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UNITED STATES – COUNTERVAILING DUTY MEASURES ON CERTAIN PRODUCTS FROM CHINA

DECISION BY THE ARBITRATOR

Addendum

BCI omitted, as indicated [[***]]

This *addendum* contains Annexes A to C to the Decision of the Arbitrator to be found in document WT/DS437/ARB.

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WORKING PROCEDURES OF THE ARBITRATOR

ANNEX A-1

WORKING PROCEDURES OF THE ARBITRATOR

Adopted on 8 January 2020

General

1. (1) In this proceeding, the Arbitrator shall follow the relevant provisions of the Understanding on Rules and Procedures Governing the Settlement of Disputes ("DSU"). In addition, the following Working Procedures apply.

(2) The Arbitrator reserves the right to modify these procedures as necessary, after consultation with the parties.

Confidentiality

2. (1) The deliberations of the Arbitrator and the documents submitted to it shall be kept confidential. Members shall treat as confidential information that is submitted to the Arbitrator by another Member which the submitting Member has designated as confidential.

(2) In accordance with the DSU, nothing in these Working Procedures shall preclude a party from disclosing statements of its own positions to the public.

(3) If a party submits a confidential version of its written submissions to the Arbitrator, it shall also, upon request of a Member, provide a non-confidential summary of the information contained in its submissions that could be disclosed to the public. A party should endeavour to promptly provide a non-confidential summary to any Member requesting it, and if possible within 10 days of receiving the request.

(4) Upon request, the Arbitrator may adopt appropriate additional procedures for the treatment and handling of confidential information after consultation with the parties.

Submissions

3. (1) Before the substantive meeting of the Arbitrator with the parties, China shall transmit to the Arbitrator and to the United States a communication explaining the basis for its request, including the methodology and data supporting it, in accordance with the timetable adopted by the Arbitrator.

(2) Each party to the dispute shall also transmit to the Arbitrator a written submission in which it presents the facts of the case and its arguments, in accordance with the timetable adopted by the Arbitrator.

(3) The Arbitrator may invite the parties to make additional submissions during the proceeding, including with respect to requests for preliminary rulings in accordance with paragraph 4 below.

Preliminary rulings

4. (1) If the United States considers that the Arbitrator should make a ruling before the issuance of the Decision that certain measures, claims or issues are not properly before the Arbitrator, the following procedure applies. Exceptions to this procedure shall be granted upon a showing of good cause.

a. The United States shall submit any such request for a preliminary ruling at the earliest possible opportunity. China shall submit its response to the request at a time to be determined by the Arbitrator in light of the request.

b. The Arbitrator may issue a preliminary ruling on the issues raised in such a preliminary ruling request before, during or after the substantive meeting, or the Arbitrator may defer a ruling on the issues raised by a preliminary ruling until it issues its Decision to the parties.

c. If the Arbitrator finds it appropriate to issue a preliminary ruling before the issuance of its Decision, the Arbitrator may provide reasons for the ruling at the time that the ruling is made, or subsequently in its Decision.

(2) This procedure is without prejudice to the parties' right to request other types of preliminary or procedural rulings during the proceeding, and to the procedures that the Arbitrator may follow with respect to such requests.

Evidence

5. (1) Each party shall submit all evidence to the Arbitrator no later than its written submission under paragraph 3(2) above, except evidence necessary for purposes of rebuttal, or evidence necessary for answers to questions or comments on answers provided by the other party. Additional exceptions may be granted upon a showing of good cause.

(2) If any new evidence has been admitted upon a showing of good cause, the Arbitrator shall accord the other party an appropriate period of time to comment on the new evidence submitted.

6. (1) If the original language of an exhibit or portion thereof is not a WTO working language, the submitting party shall simultaneously submit a translation of the exhibit or relevant portion into the WTO working language of the submission. The Arbitrator may grant reasonable extensions of time for the translation of exhibits upon a showing of good cause.

(2) Any objection as to the accuracy of a translation should be raised promptly in writing, preferably no later than the next filing or the meeting (whichever occurs earlier) following the submission which contains the translation in question. Any objection shall be accompanied by an explanation of the grounds for the objection and an alternative translation.

