1).

[12] China's panel request in the original proceedings was made pursuant to Articles 4 and 6 of the DSU, Article XXIII:2 of the GATT 1994, and Article 30 of the SCM Agreement (WT/DS437/2).

[13] The Panel and Appellate Body in the original proceedings found that the United States had acted inconsistently with Articles 1.1(a)(1), 1.1(b), 11.3, and 14(d) of the SCM Agreement (see Appellate Body Report, *US – Countervailing Measures (China) (Article 21.5 – China),* para. 1.3).

[14] DSB, Minutes of the meeting held on 16 January 2015, WT/DSB/M/355.

[15] Award of the Arbitrator, *US – Countervailing Measures (China) (Article 21.3(c))*, WT/DS437/16.

[16] On 15 April 2016, the parties informed the DSB of their Agreed Procedures under Articles 21 and 22 of the DSU and Article 7 of the SCM Agreement (WT/DS437/19).

[17] China's consultation request in the compliance proceedings was made pursuant to Articles 4 and 21.5 of the DSU, Article XXII of the GATT 1994, Article 30 of the SCM Agreement, and paragraph 1 of the Sequencing Agreement (WT/DS437/20).

[18] China's panel request in the compliance proceedings was made pursuant to Articles 6 and 21.5 of the DSU, Article XXIII of the GATT 1994, and Article 30 of the SCM Agreement (WT/DS437/21).

[19] See Appellate Body Report, *US – Countervailing Measures (China) (Article 21.5 – China)*, section 6.

[20] For a complete list of findings in the compliance proceedings, see Appellate Body Report, *US – Countervailing Measures (China) (Article 21.5 – China)*, section 6.

[21] DSB, Minutes of the meeting held on 15 August 2019, WT/DSB/M/433.

[22] Recourse to Article 22.2 of the DSU by China, WT/DS437/30.

[23] DSB, Minutes of the meeting held on 28 October 2019, WT/DSB/M/436.

[24] Recourse to Article 22.6 of the DSU by the United States, WT/DS437/32.

Chairperson: Mr Hugo Perezcano

Members: Mr Luis Catibayan
                 Mr Thinus Jacobsz

2.6. An organizational meeting was held on 17 December 2019 to discuss procedural aspects of the arbitration proceeding. After consulting with the parties, the Arbitrator adopted its Working Procedures on 8 January 2020. At the joint request of the parties, on 8 January 2020 the Arbitrator also adopted dedicated BCI Procedures, as elaborated in section 2.3 below.[25] Also on 8 January 2020, the Arbitrator adopted its timetable, which it amended on 27 October 2020 in light of developments regarding the meeting of the Arbitrator with the parties.

2.7. In accordance with the timetable and Working Procedures adopted by the Arbitrator, China submitted a communication explaining its methodology for calculating the proposed level of suspension on 14 January 2020. The United States filed its written submission on 18 February 2020. China filed its written submission on 24 March 2020. The Arbitrator sent questions to the parties for written responses on 23 April 2020, to which the parties responded on 7 May 2020. The Arbitrator sent additional questions to the parties for written responses on 22 July 2020, to which the parties responded on 21 August 2020.

2.8. On 17 April 2020, the Arbitrator sent a communication to the parties, explaining that, given the COVID-19-related restrictions on worldwide travel, it seemed unlikely that it would be possible to meet physically with the Arbitrator in Geneva at the time originally scheduled in the timetable, i.e. 26-27 May 2020. In response, China requested the Arbitrator to issue additional written questions to the parties rather than reschedule the meeting.[26] In turn, the United States was of the opinion that a real-time exchange of views would be necessary in order to resolve this dispute, and proposed to reschedule the meeting for a later date and to further consult should conditions not permit the meeting to be held at the rescheduled date.[27] According to the United States, an in-person meeting would be necessary to provide both parties an adequate opportunity to explain their positions and respond in real time to each other's arguments and the Arbitrator's questions.[28]

2.9. Having considered these comments, on 28 April 2020, the Arbitrator announced to the parties that the meeting would not take place on the originally scheduled date, and that it would monitor the situation and revert to the parties at the end of May/beginning of June 2020 to explore the best possible way forward.[29] On 5 June[30] and 2 July 2020[31], the Arbitrator sent two communications to the parties indicating that, in light of limited progress in easing restrictions on worldwide travel, it would continue to monitor the situation and, subject to sufficient further progress, would revert to the parties for their additional comments on the way forward.

2.10. On 5 October 2020, the Arbitrator contacted the parties for their views on the idea of holding a hybrid virtual/in-person meeting.[32] In response, China agreed with the arrangement proposed by the Arbitrator.[33] The United States reiterated its objection to holding the substantive meeting via videoconference and requested the Arbitrator to postpone it until an in-person meeting in Geneva would be possible. At the same time, the United States requested that, if the Arbitrator decided to hold a virtual session with the parties, it should hold time-limited virtual sessions, provide any questions to the parties in advance, and refrain from asking additional questions during the session.[34]

2.11. Having considered these comments, on 20 October 2020, the Arbitrator announced to the parties that it would hold a hybrid virtual/in-person meeting with the parties on 12, 16, and

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[25] Additional Working Procedures of the Arbitrator Concerning Business Confidential Information (BCI Procedures).
[26] See China's communications (20 and 22 April 2020).
[27] See United States' communications (20 and 22 April 2020).
[28] See United States' communications (20 and 22 April 2020).
[29] Arbitrator communication to the parties (28 April 2020).
[30] Arbitrator communication to the parties (5 June 2020).
[31] Arbitrator communication to the parties (2 July 2020).
[32] Arbitrator communication to the parties (5 October 2020).
[33] See China's communication (9 October 2020).
[34] See United States' communication (9 October 2020).

18 November 2020 and, after having consulted the parties, it adopted Additional Working Procedures Concerning Meetings with Remote Participation.[35] The Arbitrator indicated that the meeting sessions would be limited in time to the periods when both parties as well as all three arbitrators were available across their different time zones during the day. The Arbitrator added that it would send advance questions to the parties before the meeting, while reserving the possibility of asking for clarifications from the parties during the Q&A session.

2.12. Following individual and collective test sessions with the parties, the Arbitrator held a hybrid virtual/in-person meeting with the parties on 12, 16, and 18 November 2020. On 20 November 2020, the Arbitrator sent additional questions to the parties for written responses. The parties responded to these questions on 11 December 2020 and provided comments on each other's responses on 8 January 2021.

2.13. The Arbitrator submitted its Decision for translation on 29 November 2021, and notified the parties of this transmission. After reviewing with the parties that the Decision did not include any BCI, the Arbitrator circulated its Decision to WTO Members on 26 January 2022.

2.3 Treatment of BCI

2.14. At the organizational meeting held on 17 December 2019, both parties proposed that the Arbitrator adopt Additional Working Procedures of the Arbitrator Concerning Business Confidential Information (BCI Procedures) submitted in the course of the proceedings, based on the language used in the working procedures on BCI in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*. As indicated, the Arbitrator adopted the proposed BCI Procedures on 8 January 2020 accordingly.[36]

2.15. On 5 January 2021, the United States informed the Arbitrator that it had discovered inadvertent omissions of double brackets for BCI in the United States' responses to the questions from the Arbitrator, submitted on 11 December 2020. The United States provided the Arbitrator with a revised version of the United States' responses and requested that the original version submitted on 11 December 2020 be replaced with this revised version. China had no objections to this request. On 12 January 2021, the Arbitrator agreed to grant the leave to correct omissions requested by the United States, pursuant to paragraph 22 of its Working Procedures, confirming that the original version of the responses submitted by the United States on 11 December 2020 would be considered as replaced with the revised version submitted on 5 January 2021.

2.16.   In accordance with paragraph 8 of the BCI Procedures, on 29 November 2021 the Arbitrator issued to the parties a version of its Decision for BCI review. On 7 December 2021, the parties indicated that they had no comments in the context of the BCI review of the Decision.[37] In accordance with the aforementioned paragraph of the BCI Procedures, the text of our Decision circulated to Members is identical to the text of the confidential version issued to the parties, with the exception of passages that disclose BCI, which have been replaced by "[[***]]".

3 DETERMINATION OF THE LEVEL OF NULLIFICATION AND IMPAIRMENT

3.1. Despite their disagreement on the level of N/I, the parties agree that the purpose of these Article 22.6 arbitration proceedings is to determine whether the level of suspension of concessions or other obligations (level of suspension) proposed by China is equivalent to the level of nullification or impairment (level of N/I) of the benefits that China could have expected as a result of the United States' compliance with the DSB's recommendations and rulings by the end of the RPT.[38]

3.2. We note that in Article 22.6 arbitration proceedings, the "overall burden" of proving that the requirements of the DSU have *not* been met rests in general on the party challenging the proposed

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[35] Arbitrator communication to the parties (20 October 2020); Annex A-3 of the Addendum to this Decision, WT/DS437/ARB/Add.1.

[36] See Annex A-2 of the Addendum to this Decision, WT/DS437/ARB/Add.1.

[37] In accordance with paragraph 8 of the BCI Procedures (Annex A-2 of the Addendum to this Decision, WT/DS437/ARB/Add.1).

[38] China's methodology paper, paras. 14 and 17; United States' written submission, paras. 19, 22-24, and 34-36.

level of suspension.[39] In other words, it is for the United States in this dispute to prove that China's proposed level of suspension of concessions is *not* "equivalent" to the level of nullification and impairment within the meaning of Article 22.4 of the DSU.

3.3. Despite these rules on the general allocation of the burden of proof in Article 22.6 arbitrations, the duty rests on both parties to produce evidence and to collaborate in presenting evidence to the Arbitrator.[40] In particular, "it is for each party to bring forward the elements to sustain the factual assertions it makes"[41], insofar as "[i]t is for the party alleging the fact to prove its existence".[42]

3.4. We also note that, in the event we conclude that China's proposed level of suspension of concessions or other obligations is not WTO-consistent, we cannot end our examination the way panels do. Instead, we would be called upon to go further, and, in pursuit of the basic DSU objectives of prompt and positive settlement of disputes, we would need to estimate the level of suspension we consider to be equivalent to the impairment suffered.[43]

3.1 Scope of the proceedings

3.5. In its methodology paper, China indicated that the present proceedings cover a total of eleven CVD investigations, in particular the Section 129 proceedings relating to (i) Pressure Pipe; (ii) Line Pipe; (iii) Lawn Groomers; (iv) Kitchen Shelving; (v) OCTG; (vi) Wire Strand; (vii) Seamless Pipe; (viii) Print Graphics; (ix) Aluminum Extrusions; (x) Steel Cylinders; and (xi) Solar Panels.[44]

3.6. In its written submission, the United States agreed to the relevance of only ten of these eleven CVD investigations. The United States requested the exclusion of Lawn Groomers, claiming that the relevant CVD order was revoked prior to the expiration of the RPT. According to the United States, the Arbitrator should not conduct a counterfactual analysis for Lawn Groomers because the level of N/I attributable to the maintenance of the CVD measure on Lawn Groomers beyond the expiration of the RPT is zero.[45]

3.7. In its written submission, China did not contest the United States' assertion and evidence that the CVD order concerning Lawn Groomers was withdrawn more than a year before the end of the

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[39] See Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, paras. 9-11; *EC – Hormones (US) (Article 22.6 – EC)*, paras. 9-11; *US – Washing Machines (Article 22.6 – US)*, para. 1.14, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.3; *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 1.11; *US – 1916 Act (EC) (Article 22.6 – US)*, paras. 3.2-3.3; *US – Gambling (Article 22.6 – US)*, paras. 2.22-2.23; and *US – COOL (Article 22.6 – US)*, para. 4.7.

[40] See Decisions by the Arbitrators, *EC – Bananas III (Ecuador) (Article 22.6 – EC)*, para. 38; *EC – Bananas III (US) (Article 22.6 – EC)*, para. 4.2; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; *EC – Hormones (US) (Article 22.6 – EC)*, para. 11; *US – FSC (Article 22.6 – US)*, para. 2.11; *US – Offset Act (Byrd Amendment) (India) (Article 22.6 – US)*, paras. 2.26-2.27; *Brazil – Aircraft (Article 22.6 – Brazil)*, paras. 2.8-2.9; and *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.4.

[41] Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, para. 2.24. See also Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; *EC – Hormones (US) (Article 22.6 – EC)*, paras. 9-11; *US – Washing Machines (Article 22.6 – US)*, para. 1.14; *Brazil – Aircraft (Article 22.6 – Brazil)*, para. 2.9; *US – FSC (Article 22.6 – US)*, para. 2.11; and *US – Offset Act (Byrd Amendment) (India) (Article 22.6 – US)*, paras. 2.26-2.27.

[42] Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 10; *EC – Hormones (US) (Article 22.6 – EC)*, para. 10. See also Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, para. 2.24.

[43] See Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 12; *EC – Hormones (US) (Article 22.6 – EC)*, para. 12.

[44] China's methodology paper, paras. 2 and 11. According to China, "[t]he products at issue in the 11 CVD investigations are circular welded austenitic stainless pressure pipe ('Pressure Pipe'), circular welded carbon quality steel line pipe ('Line Pipe'), tow behind lawn groomers ('Lawn Groomers'), kitchen appliance shelving and racks ('Kitchen Shelving'), oil country tubular goods ('OCTG'), prestressed concrete steel wire strand ('Wire Strand'), seamless carbon and alloy steel standard, line, and pressure pipe ('Seamless Pipe'), coated paper suitable for high-quality print graphics using sheet-fed presses ('Print Graphics'), aluminum extrusions, high pressure steel cylinders ('Steel Cylinders'), and crystalline silicon photovoltaic cells ('Solar Panels')." China's methodology paper, fn 3 to para. 2. See also ibid., para. 11 (referring to Panel Report, *US – Countervailing Measures (China) (Article 21.5 – China)*, section 3.1).

[45] United States' written submission, para. 6. See also ibid., paras. 9, 32, and 54; and Exhibit USA-9.

RPT. Ultimately, China also excluded the CVD order concerning Lawn Groomers from its calculation of the level of N/I.[46]

3.8. As mentioned, the RPT in this dispute expired on 1 April 2016.[47] According to the information provided by the United States, uncontested by China, the USDOC revoked the relevant CVD order for Lawn Groomers on 23 September 2014, effective 3 August 2014.[48] In light of this and the parties' agreement, we have decided to exclude the CVD order concerning Lawn Groomers from the scope of our analysis. We shall address only the ten remaining CVD investigations and products for calculating the level of N/I in the present proceedings, namely: (i) Pressure Pipe; (ii) Line Pipe; (iii) Kitchen Shelving; (iv) OCTG; (v) Wire Strand; (vi) Seamless Pipe; (vii) Print Graphics; (viii) Aluminum Extrusions; (ix) Steel Cylinders; and (x) Solar Panels.[49]

3.2 Counterfactual

3.9. The parties agree that, in order to determine level of N/I, the Arbitrator should assess a "counterfactual" scenario, i.e. a "hypothetical scenario that describes what would have happened in terms of trade flows had the responding party implemented the DSB recommendations and rulings"[50] by the end of the RPT, and "compare[] [this counterfactual] with the actual situation, as of the end of the RPT – where the Member has yet to come into compliance – in order to quantify the trade effect caused by that Member's failure to comply".[51] As the RPT expired on 1 April 2016, the parties agree that the baseline year or reference period for a counterfactual analysis should be the 2017 calendar year.[52]

3.10. In light of the relevant DSB recommendations and rulings in the Article 21.5 compliance proceedings[53], the parties are also in agreement that, had the United States brought its measures into conformity with its obligations under Articles 2.1(c) and 14(d) of the SCM Agreement, it would not have identified a countervailable subsidy with respect to the alleged provision of inputs for less than adequate remuneration, and any countervailing duties (CVDs) applied to the products at issue would be calculated so as to exclude the portion of the total CVD margin attributed to the alleged input subsidy programmes.[54]

3.11. Thus, the parties agree that the appropriate counterfactual analysis would entail modifying the relevant CVD rates by deducting the portion attributable to the alleged input subsidy programs.[55] However, the parties disagree on the original WTO-inconsistent CVD rates to be used when making this calculation for some of the products for which the revised rates entered into force after the expiry of the RPT.[56] Although the parties' principled disagreement in this context concerns five of

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[46] China's written submission, para. 25.

[47] See China's methodology paper, paras. 14, 17, and fn 15 to para. 17; United States' written submission, para. 12.

[48] Exhibit USA-9.

[49] This list follows the order submitted by China in its N/I estimates, which in turn corresponds to the numerical order of the docket numbers assigned by USITC to the CVD investigations at issue. This Decision follows the same order in addressing the measures and products at issue.

[50] China's methodology paper, para. 15 (and the arbitration decisions referenced in fn 17 thereto); United States' written submission, paras. 27-28 (and the arbitration decisions referenced in fns 21-22 thereto).

[51] China's methodology paper, para. 15 (quoting Decision by the Arbitrator, *US – Washing Machines (Article 22.6 – US)*, para. 3.7). See also United States' written submission, paras. 27-28.

[52] China's methodology paper, para. 4; United States' written submission, para. 28 and fn 23 thereto.

[53] WT/DSB/M/433, para. 9.33.

[54] China's methodology paper, paras. 20-21. See also ibid., paras. 18-19; United States' written submission, para. 29; and China's written submission, para. 9.

[55] China's methodology paper, paras. 16, 20 and 21; United States' written submission, para. 29.

[56] As regards the calculation of the counterfactual WTO-consistent CVD rates, the parties had disagreements at an earlier stage of these proceedings but these were ultimately resolved. First, regarding the inputs for the LTAR subsidy rate to be deducted from the WTO-inconsistent CVD rates, the United States claimed that China had incorrectly identified the portion of the CVD rate attributable to the input subsidy programs for four of the measures (Line Pipe, Wire Strand, Seamless Pipe, and Steel Cylinders). China accepted the rates proposed by the United States for Line Pipe and Steel Cylinders in its written submission. In response to questions from the Arbitrator, the United States concurred with China with respect to Seamless Pipe, and China accepted the United States' proposal regarding Wire Strand. (United States' written submission, paras. 30 and 41-45; China's written submission, para. 24; United States' response to Arbitrator question No. 27, para. 143; and China's response to Arbitrator question No. 96, para. 56.) Second, the United States claimed that China's calculations failed to apply the methods that the USDOC used to derive the

the products at issue, its impact in terms of actual differences in the CVD rates only extends to three: Line Pipe, OCTG, and Seamless Pipe.[57]

3.12. In its calculation, China uses the following CVD rates that were in force at the expiry of the RPT on 1 April 2016:[58]

Table 1: CVD rates in force at the expiry of the RPT for Line Pipe, OCTG, and Seamless Pipe[59]

PRODUCT	RESPONDENTS IN THE RELEVANT CVD INVESTIGATIONS	CVD RATES[60]
Line Pipe	Huludao Seven Star Group, Huludao Steel Pipe Industrial Co. Ltd., and Huludao Bohai Oil Pipe Industrial Co. Ltd.	33.43
	All Others	36.74
OCTG	Tianjin Pipe (TPCO)	10.49
	All Others	13.41
Seamless Pipe	Hengyang Steel, Hengyang Valin Steel, Hengyang Valin MPM, Xigang Seamless Steel (Hengyang)	56.67
	Tianjin Pipe (TPCO)	13.66
	All Others	35.17

3.13. The United States, by contrast, relies on the final revised CVD rates that were determined by the USDOC in the Section 129 proceedings followed to implement the recommendations and rulings of the DSB in the original proceedings of this dispute (the Section 129 proceedings).[61] According to the United States, this would be consistent with the fact that the Section 129 CVD rates were the compliance measures reviewed in the Article 21.5 proceedings in this dispute.[62] The revised Section 129 rates for the products and respondents in question are:

Table 2: Revised Section 129 CVD rates for Line Pipe, OCTG, and Seamless Pipe

PRODUCT	RESPONDENTS IN THE RELEVANT CVD INVESTIGATIONS	CVD RATES[63]
Line Pipe	Huludao Seven Star Group, Huludao Steel Pipe Industrial Co. Ltd., and Huludao Bohai Oil Pipe Industrial Co. Ltd.	32.65
	All Others	36.35
OCTG	Tianjin Pipe (TPCO)	7.71
	All Others	12.26
Seamless Pipe	Hengyang Steel, Hengyang Valin Steel, Hengyang Valin MPM, Xigang Seamless Steel (Hengyang)	49.56
	Tianjin Pipe (TPCO)	8.24
	All Others	28.90

3.14. China asserts that, according to the decision by the arbitrator in *US – Tuna II (Mexico) (Article 22.6 – US)*, compliance measures implemented after the expiry of the RPT should not form

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"All Others" rates. China considered that the changes made by the United States were consistent with the parties' shared position and reflected these changes in its own estimates. (United States' written submission, paras. 31 and 46-53; United States' response to Arbitrator question No. 68, paras. 92-95, and No. 69, paras. 96-105; and China's response to Arbitrator question No. 29, paras. 74-77, and No. 97, para. 57).

[57] Revised rates were also published for Pressure Pipe and Solar Panels, but they were identical to the prior ones. China does not take issue with using the rates from the Section 129 determinations for the remaining five products (i.e. Kitchen Shelving, Wire Strand, Print Graphics, Aluminum Extrusions, and Steel Cylinders). (China's written submission, para. 17).

[58] China's written submission, para. 14.

[59] This table and table 2 below only show the respondents for which the CVD rates changed after the expiry of the RPT.

[60] Exhibit CHN-100.

[61] United States' written submission, para. 38.

[62] United States' response to Arbitrator question No. 20, paras. 123 and 127; opening statement at the meeting of the Arbitrator, para. 8.

[63] Exhibit USA-138.

part of a counterfactual analysis under Article 22.6 of the DSU.[64] China points out that the arbitrator in that dispute considered the pertinent version of the measure to be the one in existence at the time of expiry of the RPT, noting that such version "may or may not be the most recent version of the relevant measure".[65] By contrast, the United States points out that there have been Article 22.6 arbitrations that relied on compliance measures adopted after the expiry of the RPT to quantify the level of N/I. The United States advances as examples the arbitrator decisions in *US – FSC (Article 22.6 – US)* and *US – COOL (Article 22.6 – US)*.[66]

3.15. Despite the above statement in *US – Tuna II (Mexico) (Article 22.6 – US)* referenced by China, the two other arbitration decisions cited by the United States suggest to us that, as a matter of fact, previous Article 22.6 arbitrators have not followed a uniform approach to this issue. There have been prior Article 22.6 arbitrations, including those mentioned by the United States, in which compliance measures adopted after the expiry of the RPT have been considered for the determination of a counterfactual in an N/I assessment.[67] We are therefore of the view that the determination of the relevant measure for an N/I assessment must be resolved on a case-by-case basis, depending on the facts and circumstances of the specific dispute. Indeed, as a prior Article 22.6 arbitrator held, even if previous arbitrators had established one single level of nullification or impairment at the level that existed at the end of the RPT, "we do not read anything in Article 22 of the DSU that would preclude us from following a different path if the circumstances of this case clearly required it".[68]

3.16. The specific factual circumstances of the dispute before us are as follows. Although the USDOC informed the interested parties of the initiation of the Section 129 proceedings regarding all products at issue on 27 April 2015 (i.e. before the expiry of the RPT on 1 April 2016), it published its final CVD determinations for this specific group of products on 9 June 2016, stating that they would become effective retroactively as of 26 May 2016[69], that is almost two months after the expiration of the RPT on 1 April 2016.[70] As China explains, in the course of the compliance proceedings it challenged certain determinations made by the United States in the context of these Section 129 proceedings.[71] As a consequence, the Section 129 Proceedings were one of the measures reviewed and ultimately found to be WTO-inconsistent in those compliance proceedings.[72] The relevant panel and Appellate Body findings in this regard were multilaterally endorsed when the DSB adopted the compliance reports in August 2019. Finally, in the context of this arbitration proceeding, the

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[64] China's written submission, para. 13 (referring to Decision by the Arbitrator, *US – Tuna II (Mexico) (Article 22.6 – US)*, paras 3.19-3.21 and 3.25); comments on the United Sates' response to Arbitrator question No. 113, para. 99 (referring to Decision by the Arbitrator, *US – Tuna II (Mexico) (Article 22.6 – US)*, para. 3.24).

[65] Decision by the Arbitrator, *US – Tuna II (Mexico) (Article 22.6 – US)*, para. 3.24.

[66] United States' response to Arbitrator question No. 20, paras. 124-125 (referring to Decisions by the Arbitrators, *US – FSC (Article 22.6 – US)*, para. 2.12; *US – COOL (Article 22.6 – US)*, fn 5 to para. 1.3 and fn 59 to para. 3.2).

[67] In fact, the same Article 22.6 arbitrator in *US – Tuna II (Mexico) (Article 22.6 – US)* analysed other prior arbitration decisions when discussing the issue, namely *EC – Bananas III*, *US – Upland Cotton*, and *Brazil – Aircraft*. (Decision by the Arbitrator, *US – Tuna II (Mexico) (Article 22.6 – US)*, para. 3.28-3.47).

[68] "Most previous arbitrators have established one single level of nullification or impairment at the level that existed at the end of the reasonable period of time granted to the responding party to bring its legislation into conformity. We do not disagree that this approach is, in the large majority of cases, the most appropriate. However, we do not read anything in Article 22 of the DSU that would preclude us from following a different path if the circumstances of this case clearly required it." (Decision by the Arbitrator, *US – Offset Act (Byrd Amendment) (India) (Article 22.6 – US)*, para. 4.21). (fn omitted)

[69] Exhibit USA-1.

[70] We note in this regard that the United States initiated the Section 129 Proceedings before the RPT was determined by an arbitration carried under Article 21.3 (c) of the DSU. The relevant Award of that arbitrator was circulated on 9 October 2015, when Section 129 Proceedings were already on their way. (Award of the Arbitrator, *US – Countervailing Measures (China) (Article 21.3(c))*).

[71] China's methodology paper, para. 11.

[72] The Panel Report refers to them as the "preliminary and final determinations made by the United States Department of Commerce (USDOC) under Section 129 of the Uruguay Round Agreements Act (Section 129) to comply with recommendations and rulings of the DSB made in the original proceeding in *US – Countervailing Measures (China)*". (Panel Report, *US – Countervailing Measures (China) (Article 21.5 – China)*, para. 2.1).

Section 129 Proceedings are the measures regarding which China seeks to obtain authorization to suspend concessions or other obligations.[73]

3.17.   The parties agree that the revised CVD rates suggested by the United States correspond to the final determinations under the Section 129 proceedings, and that the revised rates for this subset of products became effective after the expiry of the RPT. We also note that the United States does not claim that it has brought its measures into conformity with the recommendations and rulings of the DSB within the RPT. There are no disagreements between the parties on these aspects of the dispute.

3.18.   As argued by China, the existence of an RPT is crucial in the assessment under Article 22.7. According to DSU Article 22.1, the suspension of concessions or other obligations is available in the event that the recommendations and rulings are not implemented within the RPT. That said, as the United States argues, Article 22 directs an arbitrator to base its decision on the "recommendations and rulings" of the DSB to bring a WTO-inconsistent measure into conformity.[74] Further, under Article 22.4, "the level of the suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of the nullification or impairment [caused by the measures]". As a prior Article 22.6 arbitrator noted, "it would be the WTO-inconsistency of [the measure at issue] that would be the root cause of any nullification or impairment suffered by [the complainant]".[75] Thus, in order to be able to determine the level of N/I, it is essential to identify the measures causing such N/I. Whether the Section 129 CVD rates were implemented before or after the expiration of the RPT, does not immediately determine the relevant measure, or version of the measure, for our counterfactual analysis.[76]

3.19.   Turning to the arbitration decisions referenced by the parties, we note that one of the considerations for the choice of the arbitrator in *US – Tuna II (Mexico) (Article 22.6 – US)* to rely on an earlier pre-RPT measure was that this had been the subject of adverse DSB recommendations and rulings. In the words of that arbitrator, the alternative post-RPT measure proposed by the respondent was "not yet subject to any panel or Appellate Body findings, and so it is not a measure that has been found to be WTO inconsistent".[77] The arbitrator added that, although the respondent had made changes to the earlier measure, the adverse DSB recommendations and rulings remained in effect "until such time as there are new, overriding panel and/or Appellate Body findings that have been adopted by the DSB or a mutually agreed solution has been notified to the DSB".[78] We therefore consider that, while the arbitrator in *US – Tuna II (Mexico) (Article 22.6 – US)* opted for a pre-RPT measure, this was based at least in part on a consideration of multilateral review. We find this particularly noteworthy as the measures at issue in the present arbitration (i.e. the Section 129 Proceedings) have been multilaterally reviewed and found to be WTO-inconsistent in Article 21.5 compliance proceedings.

3.20.   The relevance of multilateral review as a reason for reviewing post-RPT measures in the present proceedings is supported by the two arbitration decisions referenced by the United States. The arbitrator in *US – FSC (Article 22.6 – US)* noted that "it was [the measure that had come into existence after the expiration of the RPT] which was reviewed by the Compliance Panel and, on appeal, by the Appellate Body, under Article 21.5 of the DSU."[79] In *US – COOL (Article 22.6 – US)*, the arbitrator calculated the level of N/I caused by the original and amended measures, which had

[73] See China's methodology paper, paras. 2, 3, 11, and 12. See also Recourse to Article 22.2 of the DSU by China, WT/DS437/30, p. 2. We also note China's argument that: "[i]n this dispute, the measures found to be inconsistent with the SCM Agreement are the U.S. compliance measures pertaining to the ten cases at issue. This is clear from the findings of the compliance panel and the Appellate Body. The DSB's recommendations in relation to these findings are similarly clear: the United States must bring its measures into conformity with the relevant provisions of the SCM Agreement." (China's written submission, para. 31).
[74] United States' written submission, paras. 34 and 35.
[75] Decision by the Arbitrator, *EC – Bananas III (US) (Article 22.6 – EC)*, para. 4.8. We also agree with the reasoning of such arbitrator regarding the timing of proceedings. (See ibid., fn 11 to para. 4.11).
[76] United States' response to Arbitrator question No. 113, para. 154.
[77] Decision by the Arbitrator, *US – Tuna II (Mexico) (Article 22.6 – US)*, para. 3.25.
[78] Decision by the Arbitrator, *US – Tuna II (Mexico) (Article 22.6 – US)*, para. 3.35.
[79] Decision by the Arbitrator, *US – FSC (Article 22.6 – US)*, para. 2.12.

been reviewed at the original and compliance stages, although the amended measure came into force one day after the expiry of the RPT.[80]

3.21. China claims that in *US – FSC (Article 22.6 – US)* the parties had agreed on the compliance measure adopted after the expiry of the RPT being the relevant measure for evaluating the suspension of concessions, whereas no such agreement has been reached by China and the United States in this proceeding.[81] Regarding *US – COOL (Article 22.6 – US)*, China notes that in its statement to the DSB, the United States explicitly stated that it "had come into compliance within the ten-month reasonable period of time set by a WTO arbitrator, which had expired the previous day".[82] We do not consider that such circumstances alter the fact that, as the United States explains, measures adopted after the expiry of the RPT were indeed used for assessing the level of N/I in those Article 22.6 arbitration proceedings, and that in both cases the relevant measures under discussion had been subject to multilateral review through compliance proceedings.[83]

3.22. Our mandate as an Arbitrator, consistent with the obligation established in Article 22.4, is specifically set out in Article 22.7 of the DSU: "The arbitrator… shall determine whether the level of such suspension is equivalent to the level of nullification or impairment".

3.23. We recall that the Appellate Body has described suspension of concessions or other obligations as the last resort in the chain of events of a multi-stage process that constitutes a WTO dispute:

> [T]he suspension of concession is the last resort available to a Member who has successfully challenged the consistency with the covered agreements of another Member's measure. The DSB's authorization to suspend concessions is necessarily preceded by a multi-stage dispute settlement process. This process may encompass: (i) consultations, (ii) panel proceedings, (iii) appellate review, (iv) the adoption of the panel and Appellate Body reports, (v) an arbitration to determine the reasonable period of time for implementation, (vi) compliance panel proceedings, (vii) compliance appellate review, and (viii) an arbitration to determine the level of suspension of concessions. The authorization to suspend concessions is thus granted following a long process of multilateral dispute settlement in which relevant adjudicative bodies, as well as the DSB, render multilateral decisions at key stages of the process.[84]

3.24. As already noted, in this case the Section 129 Proceedings have been multilaterally reviewed under Article 21.5 and the compliance reports adopted by the DSB. In this connection, we further note that China's request for the suspension of concessions is based on the findings of WTO-inconsistency in such compliance reports.[85]

3.25. Accordingly, in the circumstances of the present proceedings, we shall rely on the final CVD rates determined by the USDOC in the Section 129 Proceedings for the counterfactual and the calculation of the WTO-consistent CVD rates in this dispute. Consequently, the initial

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[80] Decisions by the Arbitrator, *US – COOL (Article 22.6 – US)*, fn 59 to para. 3.2. "The 'amended COOL measure' comprised the original COOL measure as amended by the [compliance measure enacted after the expiry of RPT]." (Ibid., fn 6 to para 1.4).