7. (1) To facilitate the maintenance of the record of the dispute and maximize the clarity of submissions, each party shall sequentially number its exhibits throughout the course of the dispute, indicating the submitting Member and the number of each exhibit on its cover page. Exhibits submitted by China should be numbered CHN-1, CHN-2, etc. Exhibits submitted by the United States should be numbered USA-1, USA-2, etc. If the last exhibit in connection with a submission was numbered CHN-5, the first exhibit in connection with the next submission thus would be numbered CHN-6. If a party withdraws an exhibit or leaves one or more exhibits intentionally blank, it should indicate this on the cover page that provides the number of the blank exhibit.

(2) Each party shall provide an updated list of exhibits (in Word or Excel format) together with each of its submissions, oral statements, and responses to questions.

(3) If a party submits a document that has already been submitted as an exhibit by the other party, it should explain why it is submitting that document again.

(4) Insofar as a party considers that the Arbitrator should take into account a document already submitted as an exhibit in the prior panel proceedings, it should resubmit that document as an exhibit for the purpose of this proceeding. In its list of exhibits, it should refer to the number of the original exhibit in the original panel proceeding (OP) and Article 21.5 panel proceedings (CP), if applicable (example: CHN-1 (CHN-21-OP), USA-2 (USA-11-CP)).

(5) If a party includes a hyperlink to the content of a website in a submission, and intends that the cited content form part of the official record, the cited content of the website shall be provided in the form of an exhibit along with an indication of the date that it was accessed.

Editorial Guide

8. In order to facilitate the work of the Arbitrator, each party is invited to make its submissions in accordance with the WTO Editorial Guide for Submissions (electronic copy provided).

Questions

9. The Arbitrator may pose questions to the parties at any time, including:

a. Before the meeting, the Arbitrator may send written questions, or a list of topics it intends to pursue in questioning orally during the meeting. The Arbitrator may ask different or additional questions at the meeting.

b. The Arbitrator may put questions to the parties orally during the meeting, and in writing following the meeting, as provided for in paragraph 16 below.

Substantive meeting

10. The Arbitrator shall meet in closed session.

11. The parties shall be present at the meetings only when invited by the Arbitrator to appear before it.

12. (1) Each party has the right to determine the composition of its own delegation when meeting with the Arbitrator.

(2) Each party shall have the responsibility for all members of its delegation and shall ensure that each member of its delegation acts in accordance with the DSU and these Working Procedures, particularly with regard to the confidentiality of the proceeding and the submissions of the parties.

13. Each party shall provide to the Arbitrator the list of members of its delegation no later than 5.00 p.m. (Geneva time) three working days before the first day of the meeting with the Arbitrator.

14. A request for interpretation by any party should be made to the Arbitrator as early as possible, preferably at the organizational stage, to allow sufficient time to ensure availability of interpreters.

15. There shall be one substantive meeting with the parties.

16. The substantive meeting of the Arbitrator with the parties shall be conducted as follows:

a. The Arbitrator shall invite the United States to make an opening statement to present its case first. Subsequently, the Arbitrator shall invite China to present its point of view. Before each party takes the floor, it shall provide the Arbitrator with a provisional written version of its statement. If interpretation is needed, each party shall provide additional copies for the interpreters.

b. Each party should avoid lengthy repetition of the arguments in its submissions. Each party is invited to limit the duration of its opening statement to not more than 60 minutes. If either party considers that it requires more time for its opening statement, it should inform the Arbitrator and the other party at least 10 days prior to the meeting, together with an estimate of the expected duration of its statement. The Arbitrator will accord equal time to the other party.

c. After the conclusion of the opening statements, the Arbitrator shall give each party the opportunity to make comments or ask the other party questions.

d. The Arbitrator may subsequently pose questions to the parties.

e. Once the questioning has concluded, the Arbitrator shall afford each party an opportunity to present a brief closing statement, with the United States presenting its statement first. Before each party takes the floor, it shall provide the Arbitrator and other participants at the meeting with a provisional written version of its closing statement, if available.

f. Following the meeting:

i. Each party shall submit a final written version of its opening statement no later than 5.00 p.m. (Geneva time) on the first working day following the meeting. At the same time, each party should also submit a final written version of any prepared closing statement that it delivered at the meeting.

ii. Each party shall send in writing, within the timeframe established by the Arbitrator before the end of the meeting, any questions to the other party to which it wishes to receive a response in writing.

iii. The Arbitrator shall send in writing, within the timeframe established by the Arbitrator, any questions to the parties to which it wishes to receive a response in writing.

iv. Each party shall respond in writing to the questions from the Arbitrator, and to any questions posed by the other party, within the time-frame established by the Arbitrator.

Descriptive part and executive summaries

17. The description of the arguments of the parties in the Decision of the Arbitrator shall consist of executive summaries provided by the parties, which shall be annexed as addenda to the Decision. These executive summaries shall not in any way serve as a substitute for the submissions of the parties in the Arbitrator's examination of the case.

18. Each party shall submit one integrated executive summary, which shall summarize the facts and arguments as presented to the Arbitrator in the party's submissions and statements, and may also include a summary of its responses to questions and comments thereon following the substantive meeting.

19. Each integrated executive summary shall be limited to 15 pages.

20. The Arbitrator may request the parties to provide executive summaries of facts and arguments presented in any other submissions to the Arbitrator for which a deadline may not be specified in the timetable.

Service of documents

21. The following procedures regarding service of documents apply to all documents submitted by parties during the proceeding:

a. Each party shall submit all documents to the Arbitrator by submitting them with the DS Registry (office No. 2047).

b. Each party shall submit 2 paper copies of its submissions and 2 paper copies of its Exhibits to the Arbitrator by 5.00 p.m. (Geneva time) on the due dates established by the Arbitrator. The DS Registrar shall stamp the documents with the date and time of submission. The paper version submitted to the DS Registry shall constitute the official version for the purposes of submission deadlines and the record of the dispute. If an exhibit is in a format that is impractical to submit as a paper copy, then the party may submit such exhibit in electronic format (by email or on a CD-ROM, DVD or USB key). In this case, the cover page of the exhibit should indicate that the exhibit is only available in electronic format.

c. Each party shall also send an email to the DS Registry, at the same time that it submits the paper versions, attaching an electronic copy of all documents that it submits to the Arbitrator, preferably in both Microsoft Word and PDF format. All such emails to the Arbitrator shall be addressed to DSRegistry@wto.org, and copied to other WTO Secretariat staff whose email addresses have been provided to the parties during the proceeding. If it is not possible to attach all the Exhibits to one email, the submitting party shall provide the DS Registry with four copies of the Exhibits in electronic form on USB keys, CD-ROMs or DVDs.

d. In addition, each party is invited to submit all documents through the WTO e-filing system within 24 hours following the deadline for the submission of the paper versions. If the parties have any questions or technical difficulties relating to the WTO e-filing system, they are invited to contact the DS Registry at DSRegistry@wto.org.

e. Each party shall serve any document submitted to the Arbitrator directly on the other party. A party may submit its documents to another party by email or other electronic format acceptable to the recipient without having to serve a paper copy, unless the recipient party has requested a paper copy at least five working days before the filing. Each party shall confirm, in writing, that copies have been served on the parties, as appropriate, at the time it provides each document to the Arbitrator.

f. Each party shall submit its documents with the DS Registry and serve copies on the other party by 5.00 p.m. (Geneva time) on the due dates established by the Arbitrator.

g. All communications from the Arbitrator to the parties will be via email.

Correction of clerical errors in submissions

22. The Arbitrator may grant leave to a party to correct clerical errors in any of its submissions (including paragraph numbering and typographical mistakes). Any such request should identify the nature of the errors to be corrected, and should be made promptly following the filing of the submission in question.

ANNEX A-2

ADDITIONAL WORKING PROCEDURES OF THE ARBITRATOR CONCERNING BUSINESS CONFIDENTIAL INFORMATION

Adopted on 8 January 2020

1. These procedures apply to any business confidential information (BCI) that a party wishes to submit to the Arbitrator, including BCI that was previously treated by the U.S. Department of Commerce as confidential or proprietary information protected by Administrative Protective Order in the course of the countervailing duty proceedings relevant to this dispute. However, these procedures do not apply to information that is available in the public domain. In addition, these procedures do not apply to any BCI if the person who provided the information in the course of the relevant proceedings agrees in writing to make the information publicly available.

2. The first time that a party submits to the Arbitrator BCI, as defined above, from an entity that submitted that information in one of the relevant proceedings, the party shall also provide, with a copy to the other party, an authorizing letter from the entity. That letter shall authorize both China and the United States to submit in this dispute, in accordance with these procedures, any confidential information submitted by that entity in the course of those proceedings.