[81] China's comments on the United States' response to Arbitrator question No. 113, para. 103 (referring to Decision by the Arbitrator, *US – FSC (Article 22.6 – US)*).

[82] China's comments on the United States' response to Arbitrator question No. 113, para. 101 (quoting DSB, Minutes of the meeting held on 31 July 2013, WT/DSB/M/332, Item 11). (emphasis omitted)

[83] In a comparable manner, the Article 22.6 arbitrator in *US – Upland Cotton* considered the lack of a multilateral determination of inconsistency as "an important aspect of the legal situation before us, which we must take into account in these proceedings". (Decision by the Arbitrator, *US – Upland Cotton (Article 22.6 – US I)*, para 3.42).

[84] Appellate Body Report, *US – Continued Suspension*, para. 317. As a recent Article 22.6 arbitrator explained, the authorization to maintain a suspension "would only lapse following confirmation, through WTO dispute settlement proceedings or a mutually agreed solution, of the responding party's substantive compliance". The same Article 22.6 arbitrator has emphasised the importance of formal multilateral confirmation, explaining that the justification for maintaining a suspension should be found in the formal multilateral compliance status of the responding party (Decision by the Arbitrator, *EC and certain member States – Large Civil Aircraft (Article 22.6 – EU)*, para 6.51, referring to Appellate Body Report, *US – Continued Suspension*, section IV.E).

[85] See China's methodology paper, paras. 10-21.

WTO-inconsistent CVD rates to be used in the implementation of the two-step Armington model will be the ones suggested by the United States.[86]

3.3 Methodology

3.26. To estimate the impact of the WTO-inconsistent CVD orders on China's 2017 exports of subject products to the United States, the parties agree that the Arbitrator should apply a two-step Armington elasticities model similar to the methodology that was used in *US – Washing Machines (Article 22.6 – US)* and *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*.[87]

3.27. As the parties explain, the Armington elasticities model needs to be applied twice, once with WTO-inconsistent CVDs and once more with WTO-consistent CVDs, to compute, with regard to each CVD order at issue, the value of sales of imports from China in the US market for the 2017 remedy year. The former figure then needs to be subtracted from the latter for each CVD order, and, finally, the differences obtained for each CVD order need to be added up in order to calculate the overall level of N/I.[88] This was also the overall approach applied in the two above-mentioned Article 22.6 arbitrations.[89]

3.28. Although the parties agree in general on the use of a two-step Armington model to estimate the level of N/I,[90] the parties propose the following "advancements" in China's words[91], or "adjustments" as described by the United States[92], to the methodology, most of which are in turn challenged by the other party:[93]

   a. China's proposed nested approach to elasticities of substitution, including the application of the Rule of Two;

   b. China's proposed net-of-duty adjustment to exclude duty payments from the estimated remedy-year sales of imports from China obtained with the Armington model using both WTO-inconsistent and WTO-consistent CVD rates, and hence ultimately from the N/I calculation;

   c. the United States' suggestion to account for the effect of both subsidies and dumping on China's market shares in the United States; and

   d. the United States' suggestion to account for factors other than trade remedy measures that influenced the evolution of the market in the period between the imposition of such measures and the base year of the analysis (2017) (Rising Suppliers).

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[86] See Annex C-3 for the WTO-inconsistent Section 129 rates relied upon by the Arbitrator and the resulting WTO-consistent CVD rates for each of the ten products at issue.
[87] China's methodology paper, para. 4; United States' written submission, para. 3.
[88] China's methodology paper, paras. 4-7 and 28-33; United States' written submission, paras. 2-3.
[89] Decisions by the Arbitrators, *US – Washing Machines (Article 22.6 – US)*, paras. 3.118-3.121; *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, paras. 7.43-7.46.
[90] Under the two-step Armington model, the level of N/I is calculated by first estimating the value of imports from China in the US market with WTO-inconsistent CVDs for the 2017 remedy year. This is done by applying the Armington elasticities model to the US market as it had existed prior to the imposition of the WTO-inconsistent CVDs in order to simulate, for each CVD order, the impact of imposing the WTO-inconsistent CVDs on the sales, and hence the market shares, of three varieties: imports from China, imports from the rest of the world, and shipments of US domestic producers. The simulated market shares are then multiplied by the value of total 2017 sales in the US market to obtain an estimated 2017 Chinese import value for the WTO-inconsistent scenario. This procedure is repeated using WTO-consistent CVDs so that estimated 2017 Chinese import values are obtained under both scenarios for each CVD order. The differences between the two scenarios are then aggregated to obtain the level of N/I (see China's methodology paper, paras. 4-7, 28-33, and 44-72; United States' written submission, paras. 27-28).
[91] China's methodology paper, paras. 8-9.
[92] United States' written submission, para. 7.
[93] United States' written submission, para. 4; China's written submission, paras. 3-5.

3.3.1 Nested approach to elasticities of substitution

3.29.   China suggests that the Arbitrator should apply a "nested approach"[94] to the demand structure of the two-step Armington model. This approach is based on the assumption that the elasticity of substitution between imports from different sources, i.e. subject and non-subject imports or "micro-elasticity", would be different from the elasticity of substitution between imports and US domestic goods, the "macro-elasticity". Relying on economic literature and empirical evidence in the form of an econometric study and descriptive statistics, China advances that the micro-elasticity is twice the corresponding macro-elasticity for all products at issue (Rule of Two).[95]

3.30.   The United States in principle does not oppose a nested approach being considered where trade diversion is expected. However, the United States notes that, for the products at issue, no trade diversion is to be expected.[96] The United States considers that a constant elasticity of substitution assumption (or Rule of One) between different imports and between imported and domestic goods would be more appropriate. The United States submits that a literature standard and empirical evidence support its position in this regard.[97]

3.31.   The United States adds that it is China that needs to provide evidence that the micro- and macro-elasticities of substitution differ for the products at issue in these proceedings and that the Rule of Two is a reasonable assumption about their relative magnitudes.[98] According to the United States, China has not presented any persuasive evidence in support of its position.[99]

3.32.   We note that China's proposal contains two linked but distinct issues. First, whether it is reasonable to set micro-elasticities for the products at issue that differs from their macro-elasticities (i.e. a nested approach) and, second, whether it is reasonable to assume that this difference can be approximated by a factor of two (i.e. the Rule of Two). Before assessing these issues, we address first the systemic arguments made by the parties on the burden of proof in the context of China's proposal for a nested approach.

3.33.   China claims that, due to the allocation of the initial burden of proof in an Article 22.6 arbitration, if the parties' arguments in favour or against the Rule of Two are of equal merit, the Arbitrator needs to apply the Rule of Two.[100] The United States argues that China conflates the burden of proof with each party's responsibility to present evidence and support their arguments.[101]

3.34.   As regards the burden of proof, we recall that in an Article 22.6 arbitration proceeding it is the party challenging the proposed level of suspension that bears the general burden of proving that the requirements of the DSU have not been met.[102] In other words, as a matter of principle, it is for the original respondent, the United States in this dispute, to prove that China's proposed level of suspension of concessions is not "equivalent" to the level of N/I within the meaning of Article 22.4 of the DSU.[103] In the context of the nested approach, this would mean that the United States would

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[94] China's methodology paper, paras. 8, 27, 82, and 107; China's response to Arbitrator question No. 1, para. 1. The technical implementation of such nested approach is outlined in paragraphs 51-56 of China's methodology paper.

[95] China's methodology paper, para. 83.

[96] United States' response to Arbitrator question No. 1, para. 4.

[97] United States' written submission, paras. 88, 108 and 110. See also United States' response to Arbitrator question No. 101, para. 100.

[98] United States' written submission, para. 111.

[99] United States' written submission, para. 108.

[100] China's opening statement at the meeting of the Arbitrator, para. 16.

[101] United States' response to Arbitrator question No. 100, paras. 85-89.

[102] See Decisions by the Arbitrators, *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 1.11; *US – Washing Machines (Article 22.6 – US)*, para. 1.14; *US – 1916 Act (EC) (Article 22.6 – US)*, paras. 3.2-3.3; *US – Gambling (Article 22.6 – US)*, paras. 2.22-2.23 (quoting Decision by the Arbitrator, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 9); *US – FSC (Article 22.6 – US)*, para. 2.10; *US – COOL (Article 22.6 – US)*, para. 4.7 (quoting Decision by the Arbitrator, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 9); *EC and certain member States – Large Civil Aircraft (Article 22.6 – EU)*, para. 4.2; *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.3; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 9; and *EC – Hormones (US) (Article 22.6 – EC)*, para. 9. See also Appellate Body Reports, *US – Wool Shirts and Blouses,* p. 14; *EC – Hormones*, para. 104; *US – Upland Cotton*, para. 644; and *US – Carbon Steel (India)*, para. 4.505; and Panel Report, *Russia – Pigs (EU)*, para. 7.589.

[103] See Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 9; *EC – Hormones (US) (Article 22.6 – EC)*, para. 9.

need to put forward sufficient arguments and evidence to disprove the methodology proposed by China.

3.35. The United States argues that it has succeeded in making a *prima facie* case that China's request for suspension of concessions is not equivalent to the level of N/I due to the fact that China revised the level of suspension initially requested to the DSB to a lower amount in its methodology paper.[104] We understand that we are not being asked to assess the appropriateness of such a reduction at that stage of the proceedings.

3.36. We note that there have been other Article 22.6 arbitration proceedings in which the original complainant has reduced the level of suspension initially requested to the DSB once it presented its methodology paper.[105] For instance, in the recent *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)* arbitration, the original complainant, the European Union, initially requested authorization from the DSB to take countermeasures totalling USD 12 billion annually[106], but later calculated a level of suspension of USD 10.02 billion in its methodology paper.[107] Despite this downward change in the original complainant's request, the arbitrator confirmed the long-established allocation of the burden of proof among the parties as follows:

> "For present purposes, it is sufficient to state that we regard the United States, as the party challenging the proposed level of countermeasures, to bear the overall burden of demonstrating that the [original complainant's] methodology results in countermeasures that are not "commensurate" with the degree and nature of the adverse effects determined to exist. To discharge that burden, it is not sufficient for the United States merely to propose an alternative methodology that it asserts is more appropriate. Rather, the United States must engage with the methodology used by the [original complainant], in the sense that the United States must demonstrate why that methodology would result in countermeasures that are not "commensurate" within the meaning of Article 7.10 of the SCM Agreement."[108]

3.37. We agree with this approach. Thus, evoking the mere fact that the original complainant has revised its originally requested level of N/I downwards does not amount to making a *prima facie* case or shift the burden of proof to the original complainant. In our view, once the original complainant has presented a downward revised suspension request in its methodology paper, that is the request on which the arbitration proceedings will be based[109], and the long-established allocation of the parties' burden of proof applies with respect to that reduced amount. Similarly to the arbitrator in *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, we still regard the United States, as the party challenging China's proposed level of suspension, to bear the initial burden of demonstrating that such reduced level of suspension requested by China is not equivalent to the level of N/I in this dispute.

3.38. That said, the rules on the allocation of the burden of proof in Article 22.6 arbitration proceedings do not relieve the parties from their general duty to provide evidence to an arbitrator.[110] In the words of previous Article 22.6 arbitrators, "[a]n issue to be distinguished from the question of who bears the burden of proof is that of the duty that rests on both parties to produce evidence

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[104] United States' response to Arbitrator question No. 100, para. 91. See also United States' closing statement at the meeting of the Arbitrator, para. 3; response to Arbitrator question No. 98, paras. 79-83, and No. 100, paras. 85-89.

[105] See e.g. Decision by the Arbitrator, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, fn 44 to para. 1.29 (referring to ibid., para. 6.6 and fns 123 and 597) and fn 123 to para. 6.6.

[106] Decision by the Arbitrator, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 1.19 (referring to Recourse to Article 22.2 of the DSU, and Articles 4.10 and 7.9 of the SCM Agreement by the European Union, WT/DS353/17).

[107] Decision by the Arbitrator, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 1.29.

[108] Decision by the Arbitrator, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.3. (fns omitted)

[109] We consider this situation to be different from an increase of the requested level of N/I in the original complainant's methodology paper from the originally requested level of suspension addressed to the DSB. See e.g. Decision by Arbitrator, *EC – Bananas III (Ecuador) (Article 22.6 – EC)*, paras. 22-24.

[110] Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, para. 2.24. See also Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; *EC – Hormones (US) (Article 22.6 – EC)*, para. 11.

and to collaborate in presenting evidence to the [a]rbitrators"[111], and "it is for each party to bring forward the elements to sustain the factual assertions it makes".[112] Thus, we agree with the United States that each party has "a duty to collaborate in the establishment of the facts".[113]

3.39. Accordingly, while the United States is required to submit evidence showing that China's proposal is not equivalent to the level of N/I, China is also required to come forward with evidence explaining how it arrived at its proposal.[114] In this sense, the duty rests on both parties to produce evidence and to collaborate in presenting evidence to the Arbitrator[115], regardless of which party bears the overall burden of proof.[116] As the Appellate Body has held, "precisely how much and precisely what kind of evidence will be required to establish … a presumption [that what is claimed is true] will necessarily vary from measure to measure, provision to provision, and case to case."[117]

3.40. In light of the above, we shall examine the totality of the evidence submitted by the parties in the context of China's proposal for a nested approach and specifically for a Rule of Two. We recall in this regard that "[i]n determining the level of nullification or impairment …, we need to rely, as much as possible, on credible, factual, and verifiable information."[118] We shall analyse the arguments and evidence advanced by the parties in four parts: (i) the United States International Trade Commission (USITC) report containing a survey on the characteristics of the products at issue; (ii) the existence of an alleged literature standard; (iii) hypothesis tests and point estimates contained in a recent econometric study; and (iv) descriptive evidence stemming from observed trade patterns after the measure was put in place. As regards China's claim about the parties' arguments and evidence being of equal merit or in equipoise, we will address the relevant arguments if, after having engaged with the parties' substantive arguments and evidence, we consider that indeed we are in this specific scenario.

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[111] Decision by the Arbitrator, *Brazil – Aircraft (Article 22.6 – Brazil)*, para. 2.9. See also Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 10; *EC – Hormones (US) (Article 22.6 – EC)*, para. 10; *US – Gambling (Article 22.6 – US)*, para. 2.24; and *US – Washing Machines (Article 22.6 – US)*, para. 1.14 (quoting Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, para. 2.24).

[112] Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, para. 2.24 (referring to Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; *EC – Hormones (US) (Article 22.6 – EC)*, para. 11). See also Decision by the Arbitrator, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.4.

[113] United States' response to Arbitrator question No. 100, para. 89 (quoting Decision by the Arbitrator, *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 1.11). See also Decisions by the Arbitrators, *US – Gambling (Article 22.6 – US)*, para. 2.24, *US – Washing Machines (Article 22.6 – US)*, para. 1.14 (quoting Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, para. 2.24); *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; and *EC – Hormones (US) (Article 22.6 – EC)*, para. 11.

[114] Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; *EC – Hormones (US) (Article 22.6 – EC)*, para. 11. See also Decisions by the Arbitrators, *Brazil – Aircraft (Article 22.6 – Brazil)*, para. 2.8; *EC – Bananas III (Ecuador) (Article 22.6 – EC)*, para. 38; and *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.4.

[115] Decision by the Arbitrator, *Brazil – Aircraft (Article 22.6 – Brazil)*, para. 2.9. See also Decisions by the Arbitrators, *US – FSC (Article 22.6 – US)*, para. 2.11; *US – Offset Act (Byrd Amendment) (India) (Article 22.6 – US)*, para. 2.26 (quoting Decision by the Arbitrator, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11) and para. 2.27 (referring to Decisions by the Arbitrators, *Brazil – Aircraft (Article 22.6 – Brazil)*, paras. 2.9-2-11; and *Canada – Aircraft Credits and Guarantees (Article 22.6 – Canada)*, para. 3.76).

[116] "An issue to be distinguished from the question of who bears the burden of proof is that of the duty that rests on both parties to produce evidence and to collaborate in presenting evidence to the Arbitrators. This is why, even though [the original respondent] bears the original burden of proof, we expected [the original complainant] to come forward with evidence explaining why its proposal constitutes appropriate countermeasures and we requested it to submit a 'methodology paper' describing how it arrived at the level of countermeasures it proposes."
(Decision by the Arbitrator, *Brazil – Aircraft (Article 22.6 – Brazil)*, para. 2.9. See also Decisions by the Arbitrators, *EC – Bananas III (US) (Article 22.6 – EC)*, para. 4.2; *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.4).

[117] Appellate Body Report, *US – Wool Shirts and Blouses*, p. 14.

[118] Decision by the Arbitrator, *US – 1916 Act (EC) (Article 22.6 – US)*, para. 5.54. See also Decisions of the Arbitrators, *US – Washing Machines (Article 22.6 – US)*, para. 1.16 (referring to ibid., para. 5.54); *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 3.6 (quoting Decision by the Arbitrator, *EC and certain member States – Large Civil Aircraft (Article 22.6 – EU)*, para. 6.173 (in turn quoting Decision by the Arbitrator, *US – Tuna II (Mexico) (Article 22.6 – US)*, para. 5.16 (fns omitted) (in turn quoting Decisions by the Arbitrator, *US – COOL (Article 22.6 – US)*, para. 4.5; *US – Gambling (Article 22.6 – US)*, para. 3.3; and *US – 1916 Act (EC) (Article 22.6 – US)*, para. 5.54))).

3.3.1.1 USITC survey evidence and elasticity estimates

3.41.   The United States considers that the Arbitrator has compelling evidence before it supporting identical micro- and macro-elasticities for each of the specific products at issue. The United States notes that, in the current proceedings, both parties have relied on USITC reports for elasticities of substitution, which are developed within the framework of a non-nested, constant elasticity of substitution model and, hence, support the Rule of One.[119] The United States also argues that the USITC investigations pertinent to this dispute found through business surveys that, for all products at issue with the exception of Wire Strand, "domestic, Chinese, and non-subject imported varieties are similarly comparable in terms of intrinsic characteristics, quality, and terms of sale".[120] The United States adds that most of the products at issue are standardized materials produced to common specifications such that they are fully interchangeable across all sources.[121]

3.42.   China argues that it is not evident from USITC reports whether USITC has evaluated the Rule of Two for use within its product analysis, and the United States has not indicated where such an evaluation could be found.[122] China further refers to the evidence on interchangeability as insufficient because the questionnaire is not informative regarding how buyers react to price changes.[123]

3.43.   We note that, despite the United States' claim that the USITC reports use the Rule of One, i.e. a non-nested approach, the USITC reports in question do not seem to specify whether their estimates rely on a nested or a non-nested approach. Accordingly, we disagree with the United States' claim that China's reliance on the USITC estimates for macro-elasticities implies adopting the Rule of One.

3.44.   Regarding interchangeability and comparability, we note that while it appears reasonable that these factors contribute to determining elasticities, there is nothing on the record suggesting that these would be the only factors. These factors might imply that the ratio of micro- to macro-elasticity is indeed lower for the products at issue than for less comparable products. However, we fail to see this as clear evidence that the ratio should be one as suggested by the United States.

3.3.1.2 Standard approach in the economic modelling literature

3.45.   According to China, using the Rule of Two would be in accordance with an established standard for economic analysis of international trade. China argues that the Rule of Two has been widely applied in the context of modelling the effect of counterfactual policy changes, including by the USITC, the WTO Secretariat, and the Global Trade Analysis Project (a network of researchers and policy-makers that provides a standard model and data for modelling global trade flows).[124] China submits that this standard in the literature is based on a series of papers finding micro-elasticities to be larger than macro-elasticities. In comparison, according to China, the United States' assumption of a constant elasticity between all suppliers is an outlier in the economic literature.[125]

3.46.   The United States argues that although the Rule of Two has been used in certain trade policy modelling literature, the fact that a rule of thumb may be widely used is no substitute for evidentiary support, and considers that the studies cited by China in support of the Rule of Two suffer from biased estimation techniques.[126] The United States notes that, contrary to China's assertion, although the USITC employed the Rule of Two in multisector computable general equilibrium (CGE) modelling, the lack of empirical support led the USITC to abandon the Rule of Two in its recent CGE analysis of the impact of the US-Mexico-Canada Agreement.[127] The United States further argues that

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[119] The United States notes that, as examples of both parties' reliance on USITC reports, the parties have set the macro-elasticity equal to the elasticity of substitution reported in USITC reports, and have used the supply and demand elasticity estimates reported in USITC reports (United States' response to Arbitrator question No. 1, para. 2).

[120] United States' response to Arbitrator question No. 1, para. 3.

[121] United States' response to Arbitrator question No. 1, para. 4.

[122] China's written submission, para. 60.

[123] China's opening statement at the meeting of the Arbitrator, para. 13.

[124] China's methodology paper, paras. 8 and 83-86. See also China's written submission, para. 54.

[125] China's methodology paper, paras. 8 and 87-89 (referring to Exhibits CHN-63, 69, and 70); written submission, para. 3; and response to Arbitrator question No. 1, para. 5.

[126] United States' response to Arbitrator question No. 1, para. 20; Exhibit USA-33.

[127] United States' written submission, para. 109 (referring to Exhibits USA-30 and USA-33).

CGE assumptions are not necessarily applicable to the type of product-by-product, partial equilibrium (PE) modelling required in these proceedings.[128] The United States adds that the increased discarding of the Rule of Two, even in multisector CGE modelling, confirms that this rule is not an appropriate simplifying assumption for a single-product PE model. Regarding PE modelling, the United States argues that the Rule of One is standard practice and has been used in previous arbitrations, including in DS471.[129]

3.47. We consider that the degree to which a standard in the economic literature may serve as guidance in a specific arbitration proceeding would depend not only on its alleged wide use but also on the evidence it is based on and its applicability to the specific situation at issue.

3.48. We agree with the United States that the use of the Rule of Two in CGE modelling appears to be based on a limited set of older studies that do not provide conclusive evidence that micro-elasticities are consistently twice as large as macro-elasticities. At most, these studies could be taken to support the conclusion that micro-elasticities tend to be larger than macro-elasticities. In any event, a standard applied in CGE modelling might not necessarily be informative for a PE model as used in the form of the Armington model in this arbitration. CGE models analyse more aggregated sectors rather than individual products, which might have an impact on the degree of substitutability.

3.49. While the United States points out that the USITC has discarded the Rule of Two, the United States has not substantiated its claim that the Rule of One is standard in the PE modelling literature, nor has the United States submitted any evidence which such a standard may be based on. The United States references a USITC working paper, which provides a technical description of the Rule of One and claims that "the standard trade policy model is the constant elasticity of substitution (CES) tariff model"[130], without however substantiating the reasons for using such Rule. Further, while the USITC working paper describes the use of the Rule of One, it also contains declarations acknowledging the nested approach and the Rule of Two.[131] In any case, we do not consider that a single study could establish the existence of a widely applied literature standard.

3.50. In light of the above, we consider that the parties' arguments regarding literature standards do not provide conclusive support for either a nested approach (with any ratio, including the Rule of Two) or a non-nested approach for the purposes of this arbitration.

3.3.1.3 Econometric evidence

3.51. China claims that the Rule of Two is additionally supported by econometric evidence reported in a recent study (Feenstra et al.[132]). At the outset, the United States claims that none of the products at issue in these proceedings were in the sample used in the study and hence the results cannot be generalized.[133] However, China notes that Feenstra et al. does estimate a micro-elasticity for OCTG and that the broad categories covered by the study include "Metal Products" which includes products at issue in this dispute.[134] We consider that while the direct product overlap between Feenstra et al. and the products at issue is limited to OCTG, the presence of the product categories

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[128] United States' written submission, para. 4.
[129] United States' written submission, para. 110.
[130] Exhibit CHN-60, p. 2. See also United States' response to Arbitrator question No. 70, fn 7 to para. 6; No. 100, fn 94 to para. 98; and No. 101, fn 96 to para. 100.
[131] For instance, the paper acknowledges that "modellers commonly nest all imported varieties in an industry and keep the domestic variety outside the nest", that "many modellers use the rule-of-two", and that "for many products, there is greater substitutability between imported varieties than there is between domestic and imported varieties". (Exhibit CHN-60, pp. 2, 8, and 16).
[132] Robert C. Feenstra, Philip Luck, Maurice Obstfeld, and Katheryn N. Russ, "In Search of the Armington Elasticity," *The Review of Economics and Statistics*, 2018 100:1, 135-150 (Exhibit CHN-63) (Feenstra et al.).
[133] United States' response to Arbitrator question No. 1, paras. 17-18.
[134] China's response to Arbitrator question No. 70, paras. 2 and 4.

"Primary Metals" and "Metal Products"[135] in the study confers relevance to Feenstra et al. given that seven out of the ten products at issue fall under these categories.[136]

3.52.   China relies on essentially two sets of the study's results concerning hypothesis tests and point estimates. Regarding hypothesis tests, China argues firstly that, for 34.7% of the cases, Feenstra et al. is able to reject in a statistically significant way the hypothesis that the micro-elasticity is less than or equal to the macro-elasticity. China adds that the failure to reject the hypothesis for the other two thirds of the products in no way indicates that the Rule of One is a superior choice.[137] Secondly, China states that, when testing the hypothesis of the Rule of Two, the study is only able to reject the Rule of Two for between 10% and 20% of the cases. According to China, Feenstra et al. suggests that, at a minimum, the micro-elasticity should be above the macro-elasticity and the vast majority of contemporary trade policy modellers fail to find anything in the study that dissuades them from adopting the Rule of Two.[138]

3.53.   The United States responds that the fact that Feenstra et al. finds estimated macro-elasticities that are statistically and significantly lower than estimated micro-elasticities for only "between one-quarter and one-third of the [sample] goods" supports its own position.[139] The United States suggests that China misinterprets the evidence that the micro-elasticity may be larger than the macro-elasticity as definitive evidence that for all products the micro-elasticity is exactly two times larger than the corresponding macro-elasticity.[140] The United States adds that Feenstra et al. does not provide information on the power of the statistical tests applied. The United States refers to Bayes' Theorem[141], according to which the power of a statistical estimator must be known if one wishes to determine the probability that a null hypothesis (in this case, the Rule of Two) is true when the statistical test fails to reject this null hypothesis.[142]

3.54.   Regarding point estimates, China notes firstly that Feenstra et al. obtains higher point estimates for elasticities among imports in 74.5% of the cases analysed. If the elasticities were to be the same, China contends, one would see higher point estimates in only 50% of the cases, and the probability of finding higher point estimates in 74.5% of cases would essentially be zero in the scenario argued by the United States.[143] China adds that in the product category most comparable to the products at issue (Metal Products), all goods sampled by Feenstra et al. have higher micro- than macro-elasticity point estimates. China also notes that for the one product which is subject to both Feenstra et al. and this dispute, OCTG, the estimated micro-elasticity is between two and 3.5 times higher than the macro-elasticity estimated by USITC.[144]

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[135] These two product categories appear to be based on the North American Industry Classification System (NAICS) and are defined by the NAICS manual as a "subsector [that] smelt[s] and/or refine[s] ferrous and nonferrous metals from ore, pig or scrap, using electrometallurgical and other process metallurgical techniques" (Primary Metals) and as a "subsector [that] transform[s] metal into intermediate or end products, other than machinery, computers and electronics, and metal furniture, or treat[s] metals and metal formed products fabricated elsewhere" (Metal Products). Executive Office of The President - Office of Management and Budget, North American Industry Classification System, 2017. See
https://www.census.gov/naics/reference_files_tools/2017_NAICS_Manual.pdf.

[136] The exceptions being Kitchen Shelving, Print Graphics, and Solar Panels.

[137] China's written submission, para. 57.

[138] China's written submission, para. 59.

[139] United States' written submission, para. 108.

[140] The United States explains that the Feenstra et al. paper conducts two statistical tests for a set of products that are not randomly selected and are not representative of the products at issue in these proceedings, and links China's assumptions to each test. According to the United States, the first test is for the null hypothesis that the micro-elasticity is less than or equal to the macro-elasticity versus the alternative hypothesis that the micro-elasticity is greater than the macro-elasticity (in which the authors reject the null hypothesis for two-thirds to three-quarters of the sample products, and do not reject the null hypothesis, but cannot conclude the alternative hypothesis is valid, for the remaining products), and the second test is for the null hypothesis that the Rule of Two is valid (in which the authors find statistical evidence to reject the null hypothesis in one-tenth to one-fifth of the products in the sample). (United States' response to Arbitrator question No. 1, paras. 9-10).

[141] Bayes' Theorem provides the probability of a null hypothesis given the outcome of a statistical test. (United States' response to Arbitrator question No. 1, fn 34 to para. 12).

[142] United States' response to Arbitrator question No. 1, para. 12. The United States also contests an example submitted by China in Exhibit CHN-96, claiming that China relies on incorrect data from Feenstra et al. (Ibid., paras. 14-16; Exhibits CHN-96; and USA-102 (BCI))

[143] China's written submission, para. 56.

[144] China's response to Arbitrator question No. 70, paras. 1-6.

3.55. The United States contests China's interpretation of the point estimates of Feenstra et al. for extrapolating beyond what is supported by the data presented in that paper in light of the large standard errors surrounding them.[145]

3.56. We note the seemingly contradictory hypothesis tests in which Feenstra et al. first fails to reject the Rule of Two for up to 90% of the products studied but also reports that the micro-elasticity is statistically significantly larger than the macro-elasticity for only about one third of the products reviewed. This may be explained by relatively imprecise estimates potentially caused by the small number of observations in the study. In light of this, we fail to see these hypothesis tests as conclusive evidence for either a nested or a non-nested approach.

3.57. Concerning point estimates, we agree with China that Feenstra et al. reporting estimated micro-elasticities that are larger than estimated macro-elasticites for 74.5% of the products studied supports the use of a nested approach. Even if the point estimates are not precisely estimated and the United States is correct in arguing that China's calculations extrapolate beyond what the study's data supports, they appear to be the best available econometric evidence on the record for the relative size of micro- and macro-elasticities.

3.58. That said, we do not concur with China that Feenstra et al. provides clear evidence in favour of implementing the nested approach using the Rule of Two in these arbitration proceedings. The estimated micro-elasticities in Feenstra et al. are not consistently twice as large as the estimated macro-elasticities. Therefore, we take the econometric evidence as supportive of a nested approach but not of the implementation using the Rule of Two.

3.3.1.4 Descriptive statistics

3.59. China argues that product-specific descriptive evidence complements the econometric evidence. China claims that the United States' suggestion to adjust the Armington model to reflect the increased market share of countries that are Rising Suppliers[146], in fact, lends support to the Rule of Two. China argues that, at its core, the United States seems to be showing that non-Chinese import suppliers gained larger market share than expected after the imposition of the duties.[147] For China, this pattern of third-country responses can be explained by the fact that micro-elasticities are greater than macro-elasticities.[148] China argues that, at least regarding cases where the United States feels such an adjustment should be made to the Armington model, the United States has provided direct evidence that the import-import response is larger than the import-domestic response.[149] To support its argument, China presents a table showing that, for each of the products at issue, the drop in China's shares in the US market from the year-prior to the remedy year (17.77% on average) is smaller than the drop in China's share of US imports in the same period (39.86% on average). According to China, this is evidence that the CVDs imposed on Chinese products result in trade diversion to non-subject imports at a rate higher than the diversion to US domestic products.[150]

3.60. The United States criticizes China for mischaracterizing the United States' argument about Rising Suppliers. The United States acknowledges that its proposed "supply shock" adjustment implies that imports from certain third countries have gained market share at the expense of products of the US domestic, Chinese, and other RoW varieties, and that a nested approach generates such a market response.[151] However, the United States argues that the adjustments proposed by China and the United States are based on different underlying assumptions, which have substantial implications for estimating the level of N/I. According to the United States, China's application of the Rule of Two implies that imports from China are twice as substitutable for imports from non-subject countries than they are for the domestic variety.[152] On the contrary, the United States argues that the underlying assumption of its proposed supply-shock adjustment is that producers in certain third countries have increased their ability to supply during the period

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[145] United States' response to Arbitrator question No. 1, para. 19.
[146] See section 3.3.4 below.
[147] China's written submission, para. 53.
[148] China's response to Arbitrator question No. 1, para. 2.
[149] China's written submission, para. 61. See also China's response to Arbitrator question No. 1, para. 2.
[150] China's response to Arbitrator question No. 1, paras. 3 and 4.
[151] United States' response to Arbitrator question No. 1, para. 6.
[152] United States' response to Arbitrator question No. 1, para. 7.

between the imposition of the CVDs and the expiration of the RPT, independently of any duties on Chinese imports.[153]

3.61. We agree with China that the trade pattern observed after the imposition of the CVDs in which third country suppliers gained a larger market share relative to domestic suppliers could be consistent with a nested approach. The United States argues that such a trade pattern is also consistent with its proposed adjustment related to Rising Suppliers. However, as analysed later[154], we do not consider that the United States has substantiated this adjustment. We also note that the intensity of the observed trade diversion towards other importers varies significantly by product rather than being consistently around twice as large as the trade diversion towards domestic varieties. Our conclusion is, thus, that this descriptive evidence can be supportive of a nested approach with micro-elasticities larger than macro-elasticities but it does not support China's implementation of that approach with the Rule of Two.