3. If an entity refuses to grant the authorization letter, a party may bring the situation to the attention of the Arbitrator. The Arbitrator shall consider what steps to take, which may include requesting information pursuant to Article 13 of the DSU.

4. No person may have access to BCI except a member of the Secretariat or the Arbitrator, an employee of a party, and an outside advisor for the purposes of this dispute to a party. An outside advisor may include a person providing to a party advice on any matter related to the dispute. However, an outside advisor is not permitted access to BCI if that advisor is an officer or employee of an enterprise engaged in the production, export, or import of the products that were the subject of the proceedings relevant to this dispute.

5. A party having access to BCI shall treat it as confidential, i.e., shall not disclose that information other than to those persons authorized to receive it pursuant to these procedures. Each party shall have responsibility in this regard for its employees as well as any outside advisors used for the purposes of this dispute. BCI obtained under these procedures may be used only for the purpose of providing information and argumentation in this arbitration and for no other purpose.

6. The party submitting BCI shall mark the cover and/or first page of the document containing BCI, and each page of the document, to indicate the presence of such information. The specific information in question shall be placed between double brackets, as follows: [[xx,xxx.xx]]. The first page or cover of the document shall state "Contains business confidential information on pages xxxxxx", and each page of the document shall contain the notice "Contains Business Confidential Information" at the top of the page.

7. Where a party submits a document containing BCI to the Arbitrator, the other party referring to that BCI in its documents, including written submissions and oral statements, shall clearly identify all such information in those documents. All such documents shall be marked as described in paragraph 6. In the case of an oral statement containing BCI, the party making such a statement shall inform the Arbitrator before making it that the statement will contain BCI, and the Arbitrator will ensure that only persons authorized to have access to BCI pursuant to these procedures are in the room to hear that statement.

8. The Arbitrator will not disclose BCI, in its decision or in any other way, to persons not authorized under these procedures to have access to BCI. The Arbitrator may, however, make statements of conclusion drawn from such information. Before the Arbitrator circulates its final decision to the Members, the Arbitrator will give each party an opportunity to review the decision to ensure that it does not contain any information that the party has designated as BCI.

ANNEX A-3

ADDITIONAL WORKING PROCEDURES OF THE ARBITRATOR
CONCERNING MEETINGS WITH REMOTE PARTICIPATION

Adopted on 20 October 2020

General

1. These Additional Working Procedures set out terms for holding meetings with the Arbitrator which some participants may attend by remote means.

Definitions

2. For the purposes of these Additional Working Procedures:

   "Remote participant" means any registered person attending the meeting with the Arbitrator by remote means.

   "Platform" means the software or system through which remote participants attend the meeting with the Arbitrator.

   "Host" means the designated person within the WTO Secretariat responsible for the management of the platform.

Equipment and technical requirements

3. Each party shall ensure that all remote participants of its delegation join the meeting using the designated platform, and meet the minimum equipment and technical requirements set out by the platform provider for the effective conduct of the meeting.

Technical support

4. (1) Each party is responsible for providing technical support to the remote participants of its delegation.

   (2) The host will assist remote participants in accessing and using the platform in preparation of, and during, the meeting with the Arbitrator.

Pre-meeting

Registration

5. Each party shall provide to the Arbitrator the list of the members of its delegation, on a dedicated form to be provided by the WTO Secretariat, no later than 5:00 p.m. (Geneva time) two weeks before the first day of the meeting with the Arbitrator. Such list shall include all members of the party's delegation, regardless of whether they participate in person or by remote means.

Advance testing

6. Before the meeting with the Arbitrator, the WTO Secretariat will hold two testing sessions with all remote participants of each party: (i) a separate one for each party's remote participants, and (ii) a joint session with all participants in the meeting, including all remote participants of the parties and the arbitrators joining remotely. Such sessions will seek to reflect, as far as possible, the conditions of the meeting.

Confidentiality and security

7. All remote participants shall follow the Additional Working Procedures of the Arbitrator concerning Business Confidential Information and the security rules contained in these Additional Working Procedures as well as any additional security guidance that may be provided by the host.

Conduct of the meeting

Access to the virtual meeting room

8. (1) The host will invite remote participants via email to join the virtual meeting room on the platform.

   (2) For security reasons, access to the virtual meeting room will be password-protected and limited to registered participants. Remote participants shall not forward or share the meeting link or password.

   (3) Each party shall ensure that only registered participants from its delegation join the virtual meeting room.

Advance log-on

9. (1) The virtual meeting room will be accessible 60 minutes in advance of the scheduled start time of each session of the meeting with the Arbitrator.

   (2) All remote participants shall log on to the platform at least 30 minutes in advance of the scheduled start time of each session of the meeting with the Arbitrator.

Document sharing

10. (1) Each party shall provide the Arbitrator and other participants with a provisional written version of its opening statement and, if available, of its closing statement, before delivery at the meeting.

    (2) Any participant wishing to share a document with the Arbitrator and other participants during the meeting shall do so before first referring to such document at the meeting.

Communication breakdown

11. (1) Each party shall designate a contact person who can liaise with the host during the course of the meeting to report any technical issues that arise with respect to the platform. The host can be contacted via the platform, by sending an email to remotemeeting03@wto.org, or by calling +41 (0)22 739 6148.

    (2) After consulting the parties, the Arbitrator may pause the session until the technical issue is resolved or may continue the proceedings with those participants that continue to be connected or are physically present in the meeting room at the WTO.

Relation with the Working Procedures of the Arbitrator

12. These Additional Working Procedures complement the Working Procedures of the Arbitrator and prevail over the latter to the extent of any conflict.

ANNEX B

ARGUMENTS OF THE PARTIES

ANNEX B-1

EXECUTIVE SUMMARY OF THE ARGUMENTS OF THE UNITED STATES

I. INTRODUCTION

1. Contrary to the requirements of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU"), the level of suspension of concessions that China has requested is not equivalent to the level of nullification or impairment.

2. Pursuant to Article 22.7 of the DSU, the task of an arbitrator is to determine whether the requested level of suspension of concessions or other obligations is equivalent to the level of nullification or impairment of benefits accruing to the complaining party under the relevant covered agreement(s), as required under Article 22.4. China, in its DSU Article 22.2 request, has proposed to suspend concessions at a level of $2.4 billion annually; the United States has objected to that level, referring the matter to arbitration; and the United States has made a *prima facie* case (including through China's concession that $2.4 billion exceeds the level of nullification or impairment and by demonstrating fundamental defects in China's methodology and data) that China's requested level of suspension is inconsistent with Article 22.4 of the DSU.

3. Thus, it is appropriate for the Arbitrator to reject China's requested level of nullification or impairment and continue the analysis, pursuant to Article 22.7, to determine the level of suspension that it considers to be equivalent to the level of nullification or impairment, as other arbitrators have done in prior Article 22.6 proceedings. The United States has provided the Arbitrator ample evidence to sustain its factual assertions in order to assist the Arbitrator in determining the correct methodology (including correct underlying assumptions) and the correct data that can be used to accurately estimate a level of suspension that is equivalent to the level of nullification or impairment.

4. The level of nullification or impairment should be determined by estimating the trade effects of removing the WTO-inconsistent aspects of the U.S. countervailing duty ("CVD") measures following the expiration of the reasonable period of time ("RPT"), through a counterfactual of reducing the CVD rate by the relevant WTO-inconsistent Less-Than-Adequate-Remuneration ("LTAR") rate. China agrees with this approach, but has incorrectly identified the WTO-inconsistent CVD rates to use to calculate the counterfactual WTO-consistent CVD rates. The United States has shown that the rates from the final determinations of the section 129 proceedings ("section 129 rates"), which were the compliance measures reviewed in the Article 21.5 proceedings in this dispute, are the correct WTO-inconsistent CVD rates, and the counterfactual WTO-consistent CVD rate for each product should be calculated by reducing the section 129 CVD rate by the relevant WTO-inconsistent LTAR rate.

5. With respect to the methodology to simulate the counterfactual, a two-step Armington-based imperfect substitutes partial equilibrium model is appropriate for the purpose of this proceeding, but only with certain necessary adjustments to be able to accurately estimate the level of nullification or impairment caused by the WTO-inconsistent CVD measures at issue –and not caused by any other factors. While China's methodology uses a two-step Armington-based model, it fails to apply the necessary adjustments, consequently generating distorted counterfactual market shares and grossly overestimating the trade effects of the CVD measures at issue.