3.3.1.5 Conclusion

3.62. As mentioned[155], China's proposed adjustment raises two issues: (i) whether to apply a nested approach; and, if so, (ii) whether to use the Rule of Two for the specific ratio between macro- and micro-elasticities for all of the products at issue. In light of the aforementioned considerations, and having reviewed the totality of the arguments and evidence put forward by the parties, we have arrived at the following conclusions.

3.63. As regards the nested approach, we consider that the United States has failed to prove that micro-and macro-elasticities are equal for the products at issue (Rule of One). Logically, therefore, the United States has not proven that China's suggestion for using a nested approach *per se* is inadequate. Indeed, we consider that the evidence provided by China has successfully demonstrated the appropriateness of the nested approach.

3.64. As regards the specific ratio for such a nested approach, although the United States has not made a *prima facie* case in favour of its alternative proposal of a Rule of One, we consider that it has called into question the Rule of Two advanced by China, and that the evidence submitted by China is not sufficient to justify the Rule of Two. We recall in this regard that, despite the allocation of the general burden of proof, "it is for each party to bring forward the elements to sustain the factual assertions it makes".[156] While the United States "is required to submit evidence showing that [China's] proposal is not equivalent" within the meaning of Article 22.4 of the DSU, China is also "required to come forward with evidence explaining how it arrived at its proposal and showing why its proposal is equivalent to the trade impairment it has suffered".[157]

3.65. We recall China's argument that, if the parties' arguments are "of equal merit such that the evidence was in 'equipoise'"[158], its position should necessarily prevail. This concept was explained by a previous arbitrator as follows:

> Following well-established WTO jurisprudence, … it is for the [original respondent] to submit arguments and evidence sufficient to establish a *prima facie* case or presumption that the level of suspension proposed by the [original complainant] is not equivalent to the level of nullification and impairment … . Once the [original respondent] has done so, however, it is for the [original complainant] to submit arguments and evidence sufficient to rebut that presumption. Should all arguments and evidence

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[153] United States' response to Arbitrator question No. 1, para. 8.
[154] See section 3.3.4 below.
[155] See paragraph 3.32 above.
[156] Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, para. 2.24 (referring to Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; *EC – Hormones (US) (Article 22.6 – EC)*, para. 11).
[157] Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 11; *EC – Hormones (US) (Article 22.6 – EC)*, para. 11. (emphasis omitted) See also Decisions by the Arbitrators, *Brazil – Aircraft (Article 22.6 – Brazil)*, para. 2.8; *EC – Bananas III (Ecuador) (Article 22.6 – EC)*, para. 38; and *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.4.
[158] China's opening statement at the meeting of the Arbitrator, para. 16. (emphasis omitted)

remain in equipoise, the [original respondent], as the party bearing the original burden of proof, would lose.[159]

3.66. We do not consider that the parties' evidence and arguments are "of equal merit" or "in equipoise" in this context. While the United States has failed to disprove the nested approach *per se*, its claim against a nested approach with the specific ratio of two has been successful. It has thus established "a *prima facie* case or a presumption" that China's suggestion for a Rule of Two would result in a level of suspension not equivalent to the level of N/I. As noted, while showing that macro-elasticities are higher than micro-elasticities, China's evidence is insufficient to justify the Rule of Two, and hence China has not rebutted the presumption established by the United States.

3.67. In short, the parties' arguments and evidence do not mutually undermine each other's positions. Rather, they provide sufficient basis for accepting a nested approach, but not with a ratio of two as suggested by China.

3.68. Given its limitations, however, the evidence before us is insufficient for determining a specific figure for a nested approach in the range argued by the parties, i.e. between 1 and 2. Nonetheless, in light of our mandate as an Article 22.6 arbitrator, we cannot end our analysis here. We are called upon to go further and estimate the level of suspension we consider to be equivalent to the level of N/I suffered by China. As noted by a previous arbitrator:

> There is … a difference between our task here and the task given to a panel. In the event we decide that the [original complainant's] proposal is not WTO consistent (i.e. the suggested amount is too high), we should not end our examination the way panels do, namely by requesting the DSB to recommend that the measure be brought into conformity with WTO obligations. … [W]e would be called upon to go further. In pursuit of the basic DSU objectives of prompt and positive settlement of disputes, we would have to estimate the level of suspension we consider to be equivalent to the impairment suffered. This is the essential task and responsibility conferred on the arbitrators in order to settle the dispute.[160]

3.69. As the parties' evidence points to an overall ratio of micro- to macro-elasticities of above one, but not necessarily as high as two, we need to choose an appropriate ratio between these values. Given our task and the limitations of the evidence before us, we felt compelled to review other available approaches in the economic literature beyond those put forward by the parties, and note that another major CGE model, Mirage, by the Centre d'Etudes Prospectives et d'Informations[161], uses the square root of two, or approximately 1.41.[162] As this ratio is in line with our reading of the parties' evidence that the overall ratio of micro- to macro-elasticities for the products at issue would be above one but below two, we adopt this number and implement the nested approach accordingly, using a ratio of the square root of two (i.e. approximately 1.41).

3.3.2 Net-of-duty adjustment

3.70. As explained[163], once both steps of the two-step Armington model have been completed, a subtraction needs to be performed. For each CVD order at issue, the figure for the estimated remedy-year sales of imports from China obtained under step 1 of the Armington model with WTO-inconsistent CVD rates needs to be subtracted from the figure for the estimated counterfactual remedy-year sales of imports from China obtained under step 2.

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[159] Decisions by the Arbitrators, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 9; *EC – Hormones (US) (Article 22.6 – EC)*, para. 9. (emphasis omitted) See also Decision by the Arbitrator, *Brazil – Aircraft (Article 22.6 – Brazil)*, para. 2.8.

[160] Decisions by the Arbitrators*, EC – Hormones (Canada) (Article 22.6 – EC)*, para. 12; *EC – Hormones (US) (Article 22.6 – EC)*, para. 12. (emphasis omitted; fns omitted)

[161] The Mirage consortium tasked with maintaining the model consists of the European Commission, the International Food Policy Research Institute (IFPRI), the Institut National de la Recherche Agronomique, the International Trade Centre, Trinity College, the United Nations Economic Commission for Africa, Università del Molise, and the World Trade Organization. See http://www.mirage-model.eu/miragewiki/index.php?title= MIRAGE_Consortium.

[162] See Decreux, Y. and H. Valin (2007), MIRAGE, Updated Version of the Model for Trade Policy Analysis with a Focus on Agriculture and Dynamics, CEPII Working Paper no. 2007-15, October 2007, CEPII.

[163] See para. 3.27 above.

3.71. China's proposed net-of-duty adjustment would entail excluding duty payments from both sides of this subtraction, and hence ultimately from the N/I calculation.[164] In essence, China argues that the export values used for the N/I calculation should not include any duty revenue being collected as such duties do not accrue to Chinese exporters.[165]

3.72. Initially, the United States disagreed with this adjustment suggested by China, arguing that it is a "baseless" departure from the arbitrator's approach in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, which would "distort the results of the estimation of the level of [N/I]".[166] However, in response to a question from the Arbitrator, the United States ultimately describes China's suggested adjustment for a net-of-duty calculation as "reasonable … from the perspective of trade opportunities for China", and agrees to revise its own computer code to incorporate China's net-of-duty adjustment.[167]

3.73. In light of the parties' agreement, we shall apply China's net-of-duty adjustment when calculating the level of N/I for the purpose of these proceedings. In doing so, we need not address the approach of prior Article 22.6 arbitrations.[168]

3.3.3 The effects of dumping on China's market shares

3.74. According to the United States, China's market share in the year prior to the imposition of the CVDs was distorted by dumping practices.[169] As a consequence, the first methodological adjustment proposed by the United States to the two-step Armington model would be to take into account the effect of such dumping on China's market shares by simulating the effect of the AD duties adopted by the United States in response, in step one of the two-step Armington model.[170] In practice, the United States suggests applying a duty rate on imports from China that is equal to the WTO-inconsistent CVD rate plus an AD duty rate in step one of the two-step Armington model, before moving in step two to a rate equal to the WTO-consistent CVD rate plus the same unchanged AD duty rate, rather than simply modelling the effect of a move from a WTO-inconsistent to a WTO-consistent CVD rate.

3.75. The United States argues that this adjustment would ensure that the level of N/I is calculated using a model that more accurately represents the US market at the expiration of the RPT, based on a counterfactual that better captures the changes in duty rates applied to imports from China in that period.[171] If dumping is not accounted for, explains the United States, the model would generate 2017 counterfactual market shares that would overstate China's underlying competitiveness and inflate the level of N/I.[172] According to the United States, not including other factors in the model

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[164] China's methodology paper, paras. 9 and 76-77.

[165] China's methodology paper, paras. 7 and 33.

[166] United States' written submission, para. 106.

[167] United States' response to Arbitrator question No. 9, para. 74. See also Exhibits USA-101; USA-105; and USA-139.

[168] The two prior arbitrations relying on the two-step Armington model applied different approaches to calculate the level of N/I. A net-of-duty calculation was used in *US – Washing Machines (Article 22.6 – US)*, whereas the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* applied a gross-of-duty calculation (see Decisions by the Arbitrators, *US – Washing Machines (Article 22.6 – US)*, para. 5.3; *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, section 7.2). China argues that the arbitrator in *US – Washing Machines (Article 22.6 – US)* was right to apply the net-of-duty adjustment, and that the computer code used by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* contained a "critical programming error" by not excluding the relevant duties (see China's response to Arbitrator question No. 9, para. 16, referring to China's written submission, paras. 65-75; China's methodology paper, paras. 73-81).

[169] United States' written submission, paras. 7 and 72.

[170] United States' written submission, paras. 7 and 72. The United States includes up to three distinct Chinese varieties in its proposed implementation of the two-step Armington model, which depend on the product at issue and the different AD duties applied to Chinese imports (see Exhibits USA-81 and USA-82). According to China, the approach of adopting three distinct Chinese varieties reflects the model used in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* that was formulated to accommodate the AD duties at issue in that dispute, which differed depending on the classification of the Chinese firms. In the present proceedings, China argues, the CVD duties apply consistently across all the firms, and the parallel AD duties cannot be properly incorporated into the model because the added complexity of three distinct varieties is unnecessary (China's response to Arbitrator question No. 3, para. 11).

[171] United States' response to Arbitrator question No. 3, paras. 25 and 26.

[172] United States' written submission, paras. 7, 68, 72, 123, and 136; opening statement at the meeting of the Arbitrator, para. 23. See also Exhibits USA-74 (BCI) and USA-77.

that could affect China's 2017 market share would implicitly assume that such factors did not affect the United States' market.[173] The United States claims that if the AD duties are not explicitly included in step one, the Armington model would be essentially asking how the market would be different if CVD rates were WTO-consistent at the expiration of the RPT <u>and</u> if AD duties had never been imposed.[174]

3.76. The United States argues that imports from China in 2017 were affected by both CVD and AD duties, imposed at or around the same time for each of the ten products at issue.[175] The United States explains that its rationale for this proposed adjustment extends to any changes that occurred between the imposition of the CVD measure and the remedy year, as long as the change had an impact on market shares over the relevant time period, and there is evidence supporting that relationship.[176] According to the United States, if, hypothetically, the AD measures had been applied several years prior to the imposition of the CVD measures, it would not be appropriate to incorporate them into step one of the two-step Armington model.[177] In such a case, explains the United States, the AD measures would already be reflected in China's year-prior market share, and, accordingly, the impact of these measures on China's relative competitiveness would already be represented in the 2017 counterfactual market shares.[178] In contrast, the United States argues, AD measures imposed in the same year as the CVD measures or any year between that year and 2017 should be incorporated into the model to generate an adequate representation of the counterfactual 2017 market.[179]

3.77. China contests the validity of this proposed adjustment and requests the Arbitrator to reject it. According to China, this proposal is an attempt to undermine the integrity of the two-step Armington model by reverting it, in practice, to a one-step approach.[180] China claims that this adjustment would artificially reduce China's market share in step two of the methodology, ignoring year-prior market shares and understating the level of N/I[181] as a result of attributing the effect of the CVD duties to the AD duties.[182] The purpose of the two-step Armington model, argues China, is to identify the N/I caused by the measures that are the subject of the N/I inquiry, which means taking those measures and only those measures into account in the model.[183] China notes that this methodology was developed specifically to address the problem of the depressing effect of the United States' WTO-inconsistent duties over time.[184] China is of the view that the timing or duration of the AD duties is irrelevant. According to China, whether AD duties were imposed in the year-prior, the remedy year, or the period in between, the effect of the WTO-inconsistent CVD duties would be distorted if an adjustment for the AD duties were to be included in the model.[185]

3.78. In response, the United States challenges the idea that the two-step Armington model could isolate the effect of a particular policy, such as CVDs, by excluding all other relevant policies, such as AD duties. If that were true, argues the United States, the level of N/I estimates obtained in a model that simulates changes in both CVD and AD duties together should be equal to the sum of

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[173] United States' closing statement at the meeting of the Arbitrator, para. 10.
[174] United States' opening statement at the meeting of the Arbitrator, paras. 13 and 21. (emphasis original)
[175] United States' response to Arbitrator question No. 2, para. 22.
[176] United States' closing statement at the meeting of the Arbitrator, para. 10; response to Arbitrator question No. 102, para. 106.
[177] United States' written submission, paras. 68 and 72; response to Arbitrator question No. 72, para. 14.
[178] United States' response to Arbitrator question No. 72, para. 16.
[179] United States' response to Arbitrator question No. 72, para. 17.
[180] China's written submission, paras. 3, 4, 29, 34, 36, and 38; response to Arbitrator question No. 2, para. 9, and No. 30, para. 3; closing statement at the meeting of the Arbitrator, para. 9.
[181] China's response to Arbitrator question No. 30, para. 3; opening statement at the meeting of the Arbitrator, para. 17.
[182] To illustrate this point, China suggests imagining a case where the United States has imposed both AD duties at a rate of 100% and WTO-inconsistent CVD duties at a rate of 50% on a particular product. Supposing that both duties are market preclusive, China argues, if an arbitrator were to incorporate the AD duties into an N/I assessment of the CVD duties, the resulting N/I would be zero, because the parallel AD duties would be market-preclusive on their own (China's opening statement at the meeting of the Arbitrator, paras. 20 and 26-27).
[183] China's response to Arbitrator question No. 104, para. 72.
[184] China's closing statement at the meeting of the Arbitrator, para. 9.
[185] China's response to Arbitrator question No. 72, para. 16.

the level of N/I estimates obtained in models that simulate changes in each policy individually.[186] However, the United States points out, the sum of the N/I estimates from individually modifying CVD and AD duties for every single product exceeds the estimate obtained in a model that simulates concurrent changes in both CVD and AD duties.[187]

3.79. China considers that the United States is mistaken in this hypothetical calculation. According to China, if the sum of the AD and CVD N/I calculated separately equals the level of N/I when the effects of the two duties are modelled together, it "would show that the full measure of [N/I] was *not* being captured by the model but rather that some portion was being misattributed to the parallel AD duties".[188] China argues that trade distortions have an inherently non-linear impact on the value of trade. On account of this non-linearity, modelling the effect of a market-preclusive AD duty before modelling the effect of a WTO-inconsistent CVD duty would lead to a finding of zero N/I resulting from the latter duty. According to China, the United States fails to take into account the non-linear effects of duties (or other measures) that affect trade. Ignoring the non-linear nature of the interaction between trade distortions, in China's view, would be incorrect from an economics perspective.[189]

3.80. China further contends that there is no principled basis for this adjustment.[190] According to China, incorporating the AD duties, as suggested by the United States, would open a "Pandora's Box of complications" and encourage the United States to seek endless "adjustments" for measures that happen to overlap temporally with the measures subject of the N/I inquiry in order to collapse the two-step Armington model into a one-step approach.[191] China extends this point to future arbitrations, arguing that adopting this adjustment "would open the door to a 'tit-for-tat' series of proposed adjustments by complainants and respondents that would so complicate the application of the two-step model as to render impossible the Arbitrator's task of accurately determining the level of nullification and impairment".[192] In China's view, there would essentially be no limit to the number and types of "adjustments" that could be made to the original complainant's market shares in order to reduce those shares to the respondent's desired levels.[193] China considers that the evidentiary standard relied upon by the United States imposes no meaningful restraint on the types of non-tariff actions that could be incorporated into the model because it effectively reserves unlimited discretion to the United States to adjust market shares as it sees fit.[194]

3.81. China adds that, if the United States was permitted to "adjust" market shares downward due to factors that allegedly inflated China's market share in the year-prior (and, thus, reducing the level of N/I), China would need to be permitted to "adjust" its market share upward in the remedy year to account for factors that would have increased its market share in that year, thus also increasing the level of N/I.[195] China claims that it has not done so because it understands that this would fatally compromise the integrity of the two-step Armington model.[196] Asked for measures that could overlap temporally with the CVDs at issue, China indicates that it "is not aware of any trade remedy measures that applied to the products at issue in [the year prior to the imposition of the CVD measures]".[197]

3.82. The United States notes that China has not brought forward evidence and arguments for any other factors that may have increased China's relative competitiveness between the year-prior and 2017.[198] The United States claims that it considered those factors itself but did not find evidence

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[186] United States' response to Arbitrator question No. 4, para. 39. See also ibid., para. 40, and Table 5.
[187] United States' response to Arbitrator question No. 4, para. 39. See also ibid., para. 40, and Table 5.
[188] China's opening statement at the meeting of the Arbitrator, para. 28. (emphasis original)
[189] China's response to Arbitrator question No. 104, para. 64.
[190] China's response to Arbitrator question No. 72, para. 20.
[191] China's written submission, para. 36; response to Arbitrator question No. 30, para. 2, and No. 105, para. 74.
[192] China's opening statement at the meeting of the Arbitrator, para. 5. See also China's closing statement at the meeting of the Arbitrator, para. 8.
[193] China's written submission, para. 29.
[194] China's comments on the United States' response to Arbitrator question No. 71, para. 7.
[195] China's response to Arbitrator question No. 105, para. 74.
[196] China's comments on the United States' response to Arbitrator question No. 102, para. 67.
[197] China's response to Arbitrator question No. 2, para. 8.
[198] United States' comments on China's response to Arbitrator question No. 105, para 44.

demonstrating that any other contemporaneous duties or any non-tariff actions in the United States meaningfully affected China's relative competitiveness.[199]

3.83. China also argues that this proposed adjustment is based on a misunderstanding of the purpose of Article 22.6 of the DSU.[200] According to China, Article 22.6 of the DSU is concerned with "the measure found to be inconsistent with a covered agreement". China notes the United States' acknowledgement that "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."[201] In China's view, accepting the United States' proposed adjustment would threaten the viability of the Article 22.6 proceeding as a mechanism for inducing compliance with the recommendations and rulings of the DSB.[202] In addition, China argues that incorporating the parallel AD duties would require the Arbitrator to evaluate the trade effects and the WTO-consistency or inconsistency of measures that were not subject to the recommendations and rulings of the DSB in this dispute, noting that seven of the ten products at issue underlying these proceedings were also at issue in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* and involved the USDOC's application of WTO-inconsistent anti-dumping methodologies.[203] Thus, China argues, incorporating the WTO-inconsistent AD duties analysed in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* would imply rewarding the United States it for its WTO-inconsistent actions.[204] China argues that even if the AD duties were not WTO-inconsistent, it would be incorrect to incorporate them into the model.[205] Trade actions other than those at issue, according to China, should not be considered, regardless of their contemporaneity or WTO-consistency or inconsistency.[206]

3.84. The United States challenges China's view that including the AD duties in the Armington model requires the Arbitrator to assess their WTO-consistency or inconsistency, as they are incorporated into the model only to correctly represent the actual extent of duties on imports from China in the relevant period.[207] In other words, the United States argues that, whether WTO-consistent or WTO-inconsistent, the AD duties did exist, and they can and should be taken into account in the analysis.[208]

3.85. China notes that parallel duties were present in *US – Washing Machines (Article 22.6 – US)* and *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, but those arbitrators computed the level of N/I by isolating the impact of the specific measures that were at issue. According to China, a major reason for the implementation of the two-step Armington model in those arbitrations was to separately identify and evaluate the effect of the specific measures under scrutiny.[209] The United States explains, however, that none of the parties in those proceedings had proposed a two-step Armington model to begin with, and thus no party proposed any adjustments to control for other relevant factors in a two-step Armington model.[210]

3.86. We note that there seems to be no doubt that the AD duties were made effective either contemporaneously or with a very limited delay relative to the introduction or amendment of the final CVDs at issue. China does not dispute the existence of these parallel duties or their timing. According to the evidence provided by the parties, the relevant dates of imposition of the CVDs and the AD duties were the following:

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[199] United States' response to Arbitrator question No. 71, para. 13; comments on China's response to Arbitrator question No. 105, para 46.
[200] China's response to Arbitrator question No. 104, para. 63.
[201] China's written submission, para. 30 (quoting United States' written submission, para. 35) (original emphasis by the United States omitted).
[202] China's response to Arbitrator question No. 72, para. 20.
[203] China's written submission, paras. 28 and 31.
[204] China's written submission, para. 33.
[205] China's response to Arbitrator question No. 30, paras. 1 and 4.
[206] China's opening statement at the meeting of the Arbitrator, paras. 18-19.
[207] United States' response to Arbitrator question No. 4, para. 38, and No. 103, para. 120.
[208] United States' response to Arbitrator question No. 4, para. 39. See also ibid., para. 40, and Table 5.
[209] China's written submission, paras. 4 and 37 (referring to Decisions by the Arbitrators, *US – Washing Machines (Article 22.6 – US)*, paras. 3.120 and 3.121; *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, paras. 7.1-7.6).
[210] Unites States' comments on China's response to Arbitrator question No. 72, para. 22.

Table 3: Dates of determination of the CVD and AD orders

Product	Final CVD determination date (amendment date)[211]	AD order effective date[212]
Pressure Pipe	28 Jan 2009	17 Mar 2009
Line Pipe	24 Nov 2008 (23 Jan 2009)	13 May 2009
Kitchen Shelving	27 Jul 2009	14 Sep 2009
OCTG	7 Dec 2009 (20 Jan 2010)	21 May 2010
Wire Strand	21 May 2010 (7 Jul 2010)	29 Jun 2010
Seamless Pipe	21 Sep 2010 (10 Nov 2010)	10 Nov 2010
Print Graphics	27 Sep 2010 (17 Nov 2010)	17 Nov 2010
Aluminum Extrusions	4 Apr 2011	26 May 2011
Steel Cylinders	7 May 2012	21 Jun 2012
Solar Panels	17 Oct 2012	07 Dec 2012

3.87. However, the fact that these AD duties existed in parallel with the CVDs does not in itself justify their incorporation. As explained[213], it is for the original respondent in these proceedings, the United States, to prove that China's proposed level of suspension of concessions is not "equivalent" to the level of N/I within the meaning of Article 22.4 of the DSU. To discharge that burden, as prior arbitrators have noted, merely putting forward a different methodology is not sufficient in the absence of a demonstration that China's methodology is incorrect. Accordingly, the fact that the United States has successfully demonstrated the existence of these AD duties, which is uncontested by China, does not discharge the United States' burden of proof. As a previous arbitrator held:

> It may be possible to present an alternative methodology as a way of engaging with, and contributing to disproving, a proposed methodology. However, merely putting forward … a different methodology as 'appropriate' or as one that 'more accurately estimates' the level of nullification or impairment is not sufficient. In the absence of a demonstration that the proposing party's methodology is incorrect, the mere submission of an alternative methodology would not meet the objecting party's burden of proof. *This is because the alternative methodology does not, in itself, assist the Arbitrator in determining whether the result from the first methodology is (or is not) equivalent to the level of nullification or impairment. In such a situation, it would follow from the rules on burden of proof that the objecting party has not proved that the act at issue is WTO-inconsistent.*[214]

3.88. It is *a priori* compelling that a duty increase, such as the imposition of the AD duties advanced by the United States in the context of this proposed adjustment, would have an impact on Chinese imports and their share in the US market. At the same time, as the United States explains, past arbitrators have consistently held that "[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.*"[215] In the words of

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[211] Exhibit CHN-99.

[212] United States' response to Arbitrator question No. 2, paras. 23 and Table 2 thereto, and 24 and Table 3 thereto.

[213] See para. 3.2 above.

[214] Decisions by the Arbitrator, *US – COOL (Article 22.6 – US)*, para. 4.12. (emphasis added; fns omitted) See also Decision by the Arbitrator, *US – Large Civil Aircraft (2nd complaint) (Article 22.6 – US)*, para. 4.3.

[215] United States' written submission para. 36 (quoting Decision by the Arbitrator, *US – 1916 Act (EC) (Article 22.6 – US)*, para. 4.5). (emphasis added)

the United States, "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*."[216]

3.89.   In our view, as we need to focus on the N/I resulting from the CVDs at issue, the United States needs to show more than the mere existence of the AD duties or that these may have an impact on Chinese imports. The United States must demonstrate whether and, if so, in what manner or degree any trade impact of these AD duties would alter the level of N/I resulting from the CVDs. Indeed, the parties advance different propositions regarding how such measures may interact with each other for calculating the level of N/I.

3.90.   The United States implements its proposed adjustment based on the assumption that CVDs and AD duties are one and the same measure and can be merged into a single duty rate. The United States calculates the level of N/I by using rates beyond the WTO-consistent and -inconsistent CVD rates, by adding the same unchanged AD duty rates to both sides of the subtraction.[217] China contests the assumptions underlying this calculation method, arguing that the implementation applied by the United States may lead to an overlapping effect of CVDs and AD duties and ignore the possibility of a non-linear response to these two types of separately imposed duties, which risks distorting the impact of the CVDs at issue on the level of N/I.[218]

3.91. To sustain its proposed adjustment, the United States merely provides hypothetical N/I calculations that illustrate that the level of N/I would be different when calculations are performed for each type of duty in isolation or when both types of duties are included in a single N/I calculation.[219] However, we note that the result of the calibration of an economic model is a mere quantification of the underlying economic theory and assumptions chosen. The calibration serves to implement such theory and assumptions but does not amount to justifying these.

3.92.   By submitting only such modelling outcomes, without any further evidence, the United States does not substantiate its assumption, and fails to explain whether and, if so, in what manner or degree any trade impact of these AD duties would alter the level of N/I resulting from the CVDs at issue. Accordingly, the United States has not demonstrated that China's estimated level of N/I is inconsistent with Article 22.4 of the DSU, and we shall not adopt this methodological adjustment proposed by the United States.

3.93.   We are reaching this conclusion exclusively on the basis of the above evidentiary grounds and based on the evidence before us in these proceedings. We need not and hence do not make any principled statement as to the appropriateness of an Article 22.6 arbitration taking into account trade measures, such as AD duties, different from those at issue in a specific dispute. We also do not address whether, as a matter of principle, it may or may not be appropriate to consider, in the specific context of applying the two-step Armington model, measures other than those at issue in a specific dispute, and whether the relative timing of such other measures or their alleged WTO-consistency or inconsistency should be of any relevance in that regard.

3.3.4 Factors other than trade remedies (Rising Suppliers)

3.94.   The second adjustment to the two-step Armington model requested by the United States consists of accounting for factors other than trade remedy measures. According to the United States, these other factors entail that new market participants and increased capacity of other third countries have influenced the evolution of the market between the imposition of the CVD measures and the remedy year (2017). The new market participants and third countries whose market shares

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[216] United States' written submission, para. 35. (emphasis added) See also China's written submission, para. 30 (referring to the United States' written submission, para. 35).

[217] United States' written submission, paras. 95, 98, 99, and 102; response to Arbitrator question No. 4, paras. 31-40; comments on China's response to Arbitrator question No. 104, paras. 16 and 19-22; and Exhibits USA-50 (BCI), USA-51 (BCI), and USA-157 (BCI).

[218] China's response to Arbitrator question No. 104, paras. 63-73; comments on the United States' response to Arbitrator question No. 71, paras. 5-9.

[219] United States' response to Arbitrator question No. 4, paras. 39-40, and Table 5.

have allegedly grown disproportionately fast as a result of "industry investments" or certain "government policies"[220] are referred to by the United States as Rising Suppliers.

3.95. The United States suggests implementing the Rising Suppliers adjustment by imposing a negative duty rate on imports from the affected countries. The United States would follow this approach since the structure of the Armington model does not allow for modelling industry investments or government policies explicitly. The size of the negative duty under this adjustment would be intended to generate a market share for the Rising Suppliers as it was observed in 2017.[221] As a result, the adjustment would yield a larger market share for these Rising Suppliers and a smaller market share for all other suppliers, crucially China.

3.96. The United States requests these supply-shock adjustments with respect to five products.[222] For the remaining products at issue, the United States explains that it has either not found sufficient documentation of investments or policy changes to identify a set of Rising Suppliers, or it has not been able to separate data on the relevant imports from the RoW aggregate.[223]

3.97. According to the United States, this adjustment to the two-step Armington model would be necessary to capture China's true relative competitiveness in the 2017 remedy year.[224] Without this adjustment, argues the United States, the two-step Armington model as implemented by China and applied in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* would implicitly assume that the CVDs imposed on imports from China were the only factor contributing to the changes in China's market share between the year-prior and 2017.[225] According to the United States, the simple fact that action was taken against countervailable subsidies may have spurred changes in China and elsewhere that altered the relative competitiveness of different import varieties. This could have contributed to the decline in Chinese imports beyond what is attributable to the price difference resulting from the CVDs at issue.[226]

3.98. China agrees that import varieties' market share in the remedy year is the outcome of a myriad of factors[227], but rejects the United States' proposed adjustment. China considers this to be an arbitrary attempt by the United States to revert to a one-step Armington model with the sole intention of reducing China's remedy-year benchmark market share.[228] China argues that the two-step Armington model was precisely designed to address the issue of the distortion of trade levels in the remedy year.[229] In China's view, adjusting for other factors would open a "pandora's box" and encourage original respondents to seek endless "adjustments" to reduce the original complainant's market share, and thus the level of N/I, and ultimately collapse the two-step approach into a one-step approach.[230] China adds that no supporting evidence has been provided for the United States' assertions. China also notes that, crucially, no evidence is given that the fast growth in the market share of non-Chinese import varieties was not a result of the trade-diverting effect of the WTO-inconsistent CVDs imposed on China.[231] According to China, the implication that there were

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[220] United States' written submission, paras. 73 and 76. For example, according to the United States, investments by producers in Korea, Malaysia, the Netherlands, Thailand, and Viet Nam dramatically increased their overall competitiveness in the solar panels market between 2012 and 2016. (United States' written submission, para. 77 and fn 68 thereto).

[221] Exhibits USA-82; USA-83.

[222] The United States originally presented the adjustment for three products only (OCTG, Aluminum Extrusions, and Solar Panels), but it extended it to two additional products (Pressure Pipe and Line Pipe) in response to a question from the Arbitrator. (United States' written submission, paras. 77, 83-85, and 138; United States' response to Arbitrator question No. 5, paras. 47-53).

[223] The United States provides explanations regarding Kitchen Shelving, Wire Strand, Seamless Pipe, and Print Graphics. (United States' response to Arbitrator question No. 5, paras. 54-58).

[224] United States' written submission, paras. 7, 69, 117, and 123.

[225] United States' written submission, para. 73; United States' response to Arbitrator question No. 5, para. 43.

[226] United States' written submission, para. 74.

[227] China's comments on the United States' response to Arbitrator question No. 103, para. 72.

[228] China's written submission, paras. 3, 34, 40, 43, 62, 79, and 88.

[229] China's written submission, paras. 5 and 35; opening statement at the meeting of the Arbitrator, para. 35.

[230] China's written submission, paras. 29 and 36; opening statement at the meeting of the Arbitrator, para. 34.

[231] China's written submission, para. 47.

no investments or relevant government policies in any countries other than those referenced as Rising Suppliers would confirm that this approach is completely arbitrary.[232]

3.99. We note that, in introducing its evidence, the United States explains that it is not possible to directly observe supply shocks for every product for which the relative competitiveness of third country suppliers has evolved between the imposition of the relevant CVDs and the remedy year. In other words, the United States does not submit direct evidence of the alleged industry investments or government policies that would form the basis of its Rising Suppliers adjustment. Rather, the United States indicates that, "as the best alternative", it has relied on two types of evidence: USITC investigations and trade data trends.[233]

3.100. As the first type of evidence, the United States refers to USITC reports issued in the context of different CVD, AD, and safeguards investigations on the relevant products.[234] Depending on the product at issue, the United States argues, *inter alia*, that these USITC reports detail "investments in manufacturing capacity"[235] or show an emerging industry in which "the United States is a growing market for its exports"[236], or that the duties imposed due to such investigations imply that the imports from those third countries were subsidized or sold at less than fair value in the US market.[237]

3.101. We would need more than the descriptive passages from these USITC reports to assess if the industry investments or government policies claimed by the United States in the context of Rising Suppliers have actually taken place. Without further and direct evidence for these developments in third countries, the information provided in these USITC reports leads to mere assertions. What is more, some of the phenomena referenced in these USITC reports are distinct from the investments and policies claimed by the United States in the context of Rising Suppliers. For instance, the United States being a growing market for exports from a certain third country does not in itself prove the existence of industry investments or government policies, let alone what such investments and policies would specifically entail. Also, the CVDs and AD duties referenced by the United States may be expected to have negatively affected the competitiveness of Rising Suppliers. Indeed, for one product, the United States indicates that it has found evidence of the deterioration of the relative competitiveness of certain third countries due to the imposition of trade remedies against their imports.[238]

3.102. As the second type of evidence, the United States refers to the expansion of the market share of Rising Suppliers *vis-à-vis* other third countries, including China. As mentioned, without further evidence, these changes in market share do not demonstrate the industry investments and government policies claimed by the United States. Absent specific evidence to the contrary, it could be equally plausible to expect that it is precisely because of the effects of the measures at issue on China's market share in the United States that other Members would step in to supply the US market.

3.103. In addition to the lack of direct evidence, the United States' proposed adjustment suffers from another shortcoming insofar as it relies on the assumption that the Rising Suppliers phenomenon is completely exogenous to, or independent from, the measures at issue. The United States acknowledges that this adjustment should be applied when "certain third countries have become more competitive in the U.S. market due to reasons that are independent from the CVD measures at issue".[239] However, as China remarks, it is not clear from the evidence on the record that the increase of the capacities of Rising Suppliers is actually independent from the existence of the WTO-inconsistent CVDs. Some of the USITC reports referenced by the United States, in fact, even indicate that imports from other countries substantially increased their presence in the US market "after the imposition of the antidumping and countervailing duty orders

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[232] China's written submission, paras. 49 and 51.
[233] United States' opening statement at the meeting of the Arbitrator, para. 27.
[234] United States' response to Arbitrator question No. 5, paras. 49-53, and No. 6, paras. 59-63.
[235] United States' response to Arbitrator question No. 6, para. 62.
[236] United States' response to Arbitrator question No. 6, para. 63.
[237] United States' response to Arbitrator question No. 5, paras. 49-58, and No. 6, paras. 60-61.
[238] As a consequence, the United States implements a supply shock adjustment to that specific market to reduce the shares of those third countries whose relative competitiveness has deteriorated (United States' response to Arbitrator question No. 5, paras. 41-58; comments on China's response to Arbitrator question No. 105, para. 46).
[239] United States' closing statement at the meeting of the Arbitrator, para. 14.

on imports from China".[240] In other words, the United States has not demonstrated that the rise of these alleged Rising Suppliers is not a natural consequence of the introduction of the CVDs at issue.

3.104. Accordingly, we shall not adopt the Rising Suppliers methodological adjustment proposed by the United States. We are taking this decision purely on the basis of the above evidentiary issues. As already indicated in the context of the United States' first proposed adjustment[241], we therefore make no principled statement as regards the appropriateness or not of taking into account factors different from the measures at issue, such as Rising Suppliers, in the context of a two-step Armington model.

3.4 Data inputs

3.105. In terms of data inputs, the two-step Armington model necessitates utilizing data on the market share of the three product varieties[242] for the year prior to the imposition of the CVDs at issue, as well as overall market size data for the remedy year for each of the ten products at issue.[243] In addition, the Armington model also requires data on total supply elasticities, demand elasticities, and elasticities of substitution for each of the ten products.

3.106. The following sections address these data issues, based on what we considered to be the most solid evidence[244], the most reasonable calculation methodology[245], and the best available data[246], developing our own calculations where necessary.

3.4.1 Year-prior

3.107. Regarding the year-prior, the parties disagree on specific year-prior data points, and for six products they advance different calendar years as the year-prior.

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[240] USITC Publication 4739 (regarding Solar Panels) (Exhibit USA-22), p. 40. See also ibid., pp. 10 and 93.

[241] See section 3.3.3 above.

[242] In light of our rejection of the United States' proposed adjustment to take into account the effects of dumping, we base our calculations on the following three product varieties suggested by China:
(i) US domestic production; (ii) Chinese imports; and (iii) imports from the rest of the world.

[243] We note that for the purposes of this Decision and the implementation of the two-step Armington model, the relevant market values have been rounded to USD 1,000.

[244] See e.g. Award of the Arbitrator, *US – Section 110(5) Copyright Act (Article 25)*, para. 4.28: "in the absence of figures grounded on facts, [Article 22.6] Arbitrators tried to use estimates which … seemed reasonable on the basis of the information available." See also ibid., para. 1.18; Decision by the Arbitrator, *EC and certain member States – Large Civil Aircraft (Article 22.6 – EU)*, para. 6.175 and fn 307 thereto (referring to Award of the Arbitrator, *US – Section 110(5) Copyright Act (Article 25)*, para. 4.28; Decisions by the Arbitrator, *US – COOL (Article 22.6 – US)*, para. 5.101.

[245] See e.g. Decision by the Arbitrator, *US – Washing Machines (Article 22.6 – US)*, para. 1.16 (referring to Decision by the Arbitrator, *US – 1916 Act (EC) (Article 22.6 – US)*, para. 5.54): "[i]n determining the level of nullification or impairment, previous arbitrators developed their own appropriate methodologies, based either on elements of methodologies proposed by the parties, or on an altogether different approach. Any determination of nullification or impairment, because it is based on assumptions, is necessarily a 'reasoned estimate' relying on 'credible, factual, and verifiable information'." (fns omitted)

[246] See e.g. Decision by the Arbitrator, *EC and certain member States – Large Civil Aircraft (Article 22.6 – EU)*, para. 6.175: "we must seek to ensure that not just our methodological approach, but also our concrete quantitative estimation, is supported, wherever possible, by credible and verifiable information. To that end, we have undertaken all reasonably feasible efforts to request additional information from the parties to complete the record. Where we nevertheless ultimately did not have access to certain desired information (e.g. because it is not readily available), we drew appropriate inferences from the best available information on the record, provided that the best information that we had was itself credible and verifiable". (fn omitted)

3.4.1.1 Determination of the year-prior

3.108. According to the United States, China identified incorrect calendar years for the year prior to the imposition of six[247] CVD measures.[248] The United States claims that it has followed the same approach that was used in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*: it has identified the year-prior based on the timing of the final CVD determination for each product. The United States argues that this is the correct year-prior to use for the adjusted two-step Armington model.[249]

3.109. China counters that it has adopted a consistent approach to defining the year-prior. China claims that the relevant year-prior for the purposes of determining the level of N/I in this dispute is the calendar year prior to the year in which the WTO-inconsistent duties were imposed, and the WTO-inconsistent duties were imposed as of the effective date of the *preliminary* determination in each case.[250]

3.110. The parties thus agree on the year-prior for four products and disagree for the remaining six products. The years-prior advanced by the parties are:

Table 4: Years-prior advanced by the parties for each of the ten products at issue

Products	Years-prior advanced by the parties	
	China[251]	United States[252]
Pressure Pipe	2007	2008
Line Pipe	2007	2008
Kitchen Shelving	2008	
OCTG	2008	2009
Wire Strand	2008	2009
Seamless Pipe	2009	
Print Graphics	2009	
Aluminum Extrusions	2009	2010
Steel Cylinders	2010	2011
Solar Panels	2011	

3.111. In our calculations, we rely on the parties' agreed year-prior for:

    a. Kitchen Shelving (2008);

    b. Seamless Pipe (2009);

    c. Print Graphics (2009); and

    d. Solar Panels (2011).

3.112. The six remaining products affected by the parties' disagreement are:

    a. Pressure Pipe;

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[247] The original United States' objection concerning the correct year-prior relates to three products: Pressure Pipe, Line Pipe, and OCTG (see United States' written submission, para. 125). In engaging with this objection in its written submission, China extends it to an additional three products: Wire Strand; Aluminum Extrusions; and Steel Cylinders. (China's written submission, para. 22). This extension increases the scope of the parties' disagreement in this context to a total of six products: Pressure Pipe; Line Pipe; OCTG; Wire Strand; Aluminum Extrusions; and Steel Cylinders.
[248] United States' written submission, paras. 5 and 8.
[249] United States' written submission, para. 125.
[250] China's written submission, para. 76.
[251] See Exhibit CHN-120.
[252] See Exhibit USA-155 (BCI).

    b. Line Pipe;

    c. OCTG;

    d. Wire Strand;

    e. Aluminum Extrusions; and

    f. Steel Cylinders.

3.113. For each of these products, China suggests the calendar year preceding the United States' suggested year-prior. China contends that the years-prior suggested by the United States involve preliminary CVDs which affected China's market share, thus distorting the calculation of the level of N/I.

3.114. According to China[253], the preliminary and final CVD determinations for the six products concerned by the parties' disagreement were introduced (and, where applicable, amended) on the following dates:

Table 5: The preliminary and final CVD determinations for the six products concerned by the parties' disagreement

Products	Preliminary CVD determination date *(and date of amendment, where applicable)*	Final CVD determination date *(and date of amendment, where applicable)*
Pressure Pipe	10 July 2008 *(amended on 7 August 2008)*	28 January 2009
Line Pipe	9 September 2008	24 November 2008 *(amended on 23 January 2009)*
OCTG	15 September 2009	7 December 2009 *(amended on 20 January 2010)*
Wire Strand	2 November 2009	21 May 2010 *(amended on 7 July 2010)*
Aluminum Extrusions	7 September 2010	4 April 2011
Steel Cylinders	18 October 2011	7 May 2012

3.115. The United States contests neither the accuracy of these dates nor the fact that preliminary duties were in place during the year-prior it advances for each of these six products[254], although the United States adds that no provisional CVDs were collected for several months between the expiration of the provisional CVD measures and the publication of the final determinations.[255]

3.116. Importantly, while the parties agree that the preliminary determinations were not at issue at the original or compliance stages of this dispute, they explicitly concur that this is not determinative for identifying the correct year-prior.[256] Accordingly, we do not address this issue. We

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[253] See Exhibit CHN-99.

[254] See China's response to Arbitrator question No. 13, para. 49. See also Exhibit CHN-99 and China's response to Arbitrator question No. 107, para. 84.

[255] See United States' opening statement at the meeting of the Arbitrator, para. 29. See also United States' closing statement at the meeting of the Arbitrator, para. 17.

[256] China recognizes that the preliminary determinations in these particular investigations were not at issue in earlier stages of this dispute with respect to China's claims concerning alleged inputs for LTAR subsidies. However, China argues that this does not mean that the year-prior may be one that includes the preliminary duties imposed pursuant to those determinations, noting that the preliminary duties in each of these cases were imposed as part of the same investigation that resulted in the imposition of the final duties. China also argues that both sets of duties suffer from the same legal flaws that the DSB identified with respect to the final determinations, i.e. the USDOC's findings with respect to the alleged "inputs for LTAR" subsidies. (See China's response to Arbitrator question No. 33, para. 9). The United States concurs that the preliminary determinations for the six products were not "at issue" in earlier stages of this dispute. (United States' response to Arbitrator question No. 33, para. 10). Although in its original panel request China identified "the preliminary and final countervailing duty measures identified in Appendix 1 [to such request]" as the "specific measures at issue" (Request for the Establishment of a Panel by China, WT/DS437/2), the United States

focus rather on the relationship of these preliminary CVD determinations to the final CVD determinations, and the characteristics and impact of the preliminary CVD determinations, as well as the two economic papers submitted by China.

3.4.1.1.1 Relationship of the preliminary and final CVD determinations

3.117. As China points out, the preliminary CVDs in each of the six cases in question were imposed as part of the same investigation that resulted in the imposition of final CVDs.[257] The United States does not contest this. In the parties' description of the differences between the preliminary and final CVDs, their figures for the relevant CVD rates quantitively correspond and show that, with the exception of one supplier[258], preliminary CVDs ranging from 6.18 to 137.65% were imposed on each of the six products at issue. Further, the differences between the corresponding preliminary and final CVD rates varied between +236.50 and -130.28% per product and respondent.[259]

3.118. In introducing key aspects of its CVD regime, the United States argues that China fails to take into account that provisional measures are, as the term indicates, preliminary and temporary. Provisional CVD measures expire after 120 days, and exposure to duty liability is not confirmed until a final CVD determination takes place and a duty order is imposed. Even then, under the US retrospective system of CVD duty assessment, final duty liability is typically not known until a later date, when the USDOC determines final CVD duty margins in an administrative review.[260]

3.119. China acknowledges that, under the United States' CVD regime, preliminary duties are provisional in nature and the final duty rate is not confirmed until a final CVD determination is reached. China further acknowledges that, under the United States' "retrospective" system, actual duty liability is not finally determined in most cases until the completion of an administrative review. China considers that the United States appears to misunderstand China's position with respect to the imposition of preliminary CVD duties on the products. China's point is that regardless of when the actual duty liability is finally determined, distortive effects occur as soon as preliminary duties are imposed.[261]

3.120. In light of these aspects of the United States' CVD regime, which the parties agree upon, we consider that preliminary and final CVDs are closely linked by virtue of the design of the US CVD regime, despite the sometimes considerable rate differences between the two, as mentioned earlier.

3.4.1.1.2 Characteristics and impact of the preliminary CVD determinations

3.121. As a further aspect of its CVD regime, the United States indicates that, while the United States Customs and Border Protection (USCBP) suspends liquidation and starts collecting cash deposits from the date of the imposition of provisional CVD measures as a result of an affirmative preliminary CVD determination, these cash deposits are provisional and potentially refundable.[262] In response, China indicates that, in practice, preliminary duties are rarely if ever refunded to Chinese exporters. China contends that any refunding of preliminary CVDs is irrelevant;

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considers that the reference to preliminary determinations amongst all of the other decisions and documents appears to have been an effort by China to be comprehensive in its identification of any and all documents of potential relevance to its "as applied" claims. The United States points out that throughout the original dispute, the provisional CVD rates determined in the preliminary determinations and the timing of those determinations were never raised as an issue. Rather, references were made to the preliminary determinations to the extent that they, when read together with the final determinations, explained decisions that the USDOC made in connection with the imposition of the CVD measures (United States' response to Arbitrator question No. 33, para. 12 (referring to United States' written submission, para. 37)). Accordingly, the United States claims, the preliminary determinations have no relevance for determining the correct year-prior, and the dates of those preliminary determinations are not determinative of the correct year-prior in this proceeding (United States' response to Arbitrator question No. 33, para. 13).

[257] China's response to Arbitrator question No. 33, para. 9.

[258] See Exhibit USA-107.

[259] China's response to Arbitrator question No. 33, para. 8 (referring to Exhibit CHN-106); United States' response to Arbitrator question No. 33, para. 9 (referring to Exhibit USA-107).

[260] United States' response to Arbitrator question No. 14, fn 110 to para. 93. See also United States' response to Arbitrator question No. 32, para. 4.

[261] China's response to Arbitrator question No. 31, para. 5.

[262] United States' response to Arbitrator question No. 32, para. 3. See also ibid., para. 4; United States' opening statement at the meeting of the Arbitrator, para. 29.

rather, what is relevant is whether the preliminary duties distort trade.[263] China adds that it does not dispute that months or sometimes years later, some amount of the deposits collected may be refunded following the final determinations of the USDOC and the USITC when final liability is calculated. However, according to China, this possibility does not nullify the distortive effects that occur as a result of the preliminary liability imposed on importers. Furthermore, China maintains that in many cases there are no entries to liquidate at any duty rate because the preliminary duty rate is so high that it effectively blocks all imports of subject product.[264]

3.122. The United States emphasizes that for all of the products in question, no provisional CVDs were collected for several months between the expiration of the provisional CVD period and the publication of the final CVD determination.[265] According to the United States, China has not explained how, or why, any changes in trade flows during such gap periods should be attributed to CVD duties when there were no CVD duties in place.[266] China responds that it is irrelevant that the WTO-inconsistent preliminary CVD duties were not in place for the entirety of the United States' proposed year-prior or that preliminary CVD duties are potentially refundable. According to China, the United States' argument does not address, let alone refute, China's position that it is the imposition of the WTO-inconsistent preliminary CVD duties that distorts trade flows.[267]

3.123. We agree with China that, as a matter of principle, it is indeed the possibility of the preliminary CVDs having an impact on trade that is relevant for determining an appropriate year-prior for each product at issue. We also consider that the provisional nature of such preliminary duties, including their possible subsequent refunding or their non-collection for a considerably later period, is immaterial in terms of the immediate trade impact that such preliminary duties may have on affected exporters. Also, according to the evidence before us[268], the gap periods raised by the United States never amounted to more than a few months and, thus never left a whole calendar year completely free of preliminary CVD duties.

3.124. As regards the more immediate impact of preliminary CVDs, we note China's example concerning OCTG. According to China, the preliminary CVDs were imposed on OCTG on 15 September 2009. Using the harmonized tariff schedule (HTS) codes listed for the case along with the public USITC DataWeb trade data, in 2009 the average monthly customs value of US imports from China prior to the imposition of the preliminary CVD duties was USD 132 million. By contrast, the average monthly US imports from China in 2009 following the imposition of the preliminary CVD duties was just USD 157,590, a drop of over 99%. According to China, these figures clearly show that the trade-depressing effects of the WTO-inconsistent CVD duties were already affecting China's exports to the US market in 2009.[269] We note that, according to the information provided by the United States[270], preliminary duties on OCTG were imposed on 15 September 2009 and were collected until 14 January 2010, and the final determination was effective on 21 May 2010. As the OCTG example shows, the four-month gap period between January and May 2010 advanced by the United States does not alter the immediate effect the preliminary duties may have had as of their imposition in September 2009.

3.125. The United States does not contest the factual aspects of China's OCTG example, and indeed it recognizes that the existence of a temporary preliminary CVD measure could have some impact on trade, including on China's market share.[271] However, the United States contends, preliminary CVDs have a variable trade impact depending on the circumstances, and even if such an impact were to be negative, it should not be indiscriminately attributed to preliminary CVDs.[272] According to the United States, China unjustifiably assumes that the 99% drop in OCTG imports from China in 2009 was due to the imposition of the preliminary CVD duties, but China does not provide any

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[263] China's opening statement at the meeting of the Arbitrator, para. 45.
[264] China's response to Arbitrator question No. 31, para. 6.
[265] United States' opening statement at the meeting of the Arbitrator, para. 29. See also United States' closing statement at the meeting of the Arbitrator, para. 17.
[266] See United States' response to Arbitrator question No. 109, para. 139.
[267] China's response to Arbitrator question No. 107, para. 78. See also China's comments on the United States' response to Arbitrator question No. 109, para. 83.
[268] United States' response to Arbitrator question No. 2, para. 23.
[269] China's written submission, para. 20. See also China's opening statement at the meeting of the Arbitrator, para. 46.
[270] United States' response to Arbitrator question No. 2, para. 23, and Table 2.
[271] United States' response to Arbitrator question No. 109, para. 138.
[272] United States' response to Arbitrator question No. 109, para. 138.

evidence that the preliminary CVD duties are the cause for this decline. For instance, according to the United States, China neglects that 2009 was at the height of the great recession, or that there may have been industry events or other factors that contributed to the decline in demand.[273] According to United States, the mere fact that certain imports from China significantly declined around the same time as the imposition of the preliminary duties does not prove that any Chinese exporters actually exited the US market due to the preliminary duties.[274] The United States contends that China has not provided any evidence for the exit of Chinese exporters as a result of the preliminary CVDs.[275]

3.126. In response, China submits that the United States' argument that a 99% drop in OCTG imports from China was not entirely due to the imposition of the preliminary duties is hardly evidence that the preliminary duties had no effect on imports of OCTG from China. China notes that, according to the USITC, the size of the total US market for OCTG (i.e. domestic shipments plus imports from all sources) fell by 46.8% between 2008 and 2009. In China's words, that imports from China fell by 99% during this period "cannot simply be attributed to the Great Recession".[276]

3.127. China adds that, contrary to the United States' claims, it has demonstrated that imports dropped significantly following the imposition of the preliminary duties. China reiterates that, in the case of OCTG, for example, the average monthly US imports from China in 2009 following the imposition of the preliminary CVD duties dropped by over 99%. According to China, it is reasonable to infer from this steep decline that at least some exporters exited the market entirely following the imposition of the preliminary duties[277] as such a dramatic reduction in trade necessarily indicates that some (or more likely, most) suppliers from China ceased supplying the US market.[278]

3.128. We find China's OCTG example compelling as an illustration of the immediate negative trade impact of preliminary CVDs. We agree with China that it is unrealistic to assume that a 99% decrease in OCTG imports from China immediately following the introduction of preliminary CVDs would be unrelated to the preliminary duties imposed in 2009. Unlike China, however, we do not see this steep decline as direct and conclusive proof of Chinese firms' *exit* from the US OCTG market because of the preliminary CVDs. We agree with the United States that China's OCTG example could mean that each exporting firm reduced the level of its exports, or a subset of exporting firms left the market, or a mix of both. However, regardless of the specific form in which the negative trade impact of the preliminary CVDs could manifest, the risk of such impact seems sufficiently serious to warrant excluding any calendar year when preliminary duties were in place from being defined as the year-prior.

3.4.1.1.3 Economic papers submitted by China

3.129. China also submits two economic papers[279], which, it claims, show that the rate of preliminary CVDs is proportional to the exit of exporters and that such impact of preliminary CVDs is higher than final CVDs.[280] The first paper concludes that:

> "[A]n affirmative preliminary LTFV [less than fair value] finding places the importer at considerable risk for future duty payments on any imports purchased after that date. Again, this situation suggests that an affirmative preliminary LTFV finding, coupled with an expectation that the final determination will also be affirmative, would lead to a sharp drop in the rate of imports and to a rise in prices, with these effects lasting for the remainder of the investigation."[281]

3.130. The second economic paper submitted by China finds that "the most significant effects occur early in the investigation", that the "investigation effects are larger than those when the final AD

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[273] United States' closing statement at the meeting of the Arbitrator, para. 18.
[274] United States' closing statement at the meeting of the Arbitrator, para. 19. See also United States' response to Arbitrator question No. 108, para. 135.
[275] United States' response to Arbitrator question No. 108, paras. 136-137.
[276] China's response to Arbitrator question No. 107, paras. 79-80.
[277] China's opening statement at the meeting of the Arbitrator, para. 46.
[278] China's comments on the United States' response to Arbitrator question No. 108, para. 82.
[279] China's opening statement at the meeting of the Arbitrator, para. 47 (referring to Exhibits CHN-113 and CHN-114).
[280] China's response to Arbitrator question No. 107, paras. 81-83.
[281] Exhibit CHN-114; China's response to Arbitrator question No. 107, para. 81.

duty is levied, implying that by the time the final duty is levied most of the effect on the extensive margin has already happened", and that "[e]xporters often cease serving the market during the investigation."[282]

3.131. The United States responds that these two economic papers submitted by China do not discuss the impact of preliminary CVD measures on the products at issue in this proceeding, and thus do not provide any evidence that Chinese exporters have actually exited the market in response to the relevant preliminary CVD measures. Rather, the United States argues, one economic paper (Exhibit CHN-113) covers anti-dumping cases from 2006 or earlier, whereas the other (Exhibit CHN-114) covers anti-dumping cases from 1980 to 1985 – both time-periods during which none of the CVD measures at issue in this proceeding were yet in place.[283] According to the United States, both papers simply find that exports to the United States from subject countries declined following the imposition of certain AD duties, which could mean that each exporting firm reduced the level of its exports, or a subset of exporting firms left the market, or a mix of both. The United States adds that neither paper makes use of firm-level data, which would be required to determine whether exporting firms exited from the market. Thus, according to the United States, neither paper submitted by China is directly relevant to the question of whether exporters exit the market because of the imposition of preliminary duties.[284]

3.132. China responds that the findings of the two economic papers are highly relevant to this proceeding. Both papers specifically document trade effects caused by preliminary duties on imports from subject suppliers, and therefore provide crucial academic support for the general proposition that preliminary duties have large and immediate effects on trade.[285] China adds that, even if these papers do not specifically address CVDs, they provide proof that it is generally understood by economic experts that the trade effects of preliminary duties are large.[286] According to China, Exhibit CHN-114 documents that the preliminary duty has the same type of negative effect on trade as basic trade theory predicts and, importantly, documents that the impact of the duty is felt immediately. China considers Exhibit CHN-113 equally relevant, as it examines how subject suppliers often cease supplying the market once the preliminary duties have been imposed and finds that the likelihood that subject suppliers will stop selling to the United States is higher in the period immediately following the imposition of the preliminary duties than in the period after the imposition of the final duties.[287]

3.133. We agree with the United States that the two economic papers submitted by China do not directly relate to CVDs, but we disagree on these papers not being "directly relevant to the question of whether exporters exit the market because of the imposition of preliminary duties".[288] Insofar as both CVDs and AD duties entail an additional tariff on relevant imports, we see a high degree of similarity in the practical operation and impact of CVDs and AD duties. Accordingly, we do read the two economic papers submitted as evidence by China lending support to its argument that preliminary CVDs have an immediate negative impact on relevant imports. These papers also underscore the intuitively compelling general point that a tariff increase, for instance in the form of preliminary CVDs, has a corresponding negative impact on relevant imports, irrespective of the products at issue.[289]

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[282] Exhibit CHN-113; China's response to Arbitrator question No. 107, para. 82.

[283] United States' response to Arbitrator question No. 108, para. 133. See also United States' comments on China's response to Arbitrator question No. 107, paras. 50-53.

[284] United States' response to Arbitrator question No. 108, para. 134. See also United States' comments on China's response to Arbitrator question No. 107, paras. 50-53.

[285] China's comments on the United States' response to Arbitrator question No. 108, para. 80.

[286] China's comments on the United States' response to Arbitrator question No. 108, para. 81.

[287] China's comments on the United States' response to Arbitrator question No. 108, para. 82.

[288] United States' response to Arbitrator question No. 108, para. 134.

[289] We note in this regard the explanation by the United States of the contrary trade impact of a reduction in CVDs. The United States indicates that a "[d]uty reduction acts like a price cut", and that its "effects amount to an overall increase in U.S. demand for [imports] from China." (United States' written submission, para. 58).

3.4.1.1.4 Conclusion

3.134. We agree with the parties that it is important to choose the "correct" year-prior in the interest of a correct calculation of the level of N/I.[290] We also agree with China that the year-prior must be an objective benchmark, otherwise the entire analysis of the level of N/I would be compromised.[291]

3.135. We agree with China that, in order to accurately estimate the level of N/I, the effects of the WTO-inconsistent duties in the reference year must be compared to a year in which trade flows were not distorted by those duties, and that using a year-prior when the preliminary duties were in place could prevent us from satisfying that basic requirement.[292] As China notes, what is relevant is whether the preliminary duties distort trade.[293] We therefore also agree with China that using the calendar years suggested by the United States would risk including periods in which the duties, even if in a preliminary form, have affected China's share in the US market. We note that the United States has not specified any advantages, from the perspective of our mandate, of running such a risk.

3.136. In light of the parties' arguments and evidence, we conclude that the United States has not demonstrated that the year-prior used by China for each product at issue would distort the calculation of the level of suspension so that it would not be equivalent to the level of N/I.[294] On the contrary, the collective body of evidence adduced by China suggests to us that preliminary CVD duties would have a significant negative impact on Chinese trade flows.

3.137. Basing our choice of the year-prior on the calendar year preceding the imposition of the preliminary CVDs would therefore secure a correct calculation, rather than, as the United States suggests, distort the purpose of this arbitration.[295] Accordingly, we select the year-prior suggested by China for each of the six products in question.

3.138. In doing so, we consider it immaterial and unnecessary to explore whether our approach reflects a deviation, as the United States suggests, from *US – Washing Machines (Article 22.6 – US)* and *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*.[296] Neither of these two previous arbitration proceedings that relied on the two-step Armington model had to choose between preliminary and final CVD determinations to establish the correct year-prior, and in fact both used the two-step Armington model to avoid a distorted calculation of the level of N/I.[297] In the circumstances of the present case and for the reasons elaborated upon earlier, we consider that choosing the calendar years preceding the preliminary CVDs is the appropriate approach to avoid any such distortion with regard to the six products for which the parties disagree on the year-prior.

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[290] See, e.g. China's response to Arbitrator question No. 107, paras. 83-84; United States' opening statement at the meeting of the Arbitrator, para. 30.

[291] China's opening statement at the meeting of the Arbitrator, para. 45.

[292] China's response to Arbitrator question No. 31, para. 6. See also China's comments on the United States' response to Arbitrator question No. 108, para. 80.

[293] China's opening statement at the meeting of the Arbitrator, para. 45.

[294] As explained, the party challenging the proposed level of suspension in an Article 22.6 arbitration proceeding bears the general burden of proving that the requirements of the DSU have not been met. In the context of determining the year-prior, the United States has the original burden of proving that China's proposal of a year-prior for the products at issue would result in the level of suspension not being equivalent to the level of N/I in the sense of Article 22.4 of the DSU. (See para. 3.2 above).

[295] United States' response to Arbitrator question No. 14, fn 110 to para. 93.

[296] United States' response to Arbitrator question No. 108, para. 137; and No. 109, para. 140; comments on China's response to Arbitrator question No. 107, para. 54; written submission, paras. 124-125; response to Arbitrator question No. 14, fn 110 to para. 93; opening statement at the meeting of the Arbitrator, para. 29; and closing statement at the meeting of the Arbitrator, paras. 16 and 20.

[297] China rightly points out in this regard that "[a]s the arbitrators in DS464 and DS471 acknowledged, in order to accurately estimate N/I, it is necessary to adopt a methodology that isolates the specific policy at issue and excludes the distorting effects of the WTO-inconsistent duties over time. For this reason, the arbitrators adopted the two-step approach to the Armington model." (China's written submission, para. 19. (fns omitted) See also Decisions by the Arbitrators, *US – Washing Machines (Article 22.6 – US)*, paras. 3.115-3.118; *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, paras. 6.63-6.67).

3.139. Taking into account the parties' agreement for the other four products, we adopt the following years-prior for the ten products at issue in these proceedings:

Table 6: Years-prior relied upon by the Arbitrator

Products	Years-prior relied upon by the Arbitrator
Pressure Pipe	2007
Line Pipe	2007
Kitchen Shelving	2008
OCTG	2008
Wire Strand	2008
Seamless Pipe	2009
Print Graphics	2009
Aluminum Extrusions	2009
Steel Cylinders	2010
Solar Panels	2011

3.4.1.2 Year-prior market shares per product

3.140. In addition to disagreeing on the correct year-prior for six of the ten products at issue[298], the parties also disagree on the year-prior market data to be used for the three different sales varieties (US domestic variety, imports from China, and imports from the RoW) for these ten products.[299] In particular, China relies on information of the three varieties obtained from USITC reports for eight of the products at issue (Pressure Pipe, Line Pipe, OCTG, Wire Strand, Seamless Pipe, Print Graphics, Aluminum Extrusions, and Solar Panels).[300] For the remaining two products[301], China estimates domestic sales by using methodologies tailored to each product and obtains import data from USITC DataWeb.[302] The United States, in turn, relies on sales information of the three varieties obtained from USITC reports for four of the products at issue (Wire Strand, Seamless Pipe, Print Graphics, and Aluminum Extrusions). For the remaining products, the United States relies on domestic sales from USITC reports (with the exception of Kitchen Shelving and Steel Cylinders), and sources import varieties data from the US Census Bureau and USCBP.[303]

3.141. The year-prior data issues relate to data sources (for Pressure Pipe, Line Pipe, OCTG, Aluminum Extrusions, and Steel Cylinders), calculation methodologies (for Kitchen Shelving and Steel Cylinders), and product scope (for Kitchen Shelving, Pressure Pipe, Print Graphics, and Solar Panels). To the extent necessary in light of our earlier determination of the year-prior[304], we address these data issues with regard to each of the ten products and for each of the three sales varieties.