6. The two necessary adjustments identified by the United States are: (1) controlling for the trade effects of the antidumping ("AD") duties that also were imposed on the same products; and (2) controlling for the trade effects of the positive supply shocks for imports of the same products from third countries, making them more competitive in the U.S. market. These adjustments are necessary to generate a counterfactual market representation which accurately estimates how the U.S. market would be different if the CVD rates were made WTO-consistent at the expiration of the RPT (*i.e.*, in 2017), and thus properly isolate the trade effects of the CVD measures at issue.

7. Finally, contrary to the incorrect data used by China, the United States has proposed to use the same data and data estimation methods chosen by the arbitrator in DS471 – save for certain instances where data-based adjustments were necessary. In estimating the counterfactual value of imports from China, the United States has provided the Arbitrator data that accurately reflect imports from China that are subject to the CVD measures at issue in this proceeding. This contrasts with China's reliance on basket tariff categories and blanket use of an economy-wide GDP deflator to estimate the market size for each discrete product.

8. As the United States has demonstrated, when proper analysis is employed and correct data are used, the actual level of nullification or impairment is no more than **$105.77 million** annually.

II. APPROPRIATE CALCULATION OF THE LEVEL OF NULLIFICATION OR IMPAIRMENT FOR THE COUNTERVAILING DUTY MEASURES AT ISSUE

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

9. Pursuant to Article 22.4 of the DSU, the DSB is not to authorize the suspension of concessions or other obligations unless "the level" of suspension is "equivalent" to the level of nullification or impairment. Article 22.7 of the DSU further provides that where a matter is referred to arbitration, the arbitrator "shall determine whether the level of . . . suspension is equivalent to the level of nullification or impairment." The starting point in the analysis of a suspension request is to determine the extent to which any WTO-inconsistent measure maintained following the expiration of the RPT nullifies or impairs benefits accruing to the complaining Member under the relevant covered agreement(s).

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

11. In previous Article 22.6 proceedings, the arbitrators compared the level of trade for the complaining party under the WTO-inconsistent measure to what the complaining party's level of trade would be expected to be had the Member concerned brought the WTO-inconsistent measure into conformity following the expiration of the RPT. The situation in which the Member concerned has removed the WTO inconsistency is referred to as the "counterfactual." The difference in the level of trade under these two situations typically represents the level of nullification or impairment. Other Article 22.6 arbitrators have recognized that a counterfactual was an appropriate method in those proceedings to calculate a level of nullification or impairment.

12. Similarly, in this proceeding, both the United States and China have proposed a counterfactual in which the WTO-inconsistent aspect of each of the CVD measures at issue (*i.e.*, the WTO-inconsistent LTAR rate) is removed following the expiration of the RPT. China, however, has proposed to use incorrect rates as the WTO-inconsistent CVD rates, which also results in incorrect counterfactual WTO-consistent CVD rates. The appropriate analysis requires a comparison between the baseline value of imports of each product from China to the United States and the value of imports from China to the United States that would have been expected had the CVD rates been WTO-consistent following the expiration of the RPT (the counterfactual). As described below, China's incorrect WTO-inconsistent rates and incorrect counterfactual WTO-consistent rates result in an incorrect outcome of the counterfactual analysis.

B. The Correct Counterfactual is Reduction of the Section 129 CVD Rate by the Relevant WTO-Inconsistent LTAR Rate

13. In this proceeding, the correct counterfactual is the estimated value of imports of relevant products from China to the United States if the WTO-inconsistent CVD measures were modified,

following the expiration of the RPT, to comply with the DSB recommendations, holding all other factors constant. China, in its methodology paper, acknowledges that the Article 21.5 compliance panel in this dispute reviewed and found to be WTO-inconsistent the section 129 determinations, which are the basis of the WTO-inconsistent CVD rates used by the United States. Yet, China has disregarded this fact and has used the rates from the CVD orders, rather than the section 129 rates, as the baseline rates for the counterfactual analysis.

14. The relevant rates to be used as the WTO-inconsistent CVD rates are the section 129 rates because the section 129 determinations were the measures that were actually "found to be WTO-inconsistent" in this dispute.

C. The Correct Methodology for Determining the Level of Nullification or Impairment Must Incorporate Other Relevant Factors and Rely on a Correct Assumption Regarding Elasticities of Substitution

15. As explained above, the key issue in this proceeding is the impact on trade flows of the maintenance of the WTO-inconsistent CVD measures following the expiration of the RPT. The United States and China generally agree that a version of the two-step Armington approach used by the arbitrators in DS464 and DS471 is appropriate. However, the United States disagrees with China's proposed version of the two-step Armington approach because it not only fails to address the fundamental deficiencies of the unadjusted two-step Armington approach but also further distorts the model by relying on a flawed assumption about elasticities of substitution.