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[298] As mentioned, the parties disagree on the year-prior to be used for six of the products (i.e. Pressure Pipe, Line Pipe, OCTG, Wire Strand, Aluminum Extrusions, and Steel Cylinders). We addressed the parties' disagreement in section 3.4.1.1 above.

[299] See Exhibits CHN-120 and USA-155 (BCI).

[300] China's methodology paper, para. 92 and fn 67 thereto.

[301] According to China, some of the necessary market information for Kitchen Shelving and Steel Cylinders was not provided in the relevant final USITC reports. (China's methodology paper, para. 93).

[302] China explains that it was able to use the HTS10 tariff codes listed in the relevant USITC reports (Exhibits CHN-19 and CHN-41) to download the value of trade for Chinese exports and exports from the RoW, using USITC DataWeb as source of the HTS10 import data. (China's methodology paper, para. 94 and fn 68 thereto).

[303] The United States explains that it generally relies on the same shipment data used by the *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* arbitrator for the seven products (namely Line Pipe, OCTG, Seamless Pipe, Print Graphics, Aluminum Extrusions, Steel Cylinders, and Solar Panels) that were at issue in that arbitration. For the other three products (namely Pressure Pipe, Kitchen Shelving, and Wire Strand), the United States claims to follow estimation methods similar to those applied by that arbitrator. (United States' written submission, paras. 124-127 (referring to Exhibit USA-44 (BCI)); opening statement at the meeting of the Arbitrator, paras. 32-34; response to Arbitrator question No. 110, para. 141; and comments on China's response to Arbitrator question No. 73, para. 23).

[304] See section 3.4.1.1 above.

3.4.1.2.1 Pressure Pipe

3.142. As noted, the parties disagree on the year-prior for Pressure Pipe. In addition, they also disagree on the data source for the two import varieties. As a consequence, they present different values for the sales data to be used for the three varieties. China presents sales data based on USITC Publication 4064, Table IV-4[305], for all three varieties. The United States relies on the same table in the same USITC report for sales of the US domestic variety, while it sources data for the two import varieties from the US Census Bureau.[306]

3.143. Regarding sales of the **US domestic variety**, while both parties rely on the same USITC report (Exhibit CHN-4, Table IV-4), their figures differ slightly because they correspond to different calendar years as the year-prior. Since this USITC report shows only the first three quarters of each year (January to September), both parties annualize this data.[307]

3.144. Absent direct data for the full calendar year, we consider the annualization of the available quarterly data to be reasonable.[308] Since we have determined 2007 to be the year-prior for Pressure Pipe[309], we rely on the annualized figures for domestic sales provided by China for that calendar year based on the data contained in USITC Publication 4064.[310]

3.145. As regards the two **import varieties**, the parties' figures differ because they concern different calendar years as the year-prior and they rely also on different data sources. China submits data for the full calendar year 2007 from Table IV-4 of the above-mentioned USITC report[311], whereas the United States relies on HTS aggregates[312] from the US Census Bureau.[313]

3.146. The United States claims that for the products that were not at issue in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, like Pressure Pipe, it has derived import data using a methodology that is consistent with the methodology used by that arbitrator.[314] The United States explains that it relies on import data from the US Census Bureau in what it considers the proper year-prior (2008) because full calendar year import data is not available in the aforementioned USITC report for 2008.[315]

3.147. As the parties do not criticize the alternative import data sources relied upon by the other party[316] and USITC Publication 4064 contains import sales data for 2007, which we have determined

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[305] See Exhibit CHN-4.

[306] See Exhibit USA-65.

[307] See United States' response to Arbitrator question No. 13, para. 88.

[308] We note that a similar approach was followed by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*: "[f]or [certain anti-dumping orders], the USITC investigation reports do not provide data for the full calendar year but only for the first six or nine months of the year. In such cases, we annualize the relevant data to estimate the annual value of US shipments by dividing the data by the corresponding number of months and multiplying the result by 12 (i.e. the number of months in a year)." (Decision by the Arbitrator, *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, fn 272 to para. 7.16).

[309] See section 3.4.1.1 above.

[310] Exhibit CHN-4.

[311] Exhibit CHN-4.

[312] The United States uses the following HTS10 codes: 7306405005, 7306405040, 7306405062, 7306405064, and 7306405085.

[313] United States' response to Arbitrator question No. 13, para. 88.

[314] United States' response to Arbitrator question No. 13, para. 88.

[315] Exhibit USA-65; United States' response to Arbitrator question No. 13, para. 88.

[316] We note that there may be a potential difference in the scope of the products covered by the parties' import data. The USITC report relied upon by China states that the data in Table IV-4 are based on "U.S. imports from official statistics as adjusted to include WSS pressure pipe imported under HTS basket categories and to exclude pressure pipe greater than 14 inches and imports of non-subject mechanical tubing from Canada." (Exhibit CHN-4, p. IV-6 (emphasis original)). Conversely, the United States uses five HTS10-level categories, which may not have been adjusted in the same way as indicated in the USITC report referred to above. The United States acknowledges that it is not able to determine exactly how certain import values were adjusted and explains that, as a result, the import values it provides are "exact aggregates of the HTSUS data reported by the U.S. Census without any adjustments". (United States' response to Arbitrator question No. 46, para. 52).

to be the year-prior for Pressure Pipe[317], we consider it reasonable to rely on the import data extracted by China from that report.

3.148. Therefore, for the three sales varieties of Pressure Pipe, we shall rely on the following year-prior figures derived from USITC Publication 4064[318]:

Table 7: Year-prior (2007) market sales for Pressure Pipe

Varieties	Total sales
US domestic variety	USD 201,460,000
Imports from China	USD 154,833,000
Imports from the rest of the world	USD 158,535,000

3.4.1.2.2 Line Pipe

3.149. As noted, the parties disagree on the year-prior for Line Pipe. In addition, they also disagree on the data source for the imports. As a consequence, they present different values for the sales data to be used for the three sales varieties of this product. China presents sales data based on USITC Publication 4055 for all three varieties.[319] The United States relies on the same USITC report for sales of the US domestic variety, while it sources data for the two import varieties from US Customs[320] and the US Census Bureau.[321]

3.150. Regarding sales of the **US domestic variety**, while both parties rely on the same USITC Publication 4055 (Exhibit CHN-11, Table IV-12), their figures differ because they correspond to different calendar years as the year-prior. In addition, China uses data available for the full calendar year of 2007, while the United States annualizes data from the first three quarters of 2008 (January to September) as data only for those first nine months of 2008 is available in Table IV-12 of the USITC report.[322] Since we have determined 2007 to be the year-prior for Line Pipe[323], we rely on the figures for domestic sales provided by China for that year and contained in USITC Publication 4055.[324]

3.151. As regards the two **import varieties**, the parties' figures differ because they concern different calendar years as the year-prior and they rely also on different data sources. China submits data for the full calendar year 2007 from Table IV-12 from the above-mentioned USITC report[325], whereas the United States relies on company-specific USCBP data for imports from China[326], and HTS aggregates from the US Census Bureau for imports from the rest of the world[327]. The parties disagree on the appropriateness of relying on USCBP data.[328]

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[317] See section 3.4.1.1 above.

[318] Exhibit CHN-4.

[319] Exhibit CHN-11, Table IV-12.

[320] Exhibit USA-58 (BCI).

[321] Exhibit USA-59.

[322] As mentioned in section 3.4.1.2.1 above, regarding Pressure Pipe, absent direct data for the full calendar year, we consider annualization of the available quarters data to be reasonable.

[323] See section 3.4.1.1 above.

[324] Exhibit CHN-11.

[325] Exhibit CHN-11.

[326] Exhibit USA-58 (BCI). The United States indicates that it uses the USCBP data for imports from China because full calendar year data is not available for 2008 in the USITC report used by China (Exhibit CHN-11). According to the United States, for the products for which the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* relied on BCI data from the USCBP for year-prior imports from China (i.e. Line Pipe, OCTG, Steel Cylinders, and Solar Panels), it has used the same USCBP data, based on the reference HTSUS codes from the relevant investigation product scope. (United States' opening statement at the meeting of the Arbitrator, para. 34).

[327] Exhibit USA-59.

[328] See section 3.4.2.1.2 on the use of USCBP data for remedy year estimates. Further, and specific to the year-prior, China argues that the best that the USCBP can do to estimate the value of subject imports from China is use the Harmonized Tariff Schedule ("HTS") codes from the CVD order and attempt to guess the

3.152. As the United States does not criticize the alternative import data sources relied upon by China, and USITC Publication 4055 contains import sales data for 2007 (which we have determined to be the year-prior for Line Pipe[329]), we consider it reasonable to rely on the import data extracted by China from that report.

3.153. Therefore, as regards the three sales varieties of Line Pipe, we shall rely on the following year-prior figures derived from USITC Publication 4055:

Table 8: Year-prior (2007) market sales for Line Pipe

Varieties	Total sales
US domestic variety	USD 757,701,000
Imports from China	USD 153,881,000
Imports from the rest of the world	USD 315,411,000

3.4.1.2.3 Kitchen Shelving

3.154. In the case of Kitchen Shelving, the parties agree that the correct year-prior is 2008 but they disagree on the data sources and estimation methodologies. The parties also raise issues of product scope for all three product varieties. As data from the USITC reports corresponding to the relevant CVD order is not available, both parties attempt to estimate sales of all three varieties based on various data sources and assumptions.[330]

3.155. Regarding sales of the **US domestic variety**, China presents data based on US Census shipment estimates for the primary 6-digit North American Industry Classification System (NAICS) code applying to kitchen appliances.[331] China acknowledges that this estimate covers a broader range of products than the relevant CVD order, which is limited to Kitchen Shelving.[332] Therefore, China adjusts the NAICS-level estimate using a factor derived from more granular *import* data. Assuming that the share of Kitchen Shelving in *domestic* shipments of kitchen appliances equals the share of Kitchen Shelving in imports of the same NAICS categories, China calculates the share of imports under the HTS10 codes that it assigns to Kitchen Shelving in total imports under all HTS10 codes associated with the relevant NAICS codes for kitchen appliances. Arguing that there appears to be no single HTS10 category exactly corresponding to Kitchen Shelving, China applies the ratio of (approximated) subject imports measured at the HTS10 level[333] to imports of all HTS10 codes associated with all the relevant NAICS codes.[334]

3.156. The United States' estimation method for the US domestic variety[335] first takes the total value ("U.S. product shipment values") of all kitchen appliances sold in the United States obtained at the NAICS level[336] from industry reports, producer price indexes, and a USITC report.[337] As this figure also includes imports, the United States then reduces it by the total value of imports. Finally, the United States scales the resulting figure by a factor obtained from the aforementioned USITC

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amount of subject merchandise based on the amount of exporter sales of HTS code merchandise using a series of *ad hoc* adjustments. China argues that the USCBP records subject imports only by following the imposition of the relevant measure, which implies that "USCBP data will only have a partial tally of the full year of imports". China adds that even if USCBP obtained import data prior to the imposition of the relevant CVD order, since no merchandise was "subject merchandise" during that period, USCBP could not have differentiated between what would have later been considered as subject and non-subject merchandise under a given HTS code. (China's response to Arbitrator question No. 13, paras. 47-58).

[329] See section 3.4.1.1 above.

[330] See Exhibits CHN-53 and USA-61, respectively.

[331] NAICS code 335221 (Household Cooking Appliance Manufacturing). See also Exhibit CHN-53.

[332] China's methodology paper, para. 95.

[333] China approximates subject imports as imports under the HTS10 codes associated with the primary NAICS code 335221 obtained from USITC DataWeb. However, some of the relevant HTS codes include Kitchen Shelving only as a portion, whereas other HTS10 codes may refer to specific subcategories of Kitchen Shelving.

[334] See Exhibit CHN-53 and data in Exhibits CHN-74 and CHN-76.

[335] Exhibit USA-61.

[336] NAICS codes 3352211, 3352213, and 335222.

[337] USITC Publication 4098 (Exhibit CHN-19).

report representing the cost share of Kitchen Shelving within the relevant NAICS categories[338], based on the consideration that the latter cover more than the subject products.

3.157. Each party challenges the approach advanced by the other party. The United States claims that the underlying HTS codes used by China include more than just subject products.[339] China argues that the estimates of the United States are based on unverified assumptions that are impossible to evaluate.[340]

3.158. As both estimation methodologies rely on the import figures submitted, we turn to the import varieties before addressing the data on US domestic sales.

3.159. As regards the two **import varieties**, China uses eight HTS10 tariff codes based on USITC Publication 4098[341] to download relevant 2008 import data from USITC DataWeb (Exhibit CHN-74) for both import varieties.[342] The United States estimates the 2008 imports from China by scaling the 2010 imports of only two HTS10 categories of "oven racks" (as these two statistical numbers were not in effect or available prior to 2009)[343] with the change in market trends of imports from other related products (described by the United States as "basket categories" since they cover a number of products not covered by the relevant order[344]), and multiplying this by two in order to also account for refrigerator shelving that is covered by the six remaining basket HTS categories used by China.[345] As regards RoW imports, the United States estimates that these imports account for 5% of total US shipments, arguing that imports from China make up the large majority of US shipments.[346]

3.160. Again, each party calls into question the approach advanced by the other party. The United States claims that China uses import values based on Harmonized Tariff Schedule of the United States (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.[347] To illustrate this, the United States lists products covered by the HTS codes used by China that, according to the United States, would not fit the description of subject merchandise.[348] The United States considers only two of the HTS codes used by China to be appropriate.[349]

3.161. In turn, China claims that the United States' approach is based on a series of arbitrary assumptions.[350] In particular, as regards Chinese imports, China argues that the United States does

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[338] 1.8% for household refrigerators and home freezers and 2.75% for oven ranges. (USITC Publication 4098 (Exhibit CHN-19)).

[339] United States' response to Arbitrator question No. 37, para. 27.

[340] China's response to Arbitrator question No. 37, para. 23.

[341] Exhibit CHN-19.

[342] China lists the eight HTS10-level codes in Exhibit CHN-53, p. 10, fn I, and in its data extract Exhibit CHN-74 (the HTS10 codes are: 7321.90.5000, 7321.90.6040, 7321.90.6060, 7321.90.6090, 8418.99.8050, 8418.99.8060, 8516.90.8010, and 8516.90.8050). USITC Publication 4098 (Exhibit CHN-19) mentions four HTS subheadings which contain these codes (7321.90.50, 7321.90.60, 8418.99.80, and 8516.90.80) and the following HTS10-level codes (six of which were used by China): 7321.90.5000, 7321.90.6090, 8418.99.8050, 8418.99.8060, and 8516.90.8000 (where 8516.90.8000 is split into 8516.90.8010 and 8516.90.8050, effective 1 July 2009).

[343] The United States uses just two HTS10-level codes: 7321.90.6040 ("Shelving and racks for cooking ovens, of iron or steel") and 8516.90.8010 ("Shelving and racks for electric cooking stoves, range and ovens of subheading 8516.60.40") and refers to trade under these two statistical reporting numbers as "oven racks" for simplicity. As the United States recognizes, import data for these two codes is not available for 2008 because they were not in effect prior to 2009. (Exhibit USA-61; United States' response to Arbitrator question No. 11, para. 82).

[344] Exhibit USA-61.

[345] The United States assumes that "oven racks" constitute around 50% of all Kitchen Shelving imports from China, with the remaining 50% reported under the other "basket" categories, e.g. refrigeration shelving. (Exhibit USA-61).

[346] According to the United States, China was the largest source of imports of oven racks from 2008-2010, with Mexico and Taiwan making up the large majority of the rest of imports under the corresponding statistical reporting numbers. The United States explains that, with imports from China making up the large majority of U.S. total shipments, analysts approximate the rest of total shipments at 5% of U.S. total shipments (see Exhibit USA-61).

[347] Unites States' written submission, para. 127; opening statement at the meeting of the Arbitrator, para. 33.

[348] United States' response to Arbitrator question No. 11, para. 84.

[349] United States' response to Arbitrator question No. 11, paras. 81-85.

[350] China's response to Arbitrator question No. 11, para. 26.

not have data for the two HTS10 codes it suggests using for 2008, as the United States uses 2010 data under these two codes and then scales this down by 20% based on the overall trend in imports from 2008 to 2009 of the aggregate data (i.e. including also non-subject products). China also argues that the United States assumes no change in imports from 2009 to 2010 China adds that it is entirely arbitrary to assume that imports of oven racks account for 50% of total Kitchen Shelving imports in the absence of supportive data. As for RoW imports, China argues that the United States' approach is questionable because it merely assumes, without adequate explanation, that imports from the rest of the world represent 5% of total imports. According to China, these assumptions are not economically justified.[351]

3.162. China has made a "compromise proposal"[352], later in the proceedings and in light of alleged inadequacies of the United States' HTS system-based identification of subject imports, to use the mid-point between its own and the United States' estimate for both import varieties.[353] China has also suggested that this mid-point should be based on a corrected US estimate whereby the value of the two HTS codes relied upon by the United States should be multiplied by four rather than two to obtain the final value of US imports. China argues that such an adjustment is sensible as there are eight relevant HTS codes, which is four times the number of the two HTS codes that the United States has taken into consideration.[354] China adds that if this mid-point suggestion is not accepted, its proposal is to use the import estimates it has originally put forward.[355]

3.163. The United States disagrees with the above compromise proposal from China concerning mid-points, arguing that it is not based on data or evidence. The United States adds that its estimate needs no correction. According to the United States, China's proposed mid-point approach would incorrectly assume that approximately 60% of imports from China under the reference HTSUS codes consist of subject products.[356] The United States considers the proposal unreasonable also because it would be based on an unsupported premise that each of the HTSUS codes would represent an equal value of imports, and because only the two HTSUS codes covering oven racks would be specific to Kitchen Shelving products, while the other six HTSUS codes would broadly include non-subject products.[357]

3.164. In China's view, both parties have offered alternative approaches to derive the figures needed, producing different estimates for imports.[358] China highlights that the United States has not "demonstrated" what imports account for, noting that assumptions and estimations have been necessary.[359] Thus, China argues that its mid-point proposal is a compromise proposal intended to address this specific circumstance, which "acknowledges that the two sides have intractable differences".[360]

3.165. We note that the parties agree that no data is available that corresponds to the scope of Kitchen Shelving as set out in the relevant CVD order. Hence, both parties' estimates for import varieties are necessarily based on assumptions and simplifications. That said, we agree with several of the criticisms that each party has raised concerning the other party's estimate. As argued by the United States, China's estimate based on eight HTSUS codes does appear to be overinclusive since six of these HTSUS codes apply to kitchen appliances more broadly rather than to Kitchen Shelving specifically. However, China appears to be correct in arguing that many of the Unites States' assumptions are arbitrary, and several of these assumptions could lead to an underinclusive estimate. For example, the United States merely asserts that imports under two HTSUS codes account for exactly 50% of all Kitchen Shelving imports. The United States also does not explain how the analysts it cites reached the 5% figure for imports from the RoW that it claims to use. Further, while asserting to use this 5% of total shipments figure, we note that the United States'

[351] China's response to Arbitrator question No. 11, paras. 23-39.
[352] China's comments on the United States' response to Arbitrator question No. 76, para. 21.
[353] China's response to Arbitrator question No. 35, paras. 20 and 21.
[354] China's response to Arbitrator question No. 12, para. 43, and No. 35, paras. 20 and 21.
[355] China's comments on the United States' response to Arbitrator question No. 76, para. 21.
[356] United States' response to Arbitrator question No. 76, paras. 23-24.
[357] United States' response to Arbitrator question No. 76, para. 30.
[358] China's comments on the United States' response to Arbitrator question No. 76, para. 17.
[359] China's comments on the United States' response to Arbitrator question No. 76, para. 19 (quoting United States' response to Arbitrator question No. 76, para. 23).
[360] China's comments on the United States' response to Arbitrator question No. 76, para. 21.

actual RoW imports estimate of USD 5 million accounts for only 3.9% of its estimated total shipments.[361]

3.166. Therefore, an estimate for the two import varieties in between the two parties' estimates may lead to a better approximation. China's proposal of a mid-point estimate appears in this context reasonable as it acknowledges the large uncertainty surrounding both parties' figures. We note the United States' concern that such a mid-point estimate could lead to a share of Kitchen Shelving in total kitchen appliance imports that differs substantially from the cost share estimates it has provided. However, it is unclear to what extent the United States' cost share estimates, which are based on total production, are directly applicable to the two import varieties. We therefore adopt the mid-point estimates proposed by China for the two import varieties. We calculate this mid-point without first correcting for the United States' estimate as proposed by China. We agree with the United States that such a correction presumes that each of the HTSUS codes would represent an equal value of imports, and China has not supported this presumption with evidence.

3.167. In light of this conclusion for the import varieties, we reject the United States' estimate for the domestic variety, which is quantitatively comparable to the one provided by China, since it is a function of the United States' import variety estimates. In contrast, in the absence of more precise data, we consider that China's estimate is the best available estimate for the domestic variety as it attempts to correct for the overinclusion caused by relying on aggregate NAICS codes. Hence, we adopt China's estimate for the domestic variety.

3.168. As a result, as regards the three sales varieties of Kitchen Shelving, we shall rely on the following year-prior figures:

Table 9: Year-prior (2008) market sales for Kitchen Shelving

Varieties	Total sales
US domestic variety	USD 84,256,000
Imports from China	USD 150,477,000
Imports from the rest of the world	USD 276,171,000

3.4.1.2.4 OCTG

3.169. As noted, the parties disagree on the year-prior for OCTG. In addition, they also disagree on the data source for the imports. As a consequence, they present different values for the sales data to be used for the three varieties. China presents sales data based on USITC Publication 4124 for all three varieties of OCTG.[362] The United States relies on the same USITC report for sales of the US domestic variety, while it sources data for the two import varieties from US Customs[363] and the US Census Bureau.[364]

3.170. Regarding sales of the **US domestic variety**, while both parties rely on the same USITC Publication 4124 (Exhibit CHN-23, Table IV-6), their figures differ because they correspond to different calendar years as the year-prior. In addition, China uses data available for the full calendar year 2008, while the United States annualizes data from the first three quarters of 2009 (January to September) as data is available only for those first nine months of 2009 in Table IV-6 of the USITC

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[361] We note that the United States' estimate roughly corresponds to 5% of shipments of the domestic variety. However, the United States explanation that "[w]ith imports from China making up the large majority of U.S. total shipments, analysts approximate the rest of total shipments at 5 percent of U.S. total shipments" suggests to us that the analysts referred to by the United States consider shipments of all three varieties since imports from China appear to be included in the definition of "U.S. total shipments" (Exhibit USA-61, p. 6).

[362] Exhibit CHN-23, Table IV-6

[363] Exhibit USA-58 (BCI).

[364] Exhibit USA-59.

report.[365] Since we have determined 2008 to be the year-prior for OCTG[366], we rely on the figures for domestic sales provided by China for that year and contained in USITC Publication 4124.[367]

3.171. As regards the two **import varieties**, the parties' figures differ because they concern different calendar years as the year-prior and rely on different data sources. China submits data for the full calendar year 2008 from Table IV-6 of the above-mentioned USITC report[368], whereas the United States relies on company-specific USCBP data for imports from China[369], and HTS aggregates from the US Census Bureau for imports from the RoW[370]. As mentioned, the parties disagree on the appropriateness of relying on USCBP data.[371]

3.172. As the United States does not criticize the alternative import data sources relied upon by China and USITC Publication 4124 contains import sales data for 2008 (which we have determined to be the year-prior for OCTG[372]), we consider it reasonable to rely on the import data extracted by China from that report.

3.173. Therefore, for the three sales varieties of OCTG, we shall rely on the following year-prior figures derived from in USITC Publication 4124[373]:

Table 10: Year-prior (2008) market sales for OCTG

Varieties	Total sales
US domestic variety	USD 6,184,818,000
Imports from China	USD 2,805,206,000
Imports from the rest of the world	USD 2,572,888,000

3.4.1.2.5 Wire Strand

3.174. As noted, the parties disagree on the year-prior for Wire Strand. As a consequence, they present different values for the sales data to be used for the three varieties. Both parties, however, obtain their figures for all three varieties from the same Table IV-6 of USITC Publication 4162.[374]

3.175. As we have determined 2008 to be the year-prior for Wire Strand[375] and USITC Publication 4162 contains domestic sales and imports data for 2008, we consider it reasonable to rely on the data extracted by China from that report.

3.176. Therefore, as regards the three sales varieties of Wire Strand, we shall rely on the following year-prior figures derived from USITC Publication 4162[376]:

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[365] As mentioned in section 3.4.1.2.1 above regarding Pressure Pipe, absent direct data for the full calendar year, we consider annualization of the available quarters data to be reasonable.
[366] See section 3.4.1.1 above.
[367] Exhibit CHN-23.
[368] Exhibit CHN-23.
[369] Exhibit USA-58 (BCI). See fn 326 to para. 3.151 above.
[370] Exhibit USA-59.
[371] See fn 328 to para. 3.151 above. In addition, as regards specifically OCTG, China also argues that the exporter-specific USCBP data used by the United States for OCTG is problematic because the United States proposes measuring imports by customs value; however, in that case, the USITC decided that imports should be measured by the landed duty value paid. (China's response to Arbitrator question No. 73, para. 22).
[372] See section 3.4.1.1 above.
[373] Exhibit CHN-23.
[374] Exhibit CHN-28, Table IV-6.
[375] See section 3.4.1.1 above.
[376] Exhibit CHN-28, Table IV-6.

Table 11: Year-prior (2008) market sales for Wire Strand

Varieties	Total sales
US domestic variety	USD 333,721,000
Imports from China	USD 194,276,000
Imports from the rest of the world	USD 21,771,000

3.4.1.2.6 Seamless Pipe

3.177. In the case of Seamless Pipe, the parties agree that the correct year-prior is 2009, and they submit identical sales data for each of the three varieties in that year.[377] In light of the parties' agreement, we shall rely on the following year-prior figures for the three sales varieties of Seamless Pipe:

Table 12: Year-prior (2009) market sales for Seamless Pipe

Varieties	Total sales
US domestic variety	USD 199,357,000
Imports from China	USD 135,240,000
Imports from the rest of the world	USD 348,609,000

3.4.1.2.7 Print Graphics

3.178. In the case of Print Graphics, the parties agree that the correct year-prior is 2009, and they also agree[378] that the relevant data source for sales data of all three varieties should be USITC Publication 4192, dated November 2010.[379]

3.179. Regarding sales of the **US domestic variety**, while both parties rely on the same USITC report (Exhibit CHN-50), their figures differ because they use different tables contained therein. China uses the figures contained in Table IV-6 of the report, which correspond to "Certain coated paper (All U.S. integrated producers)", whereas the United States relies on the figures contained in Table IV-4 which correspond to "Certain coated paper other than coated packaging paperboard".[380]

3.180. The United States claims that it reported the same data that was used by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, which does not include coated packaging paperboard and that, instead, China appears to use a different definition of subject merchandise.[381] China has agreed to exclude coated packaging paperboard from the scope of Print Graphics in the course of these proceedings, and suggests relying on the domestic variety figures for the year-prior that are contained in the table used by the United States.[382] We note,

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[377] We note that the parties obtain the corresponding sales data from different sources. While China presents sales data based on Table C-4 in USITC Publication 4190, dated November 2010 (Exhibit CHN-32), the United States presents sales data obtained from *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* (Exhibit USA-155) (BCI), which is based on USITC Publication 4595, dated February 2016 (Exhibit USA-16). The United States notes that its data source is a more recent USITC report, while China's data source is an earlier USITC report, but highlights that the relevant data in those reports are the same. (United States' response to Arbitrator question No. 10, para. 75). Considering that both parties present the same sales figures, we do not consider it necessary to explore their differences concerning these data sources.

[378] Exhibits CHN-120 and USA-155 (BCI).

[379] Exhibit CHN-50.

[380] Exhibit CHN-50, Tables IV-4 and IV-6.

[381] United States' written submission, para. 126, and fn 103 thereto. The United States speculates that "[i]t is possible that the arbitrator in DS471 decided to exclude coated packaging paperboard from the relevant data based on the USDOC's determination to exclude from the product scope coated packaging paperboard products with a thickness of 310 cm or more and a density of less than 0.70 g/cm^3". (United States' response to Arbitrator question No. 10, para. 76).

[382] China's response to Arbitrator question No. 38, paras. 25 and 26; and No. 77, para. 36.

however, that even though China confirmed that these figures should be used, it still relies on the initially submitted figures with year-prior market data in its calculations.[383]

3.181. Despite China's use of its original year-prior US domestic sales figures in its last relevant exhibit, we consider it reasonable, in light of the parties' agreement on the scope of the CVD order excluding coated packaging paperboard, to rely on the US domestic sales figure provided by the United States and contained in Table IV-4 of Exhibit CHN-50.

3.182. As regards the two **import varieties**, the parties submit identical figures based on the same USITC report.

3.183. Therefore, for the three sales varieties of Print Graphics, we shall rely on the following year-prior figures derived from USITC Publication 4192:

Table 13: Year-prior (2009) market sales for Print Graphics

Varieties	Total sales
US domestic variety	USD 1,023,688,000
Imports from China	USD 297,527,000
Imports from the rest of the world	USD 420,989,000

3.4.1.2.8 Aluminum Extrusions

3.184. As noted, the parties disagree on the year-prior for Aluminum Extrusions. As a consequence, they present different values for the sales data to be used for the three varieties. China presents sales data based on USITC Publication 4229 for all three varieties[384], while the United States presents sales data obtained from the more recent USITC Publication 4677.[385] We note that for each of the two alternative calendar years advanced by the parties, both USITC Publications 4229 and 4677 contain the same figures for all three varieties.

3.185. As we have determined 2009 to be the year-prior for Aluminum Extrusions[386], and since the parties' data sources contain the same figures for that calendar year for all three sales varieties of Aluminum Extrusions, we shall rely on the following year-prior figures provided by China and derived from both USITC reports:[387]

Table 14: Year-prior (2009) market sales for Aluminum Extrusions

Varieties	Total sales
US domestic variety	USD 2,888,945,000
Imports from China	USD 547,968,000
Imports from the rest of the world	USD 359,382,000

3.4.1.2.9 Steel Cylinders

3.186. As noted, the parties disagree on the year-prior for Steel Cylinders. In addition, they also disagree on the data sources and calculation methodologies to be used. As a consequence, they present different values for the sales data to be used for the three varieties. China presents sales data based on reports from a specific supplier (i.e. the TriMas Corporation) for domestic sales[388] and

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[383] Exhibit CHN-120.
[384] Exhibit CHN-36, Table IV-2.
[385] Exhibit CHN-37, Table C-1.
[386] See section 3.4.1.1 above.
[387] Considering that both USITC reports present the same sales figures for year 2009, we do not consider it necessary to explore the parties' differences concerning these data sources.
[388] Exhibit CHN-55.

USITC DataWeb for the two import varieties.[389] The United States also relies on information from that supplier for sales of the US domestic variety, while it sources data for the two import varieties from US Customs[390] and the US Census Bureau.[391]

3.187. Regarding sales of the **US domestic variety**, China obtains sales data from the 2012 SEC Annual Report (Form 10-K) of the TriMas Corporation.[392] According to China, Norris Cylinder, a sub-unit in the Engineered Components Division of the TriMas Corporation, is the only company producing high pressure steel cylinders in the United States.[393] China estimates US domestic shipments by attempting to extract the domestic sales of Norris Cylinder from the sales of TriMas Corporation's Engineered Components Division reported in the 2012 SEC Annual Report.[394] According to China, the engineered components division consisted of producers of: (i) specialty engines and engine replacement parts for use in oil and natural gas production and other industrial and commercial markets; and (ii) steel cylinders produced by Norris Cylinder.[395] Since the 10K form does not separate revenue due to domestic shipments from export sales nor across the different lines of TriMas Corporation's Engineered Components Division, China assumes that, first, 50% of the reported 2010 revenue of TriMas Corporation's Engineered Components Division stems from Norris Cylinder, and, second, that two thirds of reported revenue comes from domestic sales.[396]

3.188. The United States initially proposed a similar methodology to that of China[397], albeit for a different year-prior, and based on the assumption that Norris Cylinder's entire estimated revenue for 2011 stemmed from US domestic sales.[398] In response to a follow-up question by the Arbitrator, the United States submitted a letter containing the exact value of domestic sales figures of steel cylinders by Norris Cylinder for the 2010 and 2011 calendar years (i.e. for both alternative years-prior).[399] According to the United States, relying on these direct figures would obviate the need to make any assumptions concerning the value of Norris Cylinder's domestic sales.[400]

3.189. The domestic sales data from Norris Cylinder provided by the United States seems to us to be the best available data on the record, since it contains an exact figure, without requiring assumptions or estimation methodologies, and has been issued directly by Norris Cylinder. Accordingly, we consider it reasonable to rely on this data for domestic sales but using the figure relating to calendar year 2010, which we have determined to be the year-prior for Steel Cylinders.[401]

3.190. As regards the two **import varieties**, the parties' figures differ because they concern different calendar years as the year-prior and also rely on different data sources. China submits data for the full calendar year 2010 from the USITC online DataWeb system[402], whereas the United States relies on company-specific USCBP data for imports from China[403], and HTS aggregates from the

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[389] Exhibit CHN-120.
[390] Exhibit USA-58 (BCI).
[391] Exhibit USA-59.
[392] China's methodology paper, para. 95; written submission, para. 23. See also Exhibit CHN-55.
[393] China's methodology paper, para. 95; Exhibit CHN-94.
[394] Exhibit CHN-94; Exhibit CHN-55.
[395] Exhibit CHN-94.
[396] Exhibit CHN-94.
[397] Exhibit USA-60.
[398] United States' response to Arbitrator question No. 14, paras. 93-96.
[399] Exhibit USA-116 (BCI); United States' response to Arbitrator question No. 48, para. 56.
[400] United States' response to Arbitrator question No. 48, para. 56.
[401] See section 3.4.1.1 above.
[402] China indicates that it uses the primary HTS10 tariff code HTS 7311.00.0030 in USITC Publication 4328 to download import data from USITC DataWeb for both import varieties. This USITC publication notes, however, that "[s]ubject merchandise may also be imported under HTSUS statistical reporting numbers 7311.00.0060 or 7311.00.0090" (Exhibit CHN-41). In response to a follow-up question by the Arbitrator, China confirms, and the United States agrees, that HTS 7311.00.0030 is the appropriate and sole HTS code to be used in this context and that the other HTS codes are only secondary ones. (China's methodology paper, para. 94; China's response to Arbitrator question No. 49, para. 44; United States' response to Arbitrator question No. 49, paras. 57-58; and Exhibits CHN-41 and CHN-74).
[403] Exhibit USA-58 (BCI). See fn 326 to para. 3.151 above.

US Census Bureau for imports from the RoW.[404] As mentioned, the parties disagree on the appropriateness of relying on USCBP data.[405]

3.191. As we have determined 2010 to be the year-prior for Steel Cylinders[406] and since the data sources provided by the United States do not contain import data for that year, we consider it reasonable to rely then on the import data provided by China for 2010.

3.192. Therefore, with regard to the three sales varieties of Steel Cylinders, we shall rely on the following year-prior figures:

Table 15: Year-prior (2010) market sales for Steel Cylinders

Varieties	Total sales
US domestic variety	[[***]]
Imports from China	USD 23,009,000
Imports from the rest of the world	USD 2,821,000

3.4.1.2.10 Solar Panels

3.193. In the case of Solar Panels, the parties agree that the correct year-prior is 2011. However, they disagree on the data sources, and they also raise issues of product scope. As a consequence, the parties present different values for the sales data for the three product varieties. China submits sales data based on USITC Publication 4360 (Table IV-4) for all three varieties.[407] The United States submits sales data used in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*[408], and, as a consequence, indirectly relies on a USITC report for sales of the US domestic variety, and on US Customs and US Census Bureau for imports.

3.194. Regarding sales of the **US domestic variety**, both parties rely, directly or indirectly, on different USITC reports.[409] As mentioned, China relies on USITC Publication 4360, dated November 2012[410], whereas the United States relies on USITC Publication 4519, dated February 2015.[411] According to the United States, the figures in these USITC reports differ because more data became available between 2012 and 2015.[412]

3.195. Each party challenges the approach advanced by the other party. In general, China considers it inappropriate to rely in the present proceedings on the sales data previously used in

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[404] Exhibit USA-59. While the exact HTSUS codes used are not mentioned in the source used by the United States, in response to a question from the Arbitrator, the United States explains that it uses the same HTS10 code as China. (United States' response to Arbitrator question No. 14).

[405] See fn 328 to para. 3.151 above.

[406] See section 3.4.1.1 above.

[407] Exhibit CHN-45.

[408] Exhibit USA-44 (BCI).

[409] The United States originally argued that its figure for US domestic shipments came from the same USITC report that China had submitted (USITC Publication 4360), referenced by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*. However, the United States recognized that the arbitrator in those proceedings was not able to confirm this number. During the course of the proceedings, the United States explains that the report containing its figures is the more recent USITC Publication 4519 (United States' response to Arbitrator question No. 42, para. 38. See also Exhibit CHN-45).

[410] Exhibit CHN-45.

[411] Exhibit USA-21.

[412] United States' response to Arbitrator question No. 42, para. 38.

US – Anti-Dumping Methodologies (China) (Article 22.6 – US) for several reasons[413], especially because, according to China, there is publicly available data that would be more appropriate for "evaluating the specific violations at issue in this dispute".[414] The United States claims that China's data excludes photovoltaic (PV) cells, which was included in the scope of the relevant CVD measure as indicated in the CVD order in the *Federal Register*.[415] Specifically, for US domestic shipments, the United States notes that China's figure includes only PV modules, while the United States presumes that the figure it cites is larger because the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* had most likely estimated the value of US domestic shipments of PV cells and derived its own estimate for domestic shipments of cells and modules.[416]

3.196. Later in the proceedings, the United States notes that it does not disagree with China's approach of using data for modules alone (without separately accounting for shipments of cells) as a proxy for the size of the US domestic Solar Panel market.[417] Similarly, China agrees that the values are similar in both USITC reports and states that it does not oppose the use of the more recent USITC report as the basis for domestic sales in the year-prior.[418] Therefore, considering China's position, we adopt the figure for the US domestic variety proposed by the United States based on USITC Publication 4519.[419]

3.197. As regards the two **import varieties**, the parties' figures differ because they rely on different data sources. China submits data for the full calendar year 2007 from Table IV-4 of USITC Publication 4360 for both import varieties.[420] The United States relies on company-specific USCBP data for imports from China[421], and on HTS aggregates from the US Census Bureau for imports from the RoW.[422] As mentioned, the parties disagree on the appropriateness of relying on USCBP data with regard to both import varieties.[423]

3.198. Regarding **imports from China**, China believes that public data on PV modules alone are an accurate proxy for the overall Solar Panel market as imports of solar cells from China were small during both the year-prior and the remedy year.[424] The United States notes that the USCBP data it submits covers imports of both PV *cells* and *modules*.[425] The United States adds that the USCBP data

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[413] First, in China's view, arbitrators in Article 22.6 proceedings should rely on public, verifiable data whenever possible. Second, China considers that the claim that the public data reported in the USITC reports contains non-subject imports is difficult to reconcile with the USITC's described efforts to report apparent domestic consumption as precisely as possible for the product subject to the investigation. Third, China argues that since none of the parties in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* argued for the use of the two-step Armington model to calculate the level of N/I, the appropriateness of some of the key data required for the two-step Armington model was not fully explored in those proceedings. Fourth, China claims that the violation at the core of *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* required additional, nuanced, firm-specific data, which is not needed to compute the level of N/I in this dispute. Finally, China notes that the data in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* contains information on additional varieties for China which is unnecessary for this proceeding and serves only to complicate the analysis (China's response to Arbitrator question No. 10, paras. 17-21).
[414] China's response to Arbitrator question No. 10, para. 21.
[415] Exhibit CHN-43.
[416] United States' response to Arbitrator question No. 10, paras. 75-80.
[417] The United States explains that most domestically produced cells are internally used in the production of modules by a same firm and, as consequence, separately estimating US domestic shipments of cells and those of modules would result in double-counting. (United States' response to Arbitrator question No. 42, para. 39).
[418] China's response to Arbitrator question No. 74, para. 25.
[419] Exhibit USA-21.
[420] Exhibit CHN-45.
[421] Exhibit USA-58 (BCI). See fn 326 to para. 3.151 above. According to the United States, the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* did not use USITC imports data for Solar Panels' year-prior data, "so the United States likewise did not use USITC data". (United States' closing statement at the meeting of the Arbitrator, para. 25).
[422] Exhibit USA-59.
[423] See fn 328 to para. 3.151.
[424] China's response to Arbitrator question No. 41, para. 31.
[425] United States' response to Arbitrator question No. 10, paras. 77 and 78. However, Exhibit USA-58 (BCI) mentions only "CSPV cells". In response to a follow-up question by the Arbitrator, the United States clarified that the label "CSPV cells" was intended to be a shortened version of "CSPV Cells and Modules" (United States' response to Arbitrator question No. 43, para. 41 (referring to Exhibits USA-58 (BCI) and USA-59)).

used by the *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* arbitrator has appropriate scope and temporal coverage to be applicable in the present proceedings concerning CVD orders.[426]

3.199. China disagrees with the United States that the USCBP data has appropriate scope. China claims that, by referring to the title of the HTS codes underlying the United States' USCBP data, the United States has included a large number of out-of-scope products in its submission, specifically generators and lead acid batteries.[427] China adds that the United States' USCBP data may undercount year-prior imports from China because USCBP begins to request information from exporters of subject merchandise once a preliminary duty is imposed, which calls into question the suitability of relying on USCBP data for the year-prior sales figures of the Chinese import variety.[428] According to China, the preliminary determination date for a CVD order on Solar Panels was 26 March 2012. It is therefore not evident to China how USCBP may have recorded company-specific importation of subject merchandise already in the year-prior (2011).[429] China adds that even if USCBP were able to access pre-CVD import records of subject firms *ex post*, it may fail to include in its set of subject firms Chinese firms that had exported in the past but stopped exporting once the CVD order was put in place. China argues that this would result in an undercount of imports from China.[430]

3.200. According to the United States, this concern by China is based on "a misunderstanding about the nature of the year-prior USCBP data" because USCBP data are not based on subject merchandise under specific CVD orders, but are based instead on the reference HTS codes that are used by USCBP to identify shipments that may be subject to relevant duties.[431] Accordingly, the United States considers that the USCBP data it submits covers the entirety of Chinese imports under the relevant HTS codes for the year-prior.

3.201. As regards sales of **imports from the rest of the world**, China sources its figure from the above-mentioned USITC report[432] and covers only PV modules, whereas the sales figure submitted by the United States is based on data from the US Census Bureau.[433]

3.202. The United States argues that the difference between the USITC-reported data advanced by China and the HTSUS-based data used by the United States appears to be due to a difference in product coverage.[434] According to the United States, the USITC-reported data is "compiled from data submitted in response to [USITC] questionnaires" and only includes imports of modules among subject Solar Panels products. In addition, the United States explains that the HTSUS-based USCBP and US Census figures submitted by the United States aggregate values of all imports under the reference HTSUS codes and include imports of both cells and modules, as well as any other products that fall under the reference HTSUS codes.[435] China argues that the USITC data it submits for year-prior RoW imports purges these products as well as out-of-scope thin film solar panels.[436] China reiterates that the HTSUS codes used by the United States include substantial amounts of out-of-scope products.[437]

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[426] United States' response to Arbitrator question No. 44, para. 42.
[427] China's response to Arbitrator question No. 75, paras. 26-35.
[428] China's response to Arbitrator question No. 13, paras. 45-58.
[429] See Exhibit CHN-99.
[430] China's response to Arbitrator question No. 13.
[431] United States' response to Arbitrator question No. 32, para. 6.
[432] Exhibit CHN-45.
[433] Exhibit USA-59.
[434] United States' response to Arbitrator question No. 75, paras. 20 and 21.
[435] United States' response to Arbitrator question No. 75, paras. 20 and 21 and fns 13, 14, and 15 thereto (quoting Exhibit CHN-45 and referring to the United States' response to Arbitrator question Nos. 10 and 59).
[436] China's comments on the United States' response to Arbitrator question No. 75, para. 13.
[437] China explains that three of the HTS codes listed in the Solar Panels CVD order cover out-of-scope merchandise: 8501610000 (AC generators (alternators) of an output not exceeding 75 kva); 8501318000 (DC generators, not exceeding 750 w); and 85072080 (Lead-acid storage batteries other than of a kind used for starting piston engines or as the primary source of power for electric vehicles). China claims to have confirmed, using data reported by USITC DataWeb, that the United States used the HTS codes for generators and lead-acid batteries in its submitted import data. China also claims that, in addition to excluding out-of-scope generators and batteries, the USITC data submitted by China is preferable to the U.S. Census and USCBP data because it excludes out-of-scope thin-film products under HTS code 8541406020.
(China's response to Arbitrator question No. 75, paras. 26-35. See also Exhibits CHN-45 and CHN-123).

3.203. We consider that the import estimates of both parties have shortcomings. We acknowledge China's concern that the United States' estimate appears to be overinclusive due to the presence of out-of-scope generators and lead acid batteries. We also agree with the United States' criticism that the import of solar cells, not captured by China's estimate, should be accounted for given the scope of the relevant CVD order. Accordingly, we cannot rely on either party's import estimates.

3.204. We note that the USITC report advanced by China includes a table that reports the value of imports for both solar modules and solar cells (Table IV-2). This table is based on landed duty-paid rather than apparent consumption, which is the basis of Table IV-4 relied upon by China. These tables appear to differ due to technical adjustments made by USITC; however, these adjustments are small in value when based on a comparison of import values of modules only.[438] In order to account also for solar cells, we consider it reasonable to rely on Table IV-2 of USITC Publication 4360 to obtain an estimate for both import varieties, even if this table reports landed duty-paid and not apparent consumption as the tables predominantly used by the parties.

3.205. Therefore, with regard to the three sales varieties of Solar Panels, we shall rely on the following year-prior figures:

Table 16: Year-prior (2011) market sales for Solar Panels

Varieties	Total sales
US domestic variety	USD 804,853,000
Imports from China	USD 1,905,220,000
Imports from the rest of the world	USD 824,588,000

3.4.2 Remedy year

3.206. As noted[439], the parties agree that, since the RPT expired on 1 April 2016, the baseline year or reference period for a counterfactual analysis should be the 2017 calendar year.[440] The parties disagree on the data points to be used for each of the ten products.

3.207. Unlike the sales data necessary for the year-prior, only an estimate of the total market size is needed for the remedy year, rather than estimates for each of the three varieties (US domestic sales, imports from China, and RoW imports). China, in fact, submits only an aggregate remedy-year sales estimate for four of the products at issue (Line Pipe, Kitchen Shelving, Wire Strand, and Seamless Pipe)[441], whereas for the remaining six products (Pressure Pipe, OCTG, Print Graphics, Aluminum Extrusions, Steel Cylinders, and Solar Panels), China submits data for each of the three varieties. The United States contests the remedy-year sales estimates of China for all ten products, and proposes alternative estimates based on estimates for each of the three varieties of all ten products.[442]

3.208. The parties' disagreements concern several issues, including estimation methodologies, data sources, and product scope. Several of these disagreements relate to more than one product. Accordingly, before addressing each product individually, we examine these general, cross-cutting disagreements and issues.

3.4.2.1 General disagreements affecting remedy-year market size

3.209. The parties rely on USITC reports pertaining to the products and years at issue for total market size and variety estimates when such reports are available. However, unlike for the year-prior, USITC reports with the appropriate product scope covering the remedy year are available

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[438] Table IV-4 reports USD 1,729 million of solar module imports from China, Table IV-2 reports USD 1,799 million (Exhibit CHN-45).
[439] See para. 3.9 above.
[440] China's methodology paper, para. 66; United States' written submission, para. 28 (referring to China's methodology paper, para. 4).
[441] Exhibit CHN-120.
[442] Exhibit USA-156 (BCI).

only for two products (OCTG and Solar Panels)[443] and even in these two cases they only apply to a subset of varieties. As a result, for remedy-year market size estimates, the parties rely on other sources or extrapolate data from USITC reports of earlier years.

3.210. Each party criticizes the adjustments chosen by the other party. In particular, the United States questions China's use of a gross domestic product (GDP) deflator to extrapolate data, whereas China criticizes the United States' reliance on confidential USCBP data to obtain estimates for imports from China. We address these two disagreements in turn.

3.4.2.1.1 Remedy year data estimates obtained using a GDP deflator

3.211. As China explains, for five products[444] it uses information from either a USITC sunset review or a USITC report from another investigation involving the same product scope for estimating the sales of the three varieties and calculating total market size. However, as the reports on three of those five products (Pressure Pipe, Print Graphics, and Aluminum Extrusions) were published prior to 2017, China scales data from the latest year with reported market data available to 2017 values using a GDP deflator.[445] For a sixth product, Steel Cylinders, China uses data on import supply from a USITC sunset review and adjusts it by a GDP deflator for the import varieties, and uses domestic data that is available directly for 2017 from the sole US producer for the domestic sales variety.[446] For the other four products (Line Pipe, Kitchen Shelving, Wire Strand, and Seamless Pipe), no subsequent USITC reports dated after the relevant year-prior are available or the information therein is redacted, so China estimates the 2017 market size by scaling the size of the whole market in the relevant year-prior for each product using a GDP deflator without differentiating by variety.[447] In other words, China adjusts USITC data from years preceding the remedy year using a GDP deflator, whether for all or only some varieties, for all products except OCTG and Solar Panels.

3.212. The United States argues that China's GDP deflator approach is unsound and overstates the level of N/I.[448] According to the United States, China's GDP deflator approach is not a valid method for estimating market size in the remedy year since applying a GDP deflator to data from previous years merely shows the market size of the original data year in terms of 2017 dollars, rather than the actual market size in 2017. The United States claims that, in effect, China is assuming constant consumption between the original data year and 2017.[449]

3.213. The United States adds that, while the underlying USITC data are likely to be accurate for the original data year, there is no evidence that putting the US market size for that original data year in terms of 2017 dollars, by applying a GDP deflator, would accurately reflect the size of the US market in 2017.[450] According to the United States, as a measurement of inflation, the GDP deflator can be used on a given year's value to calculate what that value would be in terms of another year's dollars; however, a GDP deflator is not an appropriate proxy for projecting the future demand or consumption, or measuring the past demand or consumption, for a product.[451]

3.214. The United States notes that, unlike the estimates generated by China's GDP deflator, the actual US market size, as reported in USITC reports, has varied, sometimes dramatically, year-to-year.[452] According to the United States, there is no relationship between the actual 2017 market size and the projected 2017 value based on applying the GDP deflator to the value from the latest year for which USITC data is available.[453] In particular, the United States argues that if a remedy year happened to be determined as 2009 or any other year that the economy was in recession, the GDP deflator would fail to reflect the actual decline and instead would show growth in consumption. The United States maintains that, "[b]ecause a GDP deflator is not able to accurately estimate consumption for every year, it simply is not an appropriate tool for estimating consumption

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[443] Exhibits CHN-46 and USA-148.
[444] Pressure Pipe, OCTG, Print Graphics, Aluminum Extrusions, and Solar Panels.
[445] China's methodology paper, para. 99; Exhibit CHN-120.
[446] China's methodology paper, para. 100; Exhibit CHN-120.
[447] China's methodology paper, para. 101.
[448] United States' written submission, paras. 148-150.
[449] United States' response to question No. 23, para. 132.
[450] United States' response to question No. 23, para. 133.
[451] United States' response to question No. 23, para. 133.
[452] United States' response to question No. 23, para. 134, including Figures 3-5 (referring to Exhibit USA-102 (BCI)).
[453] United States' response to question No. 23, Figures 3-5.

for <u>any</u> given year".[454] The United States adds that it is also inappropriate to assume that the year China chose as an original data year is the best proxy for the remedy year in terms of apparent consumption.[455]

3.215. The United States claims that China seems to calculate the market size for 2017 by not taking into account specific factors related to the products when estimating US domestic shipments, by not providing the relevant customs information on the actual product, and by not taking into account US imports from the RoW.[456] The United States claims that, in contrast, the values of the US market for each product that the United States uses for its analysis is based on actual shipment data for the relevant product, which is significantly more accurate than China's estimate based on a GDP deflator.[457]

3.216. From the outset, China recognizes that in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, the arbitrator expressed a preference for directly measuring the size of the market in the remedy year. China argues that this preference is precisely why it gathered information from later USITC reports when such reports were available. However, China argues, the USITC has not provided any non-redacted information for Kitchen Shelving, Line Pipe, Seamless Pipe, or Wire Strand, and hence adjusting market size by the inflation rate (as proxied by the GDP deflator) is a reasonable approach.[458]

3.217. China rejects the alternative estimates advanced by the United States.[459] China reiterates that it applied the same approach in all cases for measuring the total US market size in the remedy year.[460] In particular, China recalls, in five cases[461] it has used USITC reports that are more recent than the year-prior to produce its remedy-year estimates, and notes that in each of these cases the GDP deflator adjustment was minor – no more than a 6% adjustment for inflation. Thus, China argues, unless the United States is proposing that the USITC reports China relies upon are inaccurate, there can be little debate over China's estimate of the remedy-year market size. As regards a sixth product, Steel Cylinders, China claims that it has used an up-to-date Form-10K report from the only US domestic producer along with remedy-year HTS trade data to compute the overall remedy-year market size.[462] In the remaining four cases (Line Pipe, Kitchen Shelving, Seamless Pipe, and Wire Strand), China claims that there were no more recent USITC reports covering the subject product, and argues that "[c]onsistent with the principles of consistency and transparency, … adjusting the year-prior market size to estimate the remedy-year market size is perfectly reasonable".[463]

3.218. China adds that the United States proposes using a mix of confidential data and *ad hoc* adjustments to publicly available data.[464] China criticizes the United States' use of confidential USCBP data for imports from China arguing that it cannot confirm its accuracy.[465] Regarding imports from the RoW, China rejects the *ad hoc*, *ex post* adjustments to the public HTSUS trade data that the United States proposes with respect to Seamless Pipe.[466] Regarding domestic production, China claims that the approach of the United States is problematic because it discards verified USITC data in favour of a series of arbitrary assumptions, and, thus, there is no reason to presume that such an approach would lead to a more accurate estimate of the domestic industry's size. On the contrary, according to China, its reliance on the GDP deflator is based on verified data and assumes that domestic production is stable in real value terms and grows with inflation.[467]

3.219. Further, China argues, if one considers Pressure Pipe, Seamless Pipe, and Print Graphics, in each of these cases, the United States downsizes the value of imports in the *remedy* year from

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[454] United States' response to question No. 23, para. 135. (emphasis original)
[455] United States' response to question No. 23, para. 135.
[456] United States' written submission, para. 148.
[457] United States' written submission, para. 8.
[458] China's methodology paper, para. 102.
[459] China's written submission, paras. 78-85.
[460] China's written submission, para. 80.
[461] Pressure Pipe, OCTG, Print Graphics, Aluminum Extrusions, and Solar Panels.
[462] China's written submission, para. 80.
[463] China's written submission, para. 81.
[464] China's written submission, paras. 82-84.
[465] China's response to Arbitrator question No. 24, para. 61.
[466] China's response to Arbitrator question No. 24, para. 62.
[467] China's response to Arbitrator question No. 24, para. 63.

other import supply sources using an *ad hoc* scaling metric based on adjustments from the original investigation (which is eight or more years-prior). China finds the United States' position untenable. China argues that, while the United States opposes China's GDP deflator-based approach which occasionally uses information from original investigation USITC reports (if later reports are unavailable), the United States relies on those same reports when it proposes *ad hoc* adjustments to lower the market size in the remedy year.[468]

3.220. For China, adjusting the best verifiable, publicly available data to get an estimate for the remedy year would be a relatively easy task in this dispute, because for six of the cases, the timeframe requiring inflation adjustment is short, making it unlikely that different price indices will imply large differences in the adjustment.[469] China concludes by stating that the United States' position that the GDP deflator approach cannot measure market changes is inaccurate. According to China, the fact that it used US market size information from USITC reports from 2015 or 2016, for example, to estimate the size of the US market in 2017, is hardly unreasonable. The relevant question, China claims, is whether another price deflator would be more appropriate than the GDP deflator.[470] According to China, the United States presents no evidence that any other deflator is superior to what China has proposed, and in most cases, the GDP deflator's impact on the estimate of the US market size is quite modest.[471]

3.221. In principle, we do not consider it *a priori* unreasonable to rely on data from years that are close to the remedy year adjusted by an appropriate index that captures changes in market size if reliable sales data from the remedy year is unavailable. However, such an approach does not appear warranted when reliable data for the actual remedy year is available.

3.222. In addition, assuming that data less recent than the remedy year is reliable as a point of departure for estimating remedy-year sales, we do not consider a GDP deflator to be an appropriate index for adjusting such data in the context of this dispute. According to the United States Bureau of Economic Analysis (USBEA), the source of China's data,[472] the GDP deflator "measures changes in the prices of goods and services produced in the United States".[473] The USBEA adds that the GDP deflator is "a measure of inflation".[474] Hence, as argued by the United States, using a GDP deflator would imply assuming constant consumption levels over time with only prices changing. We agree with the United States that such an assumption is unreasonable given that the United States has provided several examples in which consumption has varied significantly over time.[475]

3.223. We also note that the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* rejected China's suggested inflation-based adjustment of data from earlier calendar years in order to calculate remedy-year sales as "not reasonable or objective":

> China's suggestion to use inflation-adjusted values from the year prior to the imposition of the anti-dumping orders, rather than 2017 values, is not reasonable or objective. We

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[468] China's written submission, para. 83.

[469] China's response to Arbitrator question No. 26, para. 72. According to China, only for four cases (Line Pipe, Kitchen Shelving, Wire Strand, and Seamless Pipe) the timeframe requiring inflation adjustment would be long, since for the other products China either provided data for 2015 (i.e. Pressure Pipe, Print Graphics, and Aluminum Extrusions), or for 2013 (i.e. OCTG), or no adjustment is needed (i.e. for Steel Cylinders and Solar Panels). (China's response to Arbitrator question No. 26, para. 73).

[470] In a response to a question from the Arbitrator asking for other publicly available deflators, China presented an alternative to its GDP deflator in the form of a product-specific Producer Price Index ("PPI"). According to China, the overall impact of using product-specific PPI data rather than the GDP deflator is modest. However, while the PPI varies slightly from case to case and from the GDP deflator, it is not obvious for China that the PPI is a preferred metric to adjust the public data to evaluate the market size in 2017 since the PPI focuses on the very broad output of US producers including not only the goods and services purchased by producers as inputs in their own operations or as investment, but also goods and services bought by consumers from retail sellers and directly from the producer. China argues that, in contrast, the GDP deflator, as a measure of inflation, is a better representation of the real changes in markets size for the products at issue (China's response to Arbitrator question No. 26, paras. 70-71; Exhibits CHN-103 and CHN-104).

[471] China's written submission, para. 85.

[472] See Exhibit CHN-53. We note that China indicates Federal Reserve Economic Data as source, which identifies as original source the USBEA (see https://fred.stlouisfed.org/series/GDPDEF, last accessed 1 October 2021).

[473] https://www.bea.gov/data/prices-inflation/gdp-price-deflator, accessed on 5 October, 2021.

[474] https://www.bea.gov/data/prices-inflation/gdp-price-deflator, accessed on 5 October, 2021.

[475] See para. 3.214 above.

recall that our mandate is to determine the level of nullification or impairment caused by the United States' failure to implement the DSB recommendations and rulings by the expiry of the reasonable period of time. We also recall that the parties agreed to use calendar year 2017 as the reference period. Thus, we consider it appropriate to use the actual 2017 values of the US market, including the actual 2017 value of US shipments, when applying the Armington model to simulate the impact of reducing the WTO-inconsistent anti-dumping duties from the actual 2017 duty rates to the counterfactual duty rates. If we were to use the values of the US market in the year prior to the imposition of the anti-dumping orders, inflation-adjusted or not, we would be simulating the impact of reducing the WTO-inconsistent anti-dumping duties at a point in time where these duties had not yet been imposed. In our view, this would not be in accordance with our mandate.[476]

3.224. China argues that by using the latest USITC reports available or other transparent market information, it has addressed this criticism by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*.[477] We disagree. If reliable data from the actual remedy year is available, using data from earlier USITC reports does not address the criticism since it would still be simulating the impact of reducing the WTO-inconsistent CVDs before the end of the RPT, which would not correspond to the parties' agreed view as to our mandate.

3.225. We note China's argument that, by relying on the year-prior data of certain CVDs to make adjustments to remedy-year data that admittedly does not have the appropriate product scope, the United States essentially mirrors China's approach and, therefore, acts inconsistently with its own criticism of China's GDP deflator-based methodology. However, we consider it more reasonable to assume that certain consumption ratios remain constant over time than the assumption that total consumption remains constant over time. For example, the United States scales for Pressure Pipe 2017 RoW imports from basket HTSUS codes using the share of subject product in these HTSUS codes obtained with information from the original USITC reports.[478] This assumes that the ratio of subject product in the more aggregated HTSUS codes has remained constant. Adjusting actual 2017 import data with such a ratio still ensures that the resulting estimate is based on data from the remedy year. In contrast, assuming constant consumption over time leads to an estimate that is based on year-prior data.

3.226. We also note that for three products (Pressure Pipe, Kitchen Shelving, and Aluminum Extrusions), there is no remedy-year data on the record for domestic shipments since both parties rely on data from prior years. In such a case, a scaling exercise might be reasonable, but we consider that an appropriate index for this exercise should optimally consider changes in both quantities and prices, and not just in one of them as is the case for the GDP deflator. Such indices are publicly available in the form of growth rates for national or industrial output.

3.227. In light of the above, we reject China's remedy-year estimates for all products that are obtained using a GDP deflator for the purposes of these proceedings. We shall proceed to reviewing the data provided for each of the three varieties of each product at issue, and, subject to such data being reasonable, we will use it in order to determine the total remedy-year market size for each product as detailed in our product-by-product analysis in section 3.4.2.2.

3.4.2.1.2 Use of USCBP data for imports from China as submitted by the United States

3.228. The United States relies on data obtained from USCBP to submit remedy-year data from 2017 for the Chinese import variety of all ten products. The United States repeatedly argues that this data was used by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* and should therefore be considered appropriate also for our proceedings.[479]

3.229. China argues that relying on such USCBP data is inappropriate. According to China, we should rely in the first instance on verified data reported by the USITC even if it relates to years earlier than the remedy year, and only turn to other publicly available data where the relevant USITC

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[476] Decision by the Arbitrator, *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.18. (fn omitted)
[477] China's methodology paper, para. 102.
[478] United States' written submission, paras. 144-147.
[479] See e.g. United States' response to Arbitrator question No. 15, paras. 97-107, and No. 80, para. 35.

data is not publicly available. China considers that the fact that the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* relied on exporter-specific USCBP data does not support the use of such data in the present arbitration because the WTO violations at issue in that dispute related to an exporter-specific duty adjustment. According to China, the WTO violation at issue in these proceedings does not vary depending on the exporter and, thus, the only reason to use the exporter-specific USCBP data submitted by the United States would be if the United States could demonstrate that the USCBP data is somehow superior to the data obtained from USITC reports or HTSUS import data submitted by China.[480]

3.230. China adds that USCBP data is confidential and could only be relied upon if the United States submitted additional data reporting imports by exporter to allow both China and the Arbitrator to verify its accuracy.[481] China argues that allowing one party to assert the value of imports subject to the CVD orders without enabling the other party to verify these values would "call the legitimacy of the N/I calculation into question".[482]

3.231. In addition, as regards specifically Line Pipe and OCTG, China claims that the United States' data relies upon customs value, even though USITC deemed landed duty value paid the correct metric to measure imports, which is higher in value. China also claims that for Line Pipe and Solar Panels, some imports that enter under the HTS codes listed in the relevant CVD orders are non-subject products. According to China, the USITC data it submitted excludes any out-of-scope product included in the USCBP data submitted by the United States.[483]

3.232. The United States responds that China has not supported its argument that relying on USCBP data is inappropriate. The United States suggests that China can verify USCBP data by comparing it with export data compiled by the General Administration of Customs China and argues that the United States relies on non-public data only where adequate public data is not available. In particular, the United States argues that, for the remedy-year, USCBP data is the most accurate data source for the products at issue. According to the United States, this is because the USCBP collects data using the description of the product as defined in the relevant CVD order, through its Automated Commercial Environment system.[484]

3.233. Given that our mandate points us to the remedy year, we consider that using actual data from the remedy year is preferable to using data from previous years that are adjusted by inflation or growth rates. Hence, insofar as there are no USITC reports covering 2017, we agree with the United States that USCBP data directly for 2017 appear to be the most accurate remedy-year Chinese import data on the record. The fact that USCBP data is not public does not *a priori* disqualify such data. As a matter of fact, prior arbitrators have relied on non-public data to establish the level of N/I.[485] Also, we agree with the United States that, apart from pointing out the non-public nature of USCBP data, China has not indicated why such data should generally be unreliable.[486]

3.234. Accordingly, when no superior data is available for a certain product at issue, we shall rely on USCBP data for imports from China in the remedy year provided by the United States.

3.4.2.2 Remedy-year market size per product

3.235. As mentioned, the parties disagree on remedy-year market size estimates for all ten products. As noted, the parties' disagreements concern several aspects including estimation methodologies, data sources and product scope. We address these data issues put forward by the parties with regard to each of the ten products at issue, including as regards the three sales varieties.