16. In contrast, the U.S. methodology corrects the fundamental deficiencies of the two-step Armington approach used in DS464 and DS471 by implementing two necessary adjustments. These adjustments are necessary to capture China's true relative competitiveness and correctly estimate the level of nullification or impairment attributable to the CVD measures at issue. Moreover, the U.S. methodology is based on a correct assumption about elasticities of substitution.

1. The Correct Methodology Properly Isolates the Trade Effects of the WTO-Inconsistent CVD Measures by Adjusting for Other Factors that Demonstrably Affected the Evolution of Market Shares Between the Time of Imposition of the Relevant CVD Measure and Remedy Year

17. The two-step Armington approach, as applied by the arbitrators in DS464 and DS471, begins by calibrating a standard partial equilibrium Armington model using market share data from the year prior to the imposition of the CVD measure ("the year-prior") for three entities: U.S. domestic producers, China, and the rest of the world ("ROW"). In this type of model, market shares observed in the year-prior data are assumed to capture relative competitiveness in the U.S. market in that year. The year-prior data in this proceeding, however, do not reflect an accurate picture of China's underlying competitiveness because the U.S. market was distorted by subsidies and dumping, prior to the imposition of the relevant CVD and AD measures.

18. Using the year-prior data and calibrated parameters, step one of the two-step Armington approach, as applied by the arbitrators in DS464 and DS471, simulates the application of WTO-inconsistent CVD measures on imports from China. The counterfactual market shares resulting from step one are ostensibly assumed to represent the relative competitiveness of each entity (*i.e.*, domestic shipments, imports from China, and imports from ROW) after the expiration of the RPT, that is, in 2017.

19. In step two of the two-step Armington approach, the counterfactual market shares generated in step one are used to calibrate a new benchmark model. The market shares are used to divide up the total value of the U.S. market in 2017, as observed in the data, constructing an alternative 2017 market in which no factors other than the CVD measures on imports from China have affected relative competitiveness among the entities between the date of imposition of the CVD measure and the remedy year (2017). This constructed market is assumed to be representative of the market in 2017. This new benchmark model is then used to simulate the trade effects of modifying the WTO-inconsistent CVD rates to be WTO-consistent in 2017, including estimating each entity's market share under the counterfactual WTO-consistent CVD rates. The level of nullification or impairment is the difference between the simulated value of 2017 U.S. imports from China under the WTO-

inconsistent rates and the simulated value of 2017 U.S. imports from China under the modified, counterfactual WTO-consistent rates.

20. As recognized by the authors of a recent paper discussing the DS471 arbitration, the two-step Armington approach used in that arbitration had a fundamental deficiency: it incorrectly attributed trade damage solely to the AD duties at issue in that proceeding by failing to account for other factors that affected the evolution of relative competitiveness in the U.S. market (*i.e.*, market shares) between the date of imposition of the duties and the remedy year. The CVD duties at issue in this proceeding were among those factors. China, in DS471, appears to have anticipated this problem when it proposed to "tak[e] into account the impact of CVD measures" in its alternative methodology for estimating the level of nullification or impairment caused by the AD measures that were at issue in that proceeding.

21. The U.S. methodology in this proceeding offers a solution that corrects this deficiency by incorporating two adjustments. These adjustments ensure that the model controls for economic forces other than the CVD measures at issue and properly isolates the trade effects of the CVD measures. In contrast, the unadjusted two-step Armington model that fails to account for other relevant factors would essentially estimate trade damage based on an incorrect counterfactual market, in which factors observed to have affected the actual 2017 market shares are absent, thus overestimating the level of nullification or impairment.

a. First, the Two-Step Armington Approach Must Account for the Effect of Dumping and the Corresponding Antidumping Duties on China's U.S. Market Share

22. An unadjusted two-step Armington approach fails to account for the parallel AD measures that applied to the products at issue in this proceeding – meaning the model essentially asks how the market would be different if CVD rates were WTO-consistent at the expiration of the RPT and if AD duties were never imposed in the first place. But there is no question that the AD measures were imposed simultaneously or almost simultaneously with the CVD measures at issue, and that China's actual relative competitiveness in 2017 was directly affected by these AD measures. Thus, it would not be proper under the correct counterfactual to assume that AD duties never existed or affected relative competitiveness in the U.S. market.