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[480] China's response to Arbitrator question No. 44, para. 35, and No. 73, para. 23; comments on the United States' response to Arbitrator question No. 110, paras. 84-85; and opening statement at the meeting of the Arbitrator, para. 55.
[481] China's response to Arbitrator question No. 12, para. 42; No. 24, para. 61; and No. 25, para. 67.
[482] China's response to Arbitrator question No. 12, para. 42.
[483] China's response to Arbitrator question No. 73, para. 22; opening statement at the meeting of the Arbitrator, para. 56.
[484] United States' response to Arbitrator question No. 15, paras. 97-107 and No. 82, para. 41.
[485] See, e.g. Decision by the Arbitrator, *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*.
[486] We note that China states in the context of, for instance, Kitchen Shelving, that "the United States does have confidential USCBP data that could be helpful for assessing trade in the remedy year, but it has not made that data available to China" (China's response to Arbitrator question No. 25, para. 67).

3.4.2.2.1 Pressure Pipe

3.236. China obtains estimates for the three varieties by applying a GDP deflator to 2015 data from USITC Publication 4644.[487] The United States presents data for the domestic variety based on the same USITC report but, for imports from China and from the RoW, the United States relies on USCBP and HTSUS-based US Census data respectively.[488] The HTSUS-based US Census data for imports from the RoW includes, according to the United States, out-of-scope product. Therefore, the United States scales this data using the average ratio over the years 2007-2009 of USITC Publication 4064 data[489] with the appropriate scope to the HTSUS data with a larger scope.[490]

3.237. Regarding sales of the **US domestic variety**, both parties use USITC Publication 4644 as a data source, but they disagree on which year's data within that report to use as a starting point for calculating remedy-year sales and they use different indices to scale data in order to reach an estimate for 2017. While China uses data for the full year of 2015, the United States annualizes data from the first quarter (January-March) of 2016 and scales it by the year-on-year growth rate of sales in this specific variety from the first quarter of 2015 to the first quarter of 2016.[491]

3.238. We note that according to USITC Publication 4644 actual annual sales in 2015 were 10% smaller than annualized first quarter sales of that year.[492] Further, we consider that relying on the first quarter of 2016 as opposed to the full year of 2015 involves a relatively small difference in terms of how recent the underlying data is. Hence, we consider it appropriate to rely on data for the full year of 2015, as suggested by China, and not on annualized first quarter data for 2016, as suggested by the United States.

3.239. Regarding the scaling of the data to the remedy year, the parties use different indices. China uses the GDP deflator, whereas the United States scales by an index based on market-size changes from the first quarter of 2015 to the first quarter of 2016. As indicated, we disagree with China's suggested GDP deflator.[493] Among other reasons, we consider this index inappropriate for the current proceedings as it does not account for changes in consumption levels in the remedy year or previous years. In this context, we note that the index used by the United States also ignores possible changes in consumption levels between 2016 and 2017, the remedy year, and assumes that growth simply continues in a linear fashion. Further, the index proposed by the United States is based on a comparison of a single quarter only and, therefore, might not be representative of the full annual development. As a result, we consider that neither China's nor the United States' proposed indices are appropriate.

3.240. We recall that to obtain year-prior domestic shipment data in the context of a different product, Kitchen Shelving, China and the United States appear to rely on the US Census' Annual Survey of Manufactures[494], which reports annual shipment data at the 6-digit NAICS industry level.[495] As noted regarding year-prior data for Kitchen Shelving[496], we consider this survey as a reliable data source. Hence, we consider that growth rates obtained on the basis of this survey for the primary 6-digit NAICS codes associated with the products at issue in the context of Pressure Pipe can serve as a more reliable approximation for market-size changes at the more disaggregated product level than the indices advanced by the parties. In particular, we consider that 6-digit-level, or industry-level, growth rates for the relevant years may better capture product-level growth rates in the relevant period than the national price changes advanced by China in the form of a GDP

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[487] Exhibits CHN-5 and CHN-120. GDP deflator data is reported in Exhibit CHN-53.

[488] Exhibits CHN-5; USA-65; USA-66 (BCI); and USA-156 (BCI).

[489] Exhibit CHN-4.

[490] United States' written submission paras. 144-146 and Table 11.

[491] Exhibit USA-61.

[492] Exhibit CHN-5, Table IV-3. The annualized value is USD 94,912,000 for 2015 while the actual value is USD 85,540,000.

[493] See section 3.4.2.1.1 above.

[494] See Exhibits CHN-53 and USA-61.

[495] In years where a full economic census is conducted (every five years including the remedy year), these figures are reported in the Economic Census instead of the Annual Survey of Manufactures.

[496] See section 3.4.1.2.3 above.

deflator or the past product-level growth rates relied upon by the United States.[497] Therefore, to obtain the value of domestic sales of Pressure Pipe for the remedy year, we will calculate a scaling index based on this data and apply it to 2015 sales data for the full year from USITC Publication 4644.[498]

3.241. As regards the two **import varieties**, China obtains estimates by applying a GDP deflator to 2015 data from a USITC Publication 4644, resulting in an estimate of zero for Chinese remedy-year imports. In turn, the United States relies on remedy-year data from the USCBP for Chinese imports and on remedy-year HTSUS-based US Census data for RoW imports, which the United States scales to correct for any out-of-scope products.

3.242. As explained[499], we disagree with China's suggested GDP deflator. As regards the data submitted by the United States for imports from China, China challenges the United States' estimates due to reliance on USCBP data, which we have addressed earlier.[500] Considering that the United States' data is based on information from the actual remedy year, and no other data from that year is available, we consider the estimate for Chinese imports provided by the United States superior to China's 2015 data scaled by a GDP deflator and to be the best available data on the record, and we will rely upon this data.

3.243. For imports from the RoW, China criticizes the United States' correction for out-of-scope products to its HTSUS-based estimate. As mentioned, the United States implements this correction by scaling the data using the average ratio over the years 2007-2009 of USITC report data with the appropriate product scope to the HTSUS data with a larger scope. China argues that using an *ad hoc* scaling metric based on adjustments from the original investigation is inconsistent with the United States' criticism of China's use of market-size estimates based on data from the original investigation combined with a GDP deflator. China adds that the adjustment only serves to diminish the size of the market in the remedy year.[501]

3.244. We note that China acknowledges[502] that the USITC report it relies upon indicates that the HTSUS codes pertaining to Pressure Pipe include out-of-scope products.[503] Hence, we consider it reasonable to adjust for such scope issues. As explained, we consider such a scope adjustment to be more reasonable than assuming constant consumption over time as implied by China's GDP

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[497] We note that the annual growth rate from 2015 to 2016 based on 6-digit NAICS industry statistics matches the United States' estimated growth rate obtained from comparing the first quarters of 2015 and 2016 at the more disaggregated product-level as reported in USITC Publication 4644 quite closely. Industry-level shipments shrank by 9.9% while the United States' first quarter comparison suggests a decline of 11.3% at the product-level. We also note that the industry-level growth rate from 2014 to 2015 (19.4%) was similar to the product-level growth reported by USITC (26.4%). According to industry statistics, the market recovered in 2017 partly with a growth rate of 15.1% (or 3.7% compared to 2015). This is in stark contrast to the United States' assumption, which is not substantiated by concurrent data, that the market continued to shrink by 11.3%. See US Census' Annual Survey of Manufactures 2015 and 2016 and Economic Census of 2017 data for NAICS code 331110 available at: https://www.census.gov/data/tables/time-series/econ/asm/2013-2016-asm.html (accessed 1 October 2021) (Tables "2015 Value of Product Shipments" and "2016 Value of Product Shipments") and https://www.census.gov/data/tables/2017/econ/economic-census/naics-sector-31-33.html (accessed 1 October 2021) (Table "EC1700BASIC").

[498] To obtain shipment estimates at the 6-digit NAICS-level for the industry associated with Pressure Pipe, we follow China's methodology (see Exhibit CHN-53) used for determining year-prior market values of Kitchen Shelving. In other words, we use the NAICS-HTS concordance by Pierce and Schott (2012) to match the HTS codes listed in USITC Publication 4644 to a 6-digit NAICS code (331110 – "Iron and steel mills and ferroalloy manufacturing") (Justin R. Pierce and Peter K. Schott, "A Concordance Between Ten-Digit U.S. Harmonized System Codes and SIC/NAICS Product Classes and Industries" (2012), *Journal of Economic and Social Measurement*, 37(1-2):61-96). We then obtain shipments data for this NAICS code from the Annual Survey of Manufactures and the Economic Census and deduct exports obtained from USITC's Dataweb. See Annex C-5 for the identification of the primary NAICS code, Annex C-6 for the calculation of the scaling index, and Annex C-8 for the calculation of the resulting remedy year figure. We note that these steps were not criticised by the United States in the context of year-prior data of Kitchen Shelving. In fact, the United States also relies on primary NAICS codes for that product.

[499] See section 3.4.2.1.1 above.

[500] See section 3.4.2.1.2 above.

[501] China's written submission, paras. 82 and 83.

[502] China's response to Arbitrator question No. 46, para. 37.

[503] See USITC Publication 4064, p. IV-6 (Exhibit CHN-4).

deflator-based estimate. [504] As a result, we adopt the United States' estimates for imports from the RoW.

3.245. Therefore, with regard to Pressure Pipe, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

Table 17: Remedy-year market sales for Pressure Pipe

Varieties	Total sales
US domestic variety	USD 89,091,000
Imports from China	[[***]]
Imports from the rest of the world	USD 156,207,000
TOTAL MARKET SIZE	[[***]]

3.4.2.2.2 Line Pipe

3.246. In the case of Line Pipe, China does not report sales data by variety but calculates an estimate for the total market size in the remedy year (2017) obtained by applying a GDP deflator to its estimated total sales data for the year-prior (2007).[505] The United States calculates its remedy-year total US market-size figure as the sum of sales estimates and data for the three varieties.[506] The United States' estimate for sales of the US domestic variety in 2017 is based on industry data from Preston Pipe and Tube, a private data and consulting company.[507] For imports from China and from the RoW, the United States relies on USCBP and HTSUS-based US Census data respectively.[508]

3.247. As explained[509], we do not consider the use of a GDP deflator, as suggested by China, to be a reliable approach for calculating remedy-year sales. Hence, we review the remedy-year data for all three varieties provided by the United States, as well as China's arguments against relying on such data, before calculating the total value of remedy-year sales.

3.248. Regarding sales of the **US domestic variety**, the United States' data includes price and quantity information at a disaggregated level, used to obtain an estimate which the United States argues is in line with the scope of the CVD order. In particular, the United States multiplies the average US price for welded pipe of 16 inches or less in diameter by the 2017 production quantity of that pipe type and size. It obtains the production quantity by multiplying the share of line pipe that is 16 inches or less in diameter in total line pipe shipments with the total amount of welded pipes shipped domestically. China criticizes the United States' estimate as being based on arbitrary assumptions, as well as unverifiable data sources and calculations.[510] China adds that, while Preston Pipe and Tube is a well-known source for pipe data, its data does not match the product scope under the relevant CVD order. In particular, China claims that the product scope is limited to pipes not greater than 14 inches in outside diameter, whereas the Preston Pipe and Tube data reports data only for pipes up to 16 inches in diameter. China concludes that the United States' estimate includes out-of-scope products.[511]

3.249. The United States responds that China appears to have erroneously cited the product scope of Pressure Pipe, which is limited to pipes not greater than 14 inches in diameter. The United States argues that, in contrast, the product scope of Line Pipe, the product at issue in this context, includes pipes up to 16 inches in diameter.[512]

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[504] See para. 3.225 above.
[505] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.
[506] Exhibit USA-156 (BCI).
[507] Exhibits USA-60 and USA-136 (BCI).
[508] Exhibits USA-59 and USA-64 (BCI).
[509] See section 3.4.2.1.1 above.
[510] China's response to Arbitrator question No. 24, para. 63 and Table 5.
[511] China's response to Arbitrator question No. 83, paras. 47-49.
[512] United States' comments on China's response to Arbitrator question No. 83, para. 32.

3.250. We note that, as argued by the United States, the product scope of the relevant order, as defined in the relevant notice of CVD order issued by the Department of Commerce, is "circular welded carbon quality steel pipe of a kind used for oil and gas pipelines (welded line pipe), not more than 406.4 mm (16 inches) in outside diameter, regardless of wall thickness, length, surface finish, end finish or stenciling".[513]

3.251. In light of the clarification regarding product scope and while we agree with China that the United States' estimate is based on a set of assumptions, we still consider that the estimate is preferable to China's estimate which assumes constant consumption levels over a 10-year period. The United States' estimate is based on actual 2017 data and each of its assumptions appear to be reasonable. In particular, we consider that assuming that the share of line pipe that is 16 inches or less in diameter is the same in total line pipe sales and welded line pipe sales not unreasonable in the absence of welded line pipe sales data. We also consider that applying the average price across different welded line pipes 16 inches or less in diameter to this sales estimate is reasonable in the absence of more disaggregated sales data that would allow for a better matching between disaggregated price and line pipe types.

3.252. As regards the two **import varieties**, the parties' disagreements with respect to the United States' estimates for imports from China revolve around the use of USCBP data. As explained, if no superior data is available, we consider the use of USCBP data for the remedy year to be reasonable.[514] As regards imports from the RoW, China does not challenge the scope of the HTSUS-data based estimate of the United States. In light of this and since it is the only data for Line Pipe imports from the RoW on the record for the remedy year, we adopt the estimate based on HTSUS data provided by the United States. As we have rejected China's GDP deflator approach, we adopt the United States' estimates for the two import varieties.[515]

3.253. Therefore, with regard to Line Pipe, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

Table 18: Remedy-year market sales for Line Pipe

Varieties	Total sales
US domestic variety	USD 542,483,000
Imports from China	[[***]]
Imports from the rest of the world	USD 605,500,000
TOTAL MARKET SIZE	[[***]]

3.4.2.2.3 Kitchen Shelving

3.254. In the case of Kitchen Shelving, China estimates the remedy year (2017) total sales in the US market by applying a GDP deflator to its estimated total sales for the year-prior agreed by the parties (2008).[516] The United States calculates the remedy year total market size figure as the sum of its sales estimates for the three varieties. The United States' estimate for sales of the US domestic variety in 2017 is calculated using the same methodology the United States employs to estimate the year-prior equivalent, namely as a certain percentage of NAICS-level total remedy-year sales of kitchen appliances in the United States informed by Kitchen Shelving cost share estimates less imports. The United States' estimate for Kitchen Shelving imports from China are based on USCBP data for 2017. Its estimates for imports from the RoW are calculated by deducting the above imports from China from estimated total imports obtained using the United States' methodology for

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[513] Exhibit CHN-8.

[514] See section 3.4.2.1.2 above.

[515] We note that in its later submissions (Exhibits USA-79 (BCI) and USA-156 (BCI)), the United States' figure for imports from the RoW differs by USD 100,000 from the figure contained in Exhibit USA-59, which the United States refers to as the source of Exhibit USA-156 (BCI). Exhibits USA-79 (BCI) and USA-156 (BCI) indicate a value of USD 605,600,000, whereas Exhibit USA-59 indicates USD 606,500,000. Given that the United States argues that Exhibit USA-59 is the source of its data, we rely on the figure contained therein, i.e. USD 606,500,000.

[516] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.

estimating the year-prior imports from China. The United States uses two HTSUS codes to calculate imports of oven-related kitchen shelving from the US Census and multiplies this number by two to account for all other types of kitchen shelving.[517]

3.255. As explained, we do not consider the use of a GDP deflator, as suggested by China, to be a reliable approach for calculating remedy-year sales.[518] Hence, we review the remedy-year data for all three varieties provided by the United States as well as China's arguments against relying on such data, before calculating the total value of remedy-year sales.

3.256. For sales of the **US domestic variety**, the United States criticizes the assumptions underlying the use of a GDP deflator[519]. China criticizes the United States' estimation methodology as based on *ad hoc*, unverified, and unattributed statements. China adds that the cost share estimates upon which the United States' methodology rests are ranges rather than specific figures implying that the United States' estimate, which uses the mid-point of the range, could be substantially misestimating the true value.[520]

3.257. As noted, we do not consider that applying a GDP deflator to market size estimates of previous years, especially if the period at issue covers nine years, is reasonable.[521] We further agree with China that the United States' estimate is based on a series of unfounded assumptions, in particular insofar as it rests on its import estimates as indicated below. We therefore reject both parties' estimates for the remedy-year sales of the domestic variety of Kitchen Shelving.

3.258. To assess whether reasonable alternative estimates for the US domestic variety are available, we turn to the parties' year-prior estimates because both parties emphasize the importance of using consistent product definitions across the year-prior and the remedy year.[522] We recall that we have relied on China's methodology for estimating year-prior sales of the domestic variety, which rests on adjusting NAICS-level sales estimates downwards to correct for out-of-scope products, as reasonable. Therefore, we apply this methodology to remedy-year data to obtain an estimate of remedy-year sales of the domestic variety that is consistent with the definition used in the year-prior.[523]

3.259. For **import varieties** data, we note that as regards imports from China, the parties' disagreements revolve around the use of USCBP data, which we have addressed earlier.[524] Accordingly, since no data superior to USCBP data is available, we adopt the United States' estimate of imports from China based on direct USCBP data for 2017.

3.260. As regards imports from the RoW, in the absence of direct remedy-year data, the United States employs the same methodology to imports from the RoW in the remedy year as in the case of the year-prior sales of the domestic variety of Kitchen Shelving. As in the case of the

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[517] Exhibits USA-61; USA-66 (BCI); and USA-156 (BCI).

[518] See section 3.4.2.1.1 above.

[519] See section 3.4.2.1.1 above.

[520] China's response to Arbitrator question No. 11, para. 25, and No. 25, para. 66.

[521] See section 3.4.2.1.1 above.

[522] China's response to Arbitrator question No. 40, para. 29; United States' response to Arbitrator question No. 40, para. 35.

[523] The methodology is explained in detail by China in Exhibit CHN-53. Following this methodology, we obtain NAICS 6-digit level domestic shipments using the primary NAICS code, 335221 (Household cooking appliance manufacturing), pertaining to Kitchen Shelving from the Economic Census 2017 (available at: https://www.census.gov/data/tables/2017/econ/economic-census/naics-sector-31-33.html (accessed 1 October 2021) (Table "EC1700BASIC")) and correct it by exports obtained from USITC Dataweb. As no data is reported for the relevant code in 2017, we use 2016 data from the Annual Survey of Manufactures 2016 (available at: https://www.census.gov/data/tables/time-series/econ/asm/2013-2016-asm.html (accessed 1 October 2021) (Table "2016 Value of Product Shipments")) and scale it using the growth rate of the more aggregated 5-digit industry 33522 for which data is available. To correct for out-of-scope products within the NAICS 6-digit industry, we apply to this figure an import-data-based estimate. We calculate aggregate imports for all HTSUS codes associated with the NAICS industry and calculate the share of imports pertaining to HTSUS codes referenced in the CVD order in this aggregate import figure. See Annex C-5 for the identification of the primary NAICS code, Annex C-6 for the calculation of the scaling index, Annex C-7 for the scope adjustment, and Annex C-8 for the calculation of the resulting remedy year figure. See also fn 498 to para. 3.240 above.

[524] See section 3.4.2.1.2 above.

year-prior, China argues that the United States' approach is based on a series of arbitrary assumptions.[525]

3.261. As discussed in the context of the year-prior, we agree with China that the United States' figure rests on arbitrary assumptions regarding the share of subject imports in HTSUS categories under which Kitchen Shelving is classifiable, which could lead to an underinclusive estimate.[526] Therefore, to maintain a certain correlation between the scope of the year-prior and the remedy-year estimates, we turn to our year-prior estimate for imports from the RoW.[527] This estimate is based on the mid-point between the figures of China and the United States. This mid-point estimate implies that a certain share of all imports that entered the United States under the eight HTSUS codes referenced in the CVD order is subject product. We consider that applying this share of subject product to the total remedy-year imports from the RoW under the eight HTSUS codes gives us an estimate that is consistent with our approach in the year-prior. Accordingly, we adopt this approach.

3.262. As a result, with regard to Kitchen Shelving, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

Table 19: Remedy-year market sales for Kitchen Shelving

Varieties	Total sales
US domestic variety	USD 278,363,000
Imports from China	[[***]]
Imports from the rest of the world	USD 412,630,000
TOTAL MARKET SIZE	[[***]]

3.4.2.2.4 OCTG

3.263. China relies on a 2020 USITC report on OCTG that covers the remedy year for sales of all the three varieties.[528] However, for the import varieties, China submits only a combined estimate, since the USITC report in question does not list imports from China separately.[529] The United States, in turn, relies on the same 2020 USITC Report as the data source for its domestic variety estimate, but uses USCBP data for imports from China and HTSUS-based data from US Census for imports from the RoW.[530]

3.264. Regarding sales of the **US domestic variety**, the parties rely on the same 2020 USITC report (USITC Publication 5090) but their figures differ because they rely on different tables within that report. While China relies on Tables I-11/III-11 stating apparent consumption[531], the United States relies on Table III-8 stating US shipments. The United States explains that the quantities reported in both tables are the same and that the small difference in values arises because Table I-11 includes the value of toll processing on domestic OCTG, while Table III-8 does not. The United States adds that this technical adjustment by the USITC serves to reduce any potential reclassification or double-counting of imports for purposes of calculating the value of US apparent consumption.[532] China argues that the values from Table III-11 are used by the USITC when computing market shares in Table III-14 and claims that the data used by the USITC for calculating market shares provides the correct basis for year-prior data and should also be used here.[533]

3.265. As regards the relevant table to be used for determining domestic sales data, we note that both parties consistently rely on apparent consumption tables.[534] While the United States explains

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[525] China's response to Arbitrator question No. 25, para. 68.
[526] See section 3.4.1.2.3 above.
[527] See section 3.4.1.2.3 above.
[528] USITC Publication 5090 (Exhibit USA-148).
[529] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.
[530] Exhibits USA-59; USA-64 (BCI); and USA-156 (BCI).
[531] Table III-11 reproduces the relevant values indicated in Table I-11.
[532] United States' response to Arbitrator question No. 85, para. 48.
[533] China's comments on the United States' responses to Arbitrator question Nos. 85 and 86, paras. 33-37.
[534] See also para. 3.204 above.

where the difference between the two tables in USITC Publication 5090 stems from, it does not indicate why it deviates from this approach in this context. In the absence of such a justification, we consider it more reasonable to use the figures from Table I-11/III-11, as suggested by China.

3.266. China proposes to adjust the value in Table III-11 to include shipments related to the incremental value from heat-treating imports as this information is redacted in the report but listed as part of the domestic shipments. China adds that these shipments create value to the domestic industry and are therefore regarded as domestic sales. China notes that an earlier USITC report on OCTG from 2014[535] provides sufficient information for such an adjustment in the form of unit values for unfinished and finished OCTG in the years 2011 to 2013. Based on this information, China calculates that the incremental value from heat-treating, imported, unfinished OCTG ranged during that period from 30.5% to 38.3% and argues that this suggests that the confidential treatment of the value of heat-treating imports "could be quite large".[536] The United States argues that USITC includes the incremental value from heat treatment of imported OCTG by domestic producers to reduce any potential reclassification or double-counting of imports for purposes of calculating the value of apparent consumption by the United States. According to the United States, it has selected the value reported in Table III-8, which does not incorporate this technical adjustment, because that value represents unadjusted data that is not linked to the calculation of apparent consumption.[537]

3.267. As regards the need to adjust for the incremental value from heat-treating imported OCTG, we note that in USITC Publication 4124, which relates to the underlying CVD investigation on Chinese imports and serves as the parties' data source in the year-prior, there is no indication that the value from heat-treating imported unfinished OCTG would be excluded from the scope of the investigation.[538] In addition, subsequent investigations explicitly include such heat-treated imported unfinished OCTG within their scope. In particular, USITC Publication 5090, which is relied upon by the parties as the remedy-year data source, defines the incremental value from heat-treating imported OCTG as part of domestic shipments[539], and states that:

> the Commission rejected a respondent argument that the Commission should find a separate like product for U.S. heat treated semi-finished OCTG or "green tubes". The Commission found that there was not a clear dividing line between green tubes and finished OCTG.[540]

3.268. We also note that China's reference to unit value data highlights that adjusting for such OCTG is not negligible and that an exclusion from the market size estimate could lead to an underestimated level of N/I.

3.269. Therefore, we adjust the figure based on Table I-11/III-11 in USITC Publication 5090 to include the incremental value of heat-treating imported unfinished OCTG as suggested by China.[541]

3.270. As regards the two **import varieties**, China only submits a figure for RoW imports, which is identical to the total imports amount determined by USITC in USITC Publication 5090. Since USITC Publication 5090 does not list imports from China separately, China submits that Chinese imports

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[535] USITC Publication 4489 (Exhibit CHN-24).
[536] China's comments on the United States' response to Arbitrator question No. 86, para. 37.
[537] United States' response to Arbitrator question No. 85, para. 48.
[538] USITC Report 4124 (Exhibit CHN-23).
[539] USITC Publication 5090, Table I-11/III-11.
[540] Exhibit USA-148, p. 7.
[541] We perform such adjustment by relying on Table I-2 in USITC publication 5090 (Exhibit USA-148). The table states the market share of U.S. producers' U.S. shipments of fully domestic value (57.8%) and the market share of shipments related to the incremental value of heat-treating imports (2.6%) in total apparent consumption in 2013. The ratio of these two numbers, 4.5%, is the value of the shipments related to the incremental value of heat-treating imports relative to the value of fully domestic shipments. Considering that this information is the best available data on the record, we apply it to the value of fully domestic shipments in 2017 in table I-11 (USD 3,108,763,000) to obtain an estimate of the incremental value of heat-treating imports in the remedy year. This estimate can be added to the figure for fully domestic shipments in table I-11 such that the estimate for OCTG sales of the domestic variety that we rely on reflects the incremental value of heat-treating imports. In particular, we perform the following calculation: 3,108,763,000 + 3,108,763,000*(2.6/57.8) = 3,248,604,000.

amount to zero. We consider China's estimate for the total value of imports based on USITC Publication 5090, without differentiating between Chinese and RoW imports[542], to be reasonable.

3.271. While in principle we do not consider it inappropriate to rely on the United States' import data sources (USCBP and US Census), we are not of the view that the United States has shown that they are more reliable, especially as China has submitted direct USITC import data for the remedy year. In fact, the United States acknowledges that the difference between the parties' RoW import figures is small and appears to arise only from the way the imports are assessed with USITC reporting figures on a landed, duty-paid value basis and US Census reporting figures on a customs value basis. The United States adds that it relies on US Census data because the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* used it, noting that the arbitrator did not have access to the USITC report used by China since it had only been published in 2020.[543] We consider, though, that this argument does not raise relevant doubts about China's figure in this context.

3.272. Therefore, with regard to OCTG, we shall rely on the following domestic and import figures for the purposes of calculating the total remedy-year market size:

Table 20: Remedy-year market sales for OCTG

Varieties	Total sales
US domestic variety	USD 3,248,604,000
Imports from China and the RoW	USD 3,107,415,000
TOTAL MARKET SIZE	**USD 6,356,019,000**

3.4.2.2.5 Wire Strand

3.273. In the case of Wire Strand, China does not report sales data by variety but instead calculates a total sales estimate for remedy year (2017) in the US market by applying a GDP deflator to its estimated total sales data for the year-prior advanced by China and accepted by us (2008).[544] In turn, the United States calculates its remedy-year total US market-size figure as the sum of sales estimates for the three varieties. The United States obtains its estimate for sales of the US domestic variety in 2017 using several steps and several data sources as outlined in the next paragraph.[545] The United States' estimates for imports from China are based on USCBP data for 2017 and imports from the RoW are based on HTSUS data from the US Census.[546]

3.274. As explained, we do not consider the use of a GDP deflator, as suggested by China, to be a reliable approach for calculating remedy-year sales.[547] Hence, we review the remedy-year data for all three varieties provided by the United States, as well as China's arguments against relying on such data, before calculating the total value of remedy-year sales.

3.275. As regards the **domestic variety**, the United States estimates the sales of the domestic variety using data for wire rod, an input into wire strand production, from the World Steel Association.[548] In particular, the United States uses data from USITC Publication 4569 on wire strand production to calculate the 2007-2009 ratio of US wire strand production to US wire rod production, and infers the quantity of wire strand sales by applying this ratio to 2017 US wire rod production.[549] The United States then multiplies this estimated wire strand quantity by wire strand unit values for 2017. These unit values are obtained by scaling unit values data for 2009 from the aforementioned

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[542] As explained before, only the total market size on the remedy year matters for the purposes of implementing the second step of the two-step Armington model. Therefore, considering that neither party has raised scope issues as to the HTSUS codes relied upon by USITC for the total imports figure in the relevant USITC report, we consider it to be sufficient to assess only the total value of OCTG imports in the remedy year without differentiating between imports from China and imports from the RoW.

[543] United States' response to Arbitrator question No. 84, paras. 45 and 46.

[544] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.

[545] Exhibits USA-61 and USA-156 (BCI).

[546] Exhibits USA-65; USA-66 (BCI); and USA-156 (BCI).

[547] See section 3.4.2.1.1 above.

[548] See Exhibits USA-85, Table 9; USA-86, Table 9.

[549] See Exhibits USA-25 and USA-61.

USITC Publication 4569 and by using the trend in the unit price of imported wire strand varieties taken from USITC DataWeb.[550]

3.276. According to China, the United States performs an assumption-intensive calculation that essentially mirrors China's approach by using an industry trend to scale domestic production reported by the USITC for the period prior to the WTO-inconsistent duty being imposed. China adds that its approach is superior as it maintains the real value of domestic shipments in a more straightforward manner.[551] While noting that the World Steel Association is a well-known industry group, China argues that it reports only wire rod production data, hence the United States relies on assumptions that are unlikely to hold. China argues that an increase in demand for domestic wire strand triggered by the CVD orders at issue might lead to a different wire rod to wire strand production ratio given that wire rod is used for many other outputs. China considers that using unit values of imports as proxy for domestic prices ignores that the CVD order at issue distorts import and domestic prices in opposite directions. China adds that both parties' figures require an assumption about the change in wire strand prices between the year-prior and 2017 but, whereas its own assumption could be unaffected by the CVD duties, the United States' estimate is downward biased as a result of the duties.[552]

3.277. We consider that China's concerns regarding the United States' estimate appear valid. Nonetheless, despite its shortcomings, we consider that the United States' estimate is the best estimate on the record since it is the only estimate informed by actual 2017 data. While China explains how the CVD order might lead to certain inaccuracies when inferring 2017 wire strand sales from 2017 wire rod production quantities, it does not address our concern that China's GDP deflator-based estimate might miss any changes in consumption quantities that might occur between 2008 and 2017.[553] Further, we disagree with China's claim that the United States' methodology effectively mirrors China's methodology simply because the United States also relies on a price trend.[554] The fact that the resulting figures of both parties are similar does not automatically support that standpoint, and it does not imply that China's approach of ignoring possible changes in consumption levels is reasonable. Therefore, we rely on the United States' estimate for sales of the domestic variety.

3.278. For **import varieties** data, we note that as regards imports from China, the parties' disagreements revolve around the use of USCBP data, which we addressed earlier.[555] Since we find that no data superior to USCBP data is available on the record, we consider the use of USCBP data for the remedy year to be reasonable. Accordingly, as we have rejected China's GDP deflator approach, we adopt the estimate of imports from China based on USCBP data provided by the United States.

3.279. As regards imports from the RoW, China does not challenge the scope of the HTSUS-data based estimate of the United States. In light of this and since it is the only data for wire strand imports from the RoW on the record for the remedy year, we adopt the estimate based on HTSUS data provided by the United States.

3.280. Therefore, with regard to Wire Strand, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

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[550] See Exhibit USA-61.
[551] China's response to Arbitrator question No. 24, para. 63, Table 5.
[552] China's response to Arbitrator question No. 58, paras. 56-59.
[553] See section 3.4.2.1.1 above.
[554] China's response to Arbitrator question No. 24, para. 63, Table 5.
[555] See section 3.4.2.1.2 above.

Table 21: Remedy-year market sales for Wire Strand

Varieties	Total sales
US domestic variety	USD 201,603,000
Imports from China	[[***]]
Imports from the rest of the world	USD 91,619,000
TOTAL MARKET SIZE	[[***]]

3.4.2.2.6 Seamless Pipe

3.281. In the case of Seamless Pipe, China does not report sales data by variety but calculates a total sales estimate for the remedy year (2017) in the US market by applying a GDP deflator to its estimated total sales for the year-prior agreed by the parties (2009).[556] The United States calculates its remedy-year total market size figure as the sum of sales estimates for the three varieties. For the US domestic variety, the United States estimates sales in 2017 by annualizing sales in the first quarter (January-March) of 2017 obtained from USITC Publication 4731.[557] The United States' estimates of imports from China are based on USCBP data for 2017, whereas imports from the RoW are estimated by using HTSUS data from the US Census Bureau, which, according to the United States, has a larger scope than the actual subject product.[558] As in the case of Pressure Pipe[559], the United States adjusts the scope by multiplying the average ratio of USITC report data over the years 2007 to 2009 with the appropriate scope to the aforementioned HTSUS data with a larger scope.[560]

3.282. As explained[561], we do not consider the use of a GDP deflator, as suggested by China, to be a reliable approach for calculating remedy-year sales. Hence, we review the remedy-year data for all three varieties provided by the United States, as well as China's arguments against relying on such data, before calculating the total value of remedy-year sales.

3.283. As regards the **domestic variety**, China criticizes the United States' estimate based on USITC Publication 4731 as being of a narrower scope than the CVD order at issue as it refers to only 26 HTSUS codes, while the original report of the CVD order at issue referred to 38 HTSUS codes. China claims that this corresponds to only 68% of HTSUS codes cited in the original report and argues that this is relevant because the United States' proposed 2017 value for domestic shipments is 69% of the 2009 value of domestic shipments verified and reported by USITC. According to China, this would suggest that the shortfall in domestic shipments is related to this alternative scope. Thus, China proposes that, if we were to use the United States' estimate, such estimate should accordingly be scaled by 1/0.68. China adds that the CVD order at issue refers to domestic shipments of all seamless pipe while the USITC report used by the United States' reports domestic shipments only for small diameter seamless pipe, which may explain the difference in HTSUS codes.[562] China claims that, in terms of quantities, small diameter seamless pipe may account for only 40% of the market.[563]

3.284. The United States contends that the product scope in both investigations is nearly identical. According to the United States, USITC Publication 4731 covers seamless pipe from Japan and Romania and only the product scope of imports from Romania is limited to small diameter seamless pipe, while the scope for imports from Japan appears to be identical to the scope set out in the CVD order at issue in this proceeding. The United States argues that the difference in HTSUS codes is irrelevant. Referring to the USITC reports in both investigations, the United States indicates that reference HTSUS codes serve primarily customs purposes, whereas the USDOC's product description

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[556] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.
[557] Exhibit CHN-105.
[558] United States' written submission, para. 146 and Table 10.
[559] See section 3.4.2.2.1 above.
[560] Exhibits USA-59; USA-60; USA-64 (BCI); and USA-156 (BCI). See also United States' written submission, paras. 144-146 and Table 10, for scope adjustments based on USITC Publication 4595 (Exhibits USA-16 and USA-67).
[561] See section 3.4.2.1.1 above.
[562] China's response to Arbitrator question No. 24, para. 62, and Table 5.
[563] China's response to Arbitrator question No. 80, para. 43.

determines the product scope. The United States adds that it is unreasonable to assume that simply because the ratio of HTSUS codes across two USITC reports is 68%, the corresponding values of domestic shipments should also equal 68%.[564]

3.285. We note that, as argued by China, the table in USITC Publication 4731 that the United States relies on reports data for small diameter seamless pipe only[565], which the report defines as "less than or equal to 4.5 inches".[566] We do not consider it relevant that the investigation underlying the aforementioned USITC report also covers large seamless pipe since the data for large seamless pipe is redacted from the report. As a result, we agree with China that the United States' estimate is underinclusive. However, we agree with the United States that the HTSUS codes are not informative for establishing the size of the under-inclusion since we have no information on the actual sales values related to each HTSUS code.

3.286. As a result, we consider that neither China's nor the United States' figures are reasonable estimates of remedy-year sales of the domestic variety. While we would rely preferably on remedy-year estimates based on data inputs from the actual remedy year, this appears impossible in the case of Seamless Pipe. Absent any information on the share of small diameter seamless pipe sales in total subject sales of the domestic variety in 2017, we cannot use the data provided by the United States. Instead, we have to rely on the latest available market size estimate on the record that encompasses the full product scope, which is the estimate for the year 2009 on the basis of a USITC report accepted by both parties, and scale it to obtain an estimate for sales of the domestic variety in the remedy year.

3.287. Since we do not consider China's GDP deflator to be a reasonable scaling index, we will rely instead on the market size change of the primary 6-digit NAICS industry associated with Seamless Pipe between 2009 and 2017 to scale the 2009 value.[567] This follows the approach we have taken for calculating the 2017 US domestic variety sales of Pressure Pipe and Kitchen Shelving, where alternative estimates were needed following the rejection of both parties' estimates.

3.288. For **import varieties** data, we note that, as regards imports from China, the parties' disagreements revolve around the use of USCBP data, addressed earlier.[568] As explained, if no superior data is available, we consider the use of USCBP data for the remedy year to be reasonable.[569] As we have rejected China's GDP deflator approach[570], we adopt the United States' estimate for imports from China based on USCBP data.

3.289. As regards imports from the RoW, China criticizes the United States' correction for out-of-scope products to its HTSUS-based estimate for imports from the RoW.[571] As in the case of Pressure Pipe, we note that a scope adjustment seems justified in light of several scope exclusions undertaken by the USDOC in the course of its proceedings.[572] As explained, we consider such a scope adjustment to be more reasonable than assuming constant consumption over time as implied by China's GDP deflator-based estimate.[573] As a result, we adopt the United States' estimate for imports from the RoW.

3.290. Therefore, with regard to Seamless Pipe, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

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[564] United States' response to Arbitrator question No. 59, paras. 74-77.
[565] USITC Publication 4731 (CHN-105), Appendix C, Table C-1.
[566] USITC Publication 4731 (CHN-105), p.10.
[567] The primary 6-digit NAICS code is 331110 (Iron and Steel Mills and Ferroalloy Manufacturing) in the remedy year and 331111 in 2009 due to changes in the NAICS classification in 2012 (see 2007 NAICS to 2012 NAICS concordance available at: https://www.census.gov/naics/?68967 (accessed 1 October 2021)). This results in a scaling factor of 1.48. See Annex C-5 for the identification of the primary NAICS code, Annex C-6 for the calculation of the scaling index, and Annex C-8 for the calculation of the resulting remedy year figure. See also fn 498 to para. 3.240 above.
[568] See section 3.4.2.1.2 above.
[569] See section 3.4.2.1.2 above.
[570] See section 3.4.2.1.1 above.
[571] China's written submission, para. 83; response to Arbitrator question No. 24, paras. 61-63; and comments on the United States' response to Arbitrator question No. 91, paras. 42-45.
[572] USITC Publication 4190 (Exhibit CHN-32), p. I-9.
[573] See para. 3.225 above.

Table 22: Remedy-year market sales for Seamless Pipe

Varieties	Total sales
US domestic variety	USD 294,963,000
Imports from China	[[***]]
Imports from the rest of the world	USD 390,161,000
TOTAL MARKET SIZE	[[***]]

3.4.2.2.7 Print Graphics

3.291. In the case of Print Graphics, China relies on the 2015 figure for the total sales in the US market from USITC Publication 4656[574], and adjusts this figure by a GDP deflator to represent remedy year (2017) total sales in the United States.[575] The United States calculates its remedy-year total market size figure as the sum of sales estimates for the three varieties.[576] The United States' estimate for sales of the US domestic variety in 2017 is based on 2015 sales in USITC Publication 4656[577], scaled by a growth rate taken to be the average decrease of Print Graphics shipments of the domestic variety from 2010 to 2015.[578] The United States' estimates of imports from China are based on USCBP data for 2017[579], whereas imports from the RoW are estimated by using HTSUS data from the US Census Bureau[580], which the United States argues has a larger scope than appropriate, and adjusts it by the average ratio over the years 2007-2009 of USITC report data with the appropriate scope to the aforementioned HTSUS data with a larger scope.[581]

3.292. As explained, we do not consider the use of a GDP deflator, as suggested by China, to be a reliable approach for calculating remedy year sales.[582] Hence, we review the remedy-year data for all three varieties provided by the United States, as well as China's arguments against relying on such data, before calculating the total value of remedy-year sales.

3.293. Regarding sales of the **US domestic variety**, both parties rely on the same USITC report which contains data for 2015 but they disagree on how to scale the data to the 2017 remedy year. China relies on a GDP deflator, which the United States criticizes and which we, as explained earlier, do not consider to be a reliable approach for calculating remedy year sales.[583]

3.294. The United States relies on past (2010 to 2015) domestic variety growth rates, assuming that these predict growth of domestic variety sales from 2015 to 2017.[584] China considers this assumption to be unreasonable and notes that the resulting estimate differs substantially from the estimate used by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*.[585] China adds that, unlike its own index, the United States' index is not informed by data from 2016 or 2017.[586]

3.295. We agree with China's arguments regarding the United States' scaling index. As is the case for the United States' scaling index for Pressure Pipe, the United States' index for Print Graphics does not capture actual changes in consumption levels or prices between 2015 and 2017 and assumes that growth simply continues linearly.

3.296. Therefore, we consider that both parties' scaling indices are inappropriate. As in the case of Pressure Pipe, Kitchen Shelving, and Seamless Pipe, we shall use instead an index that relies on the growth rate from 2015 to 2017 of the more aggregate 6-digit NAICS industry, to which Print Graphics

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[574] Exhibit CHN-51.
[575] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.
[576] Exhibit USA-156 (BCI).
[577] Exhibit CHN-51.
[578] Exhibit USA-60.
[579] See Exhibit USA-64 (BCI).
[580] See Exhibit USA-59.
[581] United States' written submission paras. 144-146 and Table 9.
[582] See section 3.4.2.1.1 above.
[583] See section 3.4.2.1.1 above.
[584] Exhibit USA-60.
[585] China's response to Arbitrator question No. 80, para. 41.
[586] China's comments on the United States' response to Arbitrator question No. 87, para. 38.

pertains, to calculate the 2017 US domestic variety sales of Print Graphics.[587] This index takes into account actual consumption level and price developments until the remedy year and is more specific to the product and variety at issue than country-wide indices, such as China's GDP deflator.

3.297. For **import varieties** data, we note that, as regards imports from China, the parties' disagreements revolve around the use of USCBP data, addressed earlier.[588] As explained, if no superior data is available, we consider the use of USCBP data for the remedy year to be reasonable.[589] As we have rejected China's GDP deflator approach[590], we adopt the United States' estimate for imports from China based on USCBP data.

3.298. As regards imports from the RoW, China criticizes the United States' correction for out-of-scope product to its HTSUS-based estimate for imports from the RoW. As in the case of Pressure Pipe and Seamless Pipe, we consider that a scope adjustment seems justified in light of several scope exclusions undertaken by the USDOC.[591] As explained, we consider such a scope adjustment to be more reasonable than assuming constant consumption over time as implied by China's GDP deflator-based estimate.[592]

3.299. We note, however, that the United States' scope adjustment relies on data from the USITC Publication 4192 report, data relied upon by the United States for the year-prior, even though a more recent USITC report, USITC Publication 4656, is available. Both parties rely on this more recent report for their domestic variety data, which suggests that it is a reliable source. We recall that the United States' scope adjustment is implemented by multiplying remedy-year imports from the RoW under all HTSUS codes pertaining to the CVD order with the average share of subject product imports from the RoW, as reported in the original USITC report, in total imports from the RoW under the relevant HTSUS codes over a three-year period. We note though that this share can also be calculated based on the more recent USITC report to obtain a scope adjustment factor that may be more representative for the remedy year due to its recency.

3.300. We consider this ratio superior to the one advanced by United States, not only because of its recency, but also because it appears to generate a more reasonable estimate. The ratio calculated on the basis of the more recent USITC report is approximately three times the size of the ratio submitted by the United States, i.e. 0.92 as opposed to 0.32.[593] This produces an estimate for imports from the RoW of USD 961,770,000. We consider this estimate more reasonable than the United States' estimate of USD 500,834,000, because the more recent USITC Publication 4656 reports imports from the RoW with the correct scope that vary for the years 2011 to 2015 between USD 1,224,321,000 and USD 1,107,198,000, with only slight year-to-year fluctuations, and amount to USD 500,810,000 for the first six months of 2016 alone. Hence, we use 0.92 as the scope adjustment factor.

3.301. Therefore, with regard to Print Graphics, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

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[587] The primary 6-digit NAICS code is 322121 (Paper (except newsprint) mills). This results in a scaling factor of 0.91 reflecting a decrease in the value of domestic shipments. See Annex C-5 for the identification of the primary NAICS code, Annex C-6 for the calculation of the scaling index, and Annex C-8 for the calculation of the resulting remedy year figure. See also fn 498 to para. 3.240 above.
[588] See section 3.4.2.1.2 above.
[589] See section 3.4.2.1.2 above.
[590] See section 3.4.2.1.1 above.
[591] USITC Publication 4656 (Exhibit CHN-51), p. I-19.
[592] See para. 3.225 above.
[593] We obtain the more recent scope adjustment factor by calculating the 2011-2015 average ratio of US imports from the RoW ("Nonsubject sources of free sheet CCP") as reported in Table I-9 of USITC Publication 4656 to imports from the RoW obtained under the HTSUS codes referenced by USITC in fn 19 of USITC Publication 4656 as reported by USITC Dataweb. We exclude the year 2010 from the calculation as USITC seems to not have relied on HTSUS codes for that year according to fn. 19 of USITC Publication 4656. See Annex C-7 for the calculation of the scope adjustment.

Table 23: Remedy-year market sales for Print Graphics

Varieties	Total sales
US domestic variety	USD 1,100,263,000
Imports from China	[[***]]
Imports from the rest of the world	USD 961,770,000
TOTAL MARKET SIZE	[[***]]

3.4.2.2.8 Aluminum Extrusions

3.302. In the case of Aluminum Extrusions, China relies on the 2015 figure for the total sales in the US market from USITC Publication 4677[594], and adjusts this figure by a GDP deflator to calculate remedy year (2017) total sales in the United States.[595] In turn, the United States calculates its remedy-year total US market-size figure as the sum of sales estimates for the three varieties.[596] The United States' estimate for sales of the US domestic variety in 2017 is based on 2015 US domestic sales in USITC Publication 4677 scaled up by year-on-year real growth rates.[597] The United States' estimate for imports from China is based on USCBP data for 2017, whereas imports from the RoW are estimated by adjusting 2017 imports based on HTSUS data from the US Census Bureau under HTS codes from 2011 to represent imports under older HTS codes that the United States considers to represent the appropriate product scope.[598]

3.303. As explained, we do not consider the use of a GDP deflator, as suggested by China, to be a reliable approach for calculating remedy-year sales.[599] Hence, we review the remedy-year data for all three varieties provided by the United States, as well as China's arguments against relying on such data, before calculating the total value of remedy-year sales.

3.304. Regarding sales of the **US domestic variety**, both parties rely on the same USITC report, which contains data for 2015, but they disagree on how to scale that data to the 2017 remedy year. China relies on a GDP deflator, which the United States criticizes and which we, as explained earlier, do not consider to be a reliable approach for calculating remedy year sales.[600] The United States uses real growth rates, i.e. quantity-based growth rates not capturing price changes, from the Aluminum Association, a trade association for aluminium production, fabrication, and recycling industries, and their suppliers.[601] The growth rate is based on shipments of aluminium extruded products by US and Canadian producers. China criticizes this growth rate claiming it includes shipments by US firms to Canada, and by Canadian firms to the United States.[602] China adds that the United States' choice of a real growth rate is entirely arbitrary and inconsistent with the United States' approach for other products and with the type of year-to-year *price* adjustments made by prior arbitrators. China refers to the *US – Washing Machines (Article 22.6 – US)* as an instance of an Article 22.6 arbitrator using a price adjustment.[603]

3.305. We note that, as argued by China, the United States attempts to make a market size adjustment rather than a price adjustment. We further note that the arbitrator in *US – Washing Machines (Article 22.6 – US)* used a price adjustment to account for inflation. That, however, is a very different exercise from the one that we have been asked to undertake in assessing the size of the market in the remedy year based on market size estimates from previous years. While we agree with China that including shipments by US firms to Canada and by Canadian firms to the United States is a concern, we also note that the United States' proposed scaling index is highly product-specific and captures actual market size developments between 2015 and 2017.

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[594] Exhibit CHN-37, Table I-9.
[595] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.
[596] Exhibit USA-156 (BCI).
[597] Exhibit USA-149 (BCI).
[598] Exhibits USA-62 (BCI) and USA-63 (BCI).
[599] See section 3.4.2.1.1 above.
[600] See section 3.4.2.1.1 above.
[601] Exhibits USA-149 (BCI) and USA-156 (BCI).
[602] China's comments on the United States' response to Arbitrator question No. 93, paras. 48-49.
[603] China's comments on the United States' response to Arbitrator question No. 92, para. 46.

3.306. We further consider that China is correct in stating that "[t]he specific economic issue is how the value of sales ('p times q') changes over time".[604] China adds that "one could imagine using either a quantity index or a price index to capture change over time".[605] As indicated, we consider that if the issue is how the value of sales, i.e. the market size, changes over time, then one should optimally account for changes in p(rices) and q(uantities) rather than just prices or just quantities, which is what the indices by China and the United States do. Indeed, when scaling of less recent data was necessary, we have relied on indices that capture both changes.[606]

3.307. Therefore, we decide to implement the market size adjustment of the United States but to complement it with an index that captures changes in prices. We note in that regard that the United States argues that it would be more accurate for this exercise to use a wholesale price index or consumer price index than a GDP deflator.[607] We note that we neither have these indices on the record nor do they appear to be publicly available. However, we consider that the Producer Price Index (PPI) data pertaining to "Metals and Metal Products-Aluminum castings" submitted by China can also be applied to this exercise as it is relatively product-specific.[608] Hence, we calculate sales of the domestic variety by scaling 2015 USITC data with real growth rates provided by the United States and a PPI-based inflation index provided by China.[609]

3.308. For sales of the **import varieties,** we note that, as regards imports from China, the parties' disagreements revolve around the use of USCBP data, as addressed earlier.[610] As explained, if no superior data is available, we consider the use of USCBP data for the remedy year to be reasonable.[611] As we have rejected China's GDP deflator approach[612], we adopt the United States' estimate for imports from China based on USCBP data.

3.309. As regards imports from the RoW, China criticizes the HTSUS codes that the United States uses for its estimate, arguing that they could be potentially underinclusive since the set of HTS codes subject to the WTO-inconsistent duty has changed since the duties were originally imposed.[613] The United States responds that the data it relies on has been used by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* and that the HTSUS codes it uses are as listed in both USITC Publication 4229 from 2011 and USITC Publication 4677 from 2017, which the parties have relied on in the course of these proceedings.[614]

3.310. We note that the ratio of imports under the HTSUS codes used by the United States (as reported by USITC DataWeb) to the imports from the RoW reported in USITC Publication 4677 varies between 0.97 and 0.99 in the years 2008 to 2015. Thus, it appears that imports under the HTSUS codes used by the United States lead to a close approximation of actual non-subject imports from the RoW and that the under-inclusion issue is negligible. We further note that the United States' figure is considerably larger than China's figure due to a relevant increase in imports from the RoW in 2017[615], which suggests that China's figure is even more subject to mismeasurement and under-inclusion in this instance. Accordingly, and having rejected China's GDP deflator[616], we adopt the United States' estimate for imports from the RoW.

3.311. Therefore, with regard to Aluminum Extrusions, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

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[604] China's comments on the United States' response to Arbitrator question No. 92, para. 46.
[605] China's comments on the United States' response to Arbitrator question No. 92, para. 46.
[606] See Annex C-6 for the scaling indices used for the domestic varieties of Pressure Pipe, Kitchen Shelving, Seamless Pipe, and Print Graphics.
[607] United States' response to Arbitrator question No. 92, para. 68.
[608] Exhibit CHN-103.
[609] Based on Exhibit CHN-103, the average PPI for "Metals and Metal Products-Aluminum Castings" is 185.6 in 2015 and 184.8 in 2017, implying a scaling factor of 0.995. We note that China reports in Exhibit CHN-104 a scaling factor of 1.0159 for the identical exercise. We do not know how China has obtained this value and, hence, rely on a scaling factor of 0.995.
[610] See section 3.4.2.1.2 above.
[611] See section 3.4.2.1.2 above.
[612] See section 3.4.2.1.1 above.
[613] China's response to Arbitrator question No. 61, paras. 62-66.
[614] United States' response to Arbitrator question No. 61, para. 81.
[615] USITC Publication 4677 (Exhibit CHN-37).
[616] See section 3.4.2.1.1 above.

Table 24: Remedy-year market sales for Aluminum Extrusions

Varieties	Total sales
US domestic variety	USD 5,514,091,000
Imports from China	[[***]]
Imports from the rest of the world	USD 1,077,900,000
TOTAL MARKET SIZE	[[***]]

3.4.2.2.9 Steel Cylinders

3.312. In the case of Steel Cylinders, China estimates the 2017 total US market size as the sum of three figures. For the two import varieties, China relies on the figures for 2016 sales contained in USITC Publication 4738[617], and adjusts these figures by a GDP deflator to represent sales of import varieties in 2017.[618] For the 2017 sales of the US domestic variety, China uses data from TriMas Corporation's 2018 SEC Annual Report Co (Form 10-K)[619], and uses this data to estimate the domestic sales of Norris Cylinder, which, as indicated in the context of the year-prior[620], is a sub-unit in the Engineered Components Division of TriMas Corporation, and the only company producing steel cylinders in the United States. Since Form 10-K does not separate revenue by different subunits of TriMas Corporation, China assumes that half of TriMas Corporation's Engineered Components Division's reported 2017 revenue is attributable to Norris Cylinder, and China further assumes that two thirds of Norris Cylinder's estimated revenue stem from domestic sales.[621]

3.313. The United States calculates its remedy-year total market size figure as the sum of sales estimates for the three varieties.[622] The United States' sales of the US domestic variety in 2017 are based on actual sales reported by Norris Cylinder.[623] Sales data for imports from China are based on USCBP data for 2017, and imports from the RoW are based on 2017 HTSUS aggregated data from the US Census Bureau.[624]

3.314. Regarding sales of the **US domestic variety**, we have already noted in the section on year-prior market shares for Steel Cylinders that the evidence provided by the Unites States seems to us to be the best available data on the record, since it contains an exact figure, without requiring assumptions or estimation methodologies, and has been issued directly by Norris Cylinder.[625] Accordingly, we adopt the United States' figure for the remedy-year sales of the domestic variety.

3.315. For sales of the **import varieties,** we note that, as regards imports from China, the parties' disagreements revolve around the use of USCBP data, addressed earlier.[626] As explained[627], if no superior data is available, we consider the use of USCBP data for the remedy year to be reasonable. As we have rejected China's GDP deflator approach[628], we adopt the United States' estimate for imports from China based on USCBP data.

3.316. As regards imports from the RoW, we note that China has not criticized the scope of the United States' HTSUS-based figure informed by actual data for the remedy year. Hence, and in light of our rejection of China's GDP deflator[629], we adopt the United States' figure.

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[617] Exhibit CHN-73, Table I-3.
[618] Exhibit CHN-120. See also Exhibit CHN-53 for reported GDP deflator data.
[619] Exhibit CHN-56.
[620] See section. 3.4.1.2.9 above.
[621] Exhibits CHN-94 and CHN-120.
[622] Exhibit USA-156 (BCI).
[623] Exhibit USA-116 (BCI).
[624] Exhibits USA-59 and USA-64 (BCI).
[625] See para. 3.189 above.
[626] See section 3.4.2.1.2 above.
[627] See section 3.4.2.1.2 above.
[628] See section 3.4.2.1.1 above.
[629] See section 3.4.2.1.1 above.

3.317. Therefore, with regard to Steel Cylinders, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

Table 25: Remedy-year market sales for Steel Cylinders

Varieties	Total sales
US domestic variety	[[***]]
Imports from China	[[***]]
Imports from the rest of the world	USD 5,200,000
TOTAL MARKET SIZE	**[[***]]**

3.4.2.2.10 Solar Panels

3.318. In the case of Solar Panels, China relies on 2017 import varieties figures obtained from USITC Publication 4874[630], and calculates sales of the domestic variety based on an assumed market share of that variety in the total market.[631] Similarly, the United States calculates its remedy-year total market size figure as the sum of sales estimates for the three varieties.[632] The United States' estimate for sales of the domestic variety in 2017 is based on prices reported by the US Department of Energy, and production quantity reported by the International Energy Agency.[633] The United States' estimate for imports from China is based on USCBP data for 2017, and the estimate for imports from the RoW is based on 2017 HTSUS aggregated data from the US Census Bureau.[634]

3.319. Regarding sales of the **US domestic variety**, China's estimate is based on the assumption that imports account for 90% of the total market size.[635] The United States criticizes this approach as unsupported and not suitable, claiming that China has not provided a basis for its assumption.[636] China responds that its estimate is based on data from GreenTech Media Research and the Solar Energy Industries Association, which indicates that solar panel consumption accounted for by domestically produced crystalline silicon photovoltaic (CSPV) modules is 6.4%.[637] China argues that the United States' estimate, in turn, is from reputable sources but hardly differs from its own estimate as to its relative impact on the total market size.[638]

3.320. We note that, although both parties rely on different sources, they report identical production quantities and convert them to shipment values based on an assumption as to how average prices apply to these. Given these similarities, we fail to see how the United States' estimation methodology would be superior to China's methodology. Hence, we adopt China's estimation methodology.

3.321. That said, the main input into China's estimation is the quantity-based market share of the domestic variety, which China assumes to be 10%. China, however, submits evidence showing that the quantity-based market share of the domestic variety is in fact 6.4% rather than 10%, without explain this discrepancy between the evidence and its implementation. Accordingly, we rely on the 6.4% figure supported by China's evidence to obtain the sales value of the US domestic variety, rather than the 10% figure advanced by China.[639]

3.322. As regards the two **import varieties**, we note that China's estimates rely on a USITC report from a sunset review pertaining to the CVD order at issue that provides data for the remedy year. The United States provides estimates based on other sources that differ substantially from China's estimates, without explaining why these estimates should be preferable to USITC data. The United States merely refers to the fact that its figures were used by the arbitrator in

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[630] Exhibit CHN-46, Table I-10.
[631] Exhibit CHN-120.
[632] Exhibit USA-156 (BCI).
[633] Exhibits USA-19; USA-20; and USA-60.
[634] Exhibits USA-59 and USA-64 (BCI).
[635] Exhibit CHN-120.
[636] United States' response to Arbitrator question No. 23, paras. 131 and 138.
[637] China's response to Arbitrator question No. 63, para. 68; Exhibit CHN-112 (BCI).
[638] China's response to Arbitrator question No. 64, paras. 69-70.
[639] We obtain an estimate of USD 259,535,000 based on the equation *Imports from China + Imports from the Row + 0.064*Total Market Size = Total Market Size*, using figures for imports submitted by China and reported in Table I-10 of USITC Publication 4874 (Exhibit CHN-46).

US – Anti-Dumping Methodologies (China) (Article 22.6 – US).[640] In contrast, China submits evidence that, at least with respect to the United States' HTSUS-based estimate for imports from the RoW, the difference between the parties' figures arises from the inclusion of out-of-scope products by the United States.[641] Hence, we adopt China's figures for the two import varieties.

3.323. Therefore, with regard to Solar Panels, we shall rely on the following variety-specific figures for the purposes of calculating the total remedy-year market size:

Table 26: Remedy-year market sales for Solar Panels

Varieties	Total sales
US domestic variety	USD 259,535,000
Imports from China	USD 441,381,000
Imports from the rest of the world	USD 3,354,314,000
TOTAL MARKET SIZE	**USD 4,055,230,000**

3.4.3 Elasticities

3.324. The parties agree that a two-step Armington model would require data on three types of elasticities for each of the ten products at issue: (i) supply elasticities for domestic producers, Chinese imports, and RoW imports[642]; (ii) demand elasticities; and (iii) elasticities of substitution.[643]

3.325. Initial disagreements between the parties regarding the specific values of these elasticities were ultimately resolved in the course of the proceedings.[644] Accordingly, we rely on the parties' shared elasticity values in our own calculation of the level of N/I.

3.5 Implementation and final N/I calculation

3.326. Having identified the counterfactual and the required data inputs, we proceed to implement the Armington model under the two steps.[645]

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[640] United States' response to Arbitrator question No. 94, para. 73.

[641] China's response to Arbitrator question No. 94, paras. 53-55. See also para. 3.202 above concerning the same issue with respect to year-prior market shares.

[642] Both parties use a value of 10 for import supply elasticities for all the CVD orders at issue (Exhibits CHN-120 and USA-159). China explains that this follows the approach adopted by the *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* arbitrator since those elasticities are not provided in the USITC reports. (China's methodology paper, para. 96).

[643] China's methodology paper, para. 96; United States' written submission, para. 128.

[644] From the outset, the parties agreed on supply elasticities for imports from China and from the RoW but disagreed on the other elasticity estimates for certain products, mostly because they relied on different USITC reports for such products. Specifically, the parties' elasticities data differed with regard to: (i) domestic supply elasticities for OCTG, Print Graphics, Aluminum Extrusions, and Solar Panels; (ii) demand elasticities for OCTG; and (iii) elasticities of substitution for Print Graphics. Subsequently, China indicated that whether to use elasticities as originally reported or as later updated in the relevant USITC reports is a relatively minor issue. Ultimately, in its final data exhibit (Exhibit CHN-120), China relied on the values suggested by the United States, thus eliminating any remaining disagreement between the parties on elasticity figures. (China's methodology paper, para. 96; United States' written submission, paras. 130 and 132; China's response to Arbitrator question No. 18, para. 60; and No. 79, para. 37; United States' response to Arbitrator question No. 16, paras. 108-109; No. 17, paras. 111-112; No. 18, paras. 115-116; No. 19, paras. 117-119; No. 50, para. 59; and No. 51, para. 60. See also Exhibits CHN-36; CHN-37; CHN-45; CHN-46; CHN-50; CHN-51; CHN-53; CHN-120; USA-46; USA-47 (BCI); USA-79 (BCI); and USA-154.

As regards the related but separate issue of the parties' continued disagreement on the ratio of micro- and macro-elasticities, we have concluded that we would be using a "nested approach" to elasticities of substitution with a ratio of the square root of two (i.e. approximately 1.41). In other words, we consider that elasticities of substitution between imports from different sources (micro-elasticity) are approximately 1.41 times larger than elasticities of substitution between imports and US domestic goods (macro-elasticity). See section 3.3.1 above.

See Exhibits CHN-120 and USA-154 for the final elasticity values provided by the parties.

[645] The GAMS code (do-file) used to implement the Armington model is reported in Annex C-9. It is based on Exhibit CHN-54. The relevant data input is reported in Annex C-10.

3.327. As the first step, we apply the Armington model to the US market as it existed in the year-prior to simulate, for each CVD order, the impact of imposing the relevant WTO-inconsistent CVDs on the market shares of imports from China, imports from the RoW, and on sales of the US domestic variety.[646] We then apply the market shares of imports from China simulated under the first step to the actual 2017 total value of the US market in order to obtain the simulated 2017 total value of US imports from China.

3.328. As the second step, we apply the Armington model to the 2017 US market with the market shares simulated under the first step to simulate, for each CVD order, the impact of reducing the WTO-inconsistent CVDs from the actual duty rates to the counterfactual duty rates on the value of imports from China, imports from the RoW, and sales of the domestic variety. The value of imports from China simulated under the second step corresponds to the counterfactual value of imports from China.

3.329. We then estimate the level of N/I concerning the CVD orders at issue by calculating, for each order, the difference between the 2017 value of imports from China, simulated under the first step, and the counterfactual value of imports from China, simulated under the second step.

3.330. The table below presents the level of N/I estimated for each CVD order at issue by applying the two-step Armington model, as well as the total estimated level of N/I.

Table 27: Estimated level of nullification and impairment

CVD order	Level of nullification and impairment (million USD)
Pressure Pipe	[[***]]
Line Pipe	[[***]]
Kitchen Shelving	[[***]]
OCTG	365.370
Wire Strand	[[***]]
Seamless Pipe	[[***]]
Print Graphics	[[***]]
Aluminum Extrusions	[[***]]
Steel Cylinders	[[***]]
Solar Panels	20.646
Total level of nullification and impairment	**645.121**

4 CONCLUSION

4.1. For the reasons set out above, we determine that the level of N/I of benefits accruing to China as a result of the WTO-inconsistent methodologies used by the United States in the CVD proceedings concerning products imported from China is USD 645.121 million *per annum*. Therefore, in accordance with Article 22 of the DSU, China may request authorization from the DSB to suspend concessions or other obligations at a level not exceeding USD 645.121 million *per annum*.

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[646] The simulated WTO-inconsistent and WTO-consistent market shares are presented in Annex C-11.