23. Accordingly, the model in step one of the two-step Armington approach must account for the parallel AD duties to be able to estimate China's actual relative competitiveness and generate an adequate representation of the counterfactual 2017 market. Otherwise, the step two model calibrated with incorrect counterfactual 2017 market shares would, in turn, overestimate China's relative competitiveness in 2017 because it would not account for the correction for dumping – the AD duties – that was in effect at the end of the RPT. Therefore, only a two-step approach that properly accounts for the parallel AD measures can accurately simulate the 2017 market shares and thus accurately estimate the level of nullification or impairment.

24. The U.S. methodology takes the AD duty rates as they are and incorporates them with the WTO-inconsistent CVD rates in step one and the counterfactual WTO-consistent CVD rates in step two. This prevents the two-step Armington model from simulating an incorrect counterfactual 2017 market in which the parallel AD duties were never imposed, thereby properly controlling for the effects of the AD duties.

b. Second, the Two-Step Armington Approach Must Account for Third-Country Supply Shock, *i.e.*, Factors Other than Trade Remedy Measures that Influenced the Evolution of Market Shares in the Interim Period Between Imposition of the Relevant CVD Measure and Remedy Year

25. As explained above, the unadjusted two-step model used by the DS471 arbitrator ignores the trade effects of other factors on the evolution of relative competitiveness during the interim period between the imposition of the CVD measures and 2017. In reality, however, entry of new market participants and increased capacity of countries other than China to supply the U.S. market influenced China's (and other suppliers') relative competitiveness. In several of the product markets at issue in this proceeding, investments of private firms or changes in government policy allowed

certain third country suppliers to improve their relative competitiveness in the U.S. market during the interim period.

26. A model that fails to account for such third-country supply shocks fails to answer the relevant question; rather, it assesses how the market would be different if CVD rates were WTO-consistent and if third-country market shares were held proportionally constant. Such a model cannot accurately estimate the nullification or impairment caused by the WTO-inconsistent CVD measures at issue in this proceeding. The resulting estimate of nullification or impairment would either understate or overstate the actual level of nullification or impairment, depending on the underlying circumstances.

27. The United States has provided evidence for five of the products (Aluminum Extrusions, OCTG, Solar Panels, Line Pipe, Pressure Pipe) that investments of private firms or changes in government policy boosted the supply potential of certain third countries and resulted in imports from those countries gaining U.S. market share at China's expense. In other words, these positive supply shocks improved the relative competitiveness of those third countries and led to the relative deterioration of China's competitive position in the U.S. market during the interim period. Such changes during the interim period should be reflected in the step one counterfactual market that is used to calibrate the step two model. Otherwise, the step one counterfactual market would not represent China's actual relative competitiveness in 2017, and in turn, cannot be used to correctly estimate the level of nullification or impairment. Accordingly, the United States has quantified and incorporated those supply shocks into its model using a historical simulation approach based on the economics literature.

28. In principle, the two-step Armington approach should incorporate a supply shock adjustment for every product for which the relative competitiveness of third-country suppliers has changed between the date of imposition of the CVD measures and 2017. However, it is not possible to directly observe supply shocks and their magnitude by country. As the best alternative, the United States has relied on two types of information to make the best effort to identify the relevant supply shocks: (1) trade data showing trends of disproportionate increases in certain third countries' market shares relative to other exporting countries between the year in which the CVD measure was imposed and 2017, and (2) analyses documented in relevant U.S. International Trade Commission ("USITC") investigations of any industry investment or government policy changes in those third countries during the same period.

29. Using this evidence-based method, the United States has identified the "Rising Supplier" countries for Aluminum Extrusions, OCTG, Solar Panels, Line Pipe, and Pressure Pipe, and has detailed the government policies or industry investments that are linked to the expansion of their supply potential. Based on evidence, the adjustment also includes a net decline in relative competitiveness of India, Malaysia, Thailand, and Vietnam in the U.S. Pressure Pipe market due to U.S. trade remedies against Pressure Pipe from those countries in 2014 and 2016, which ultimately boosted China's relative competitiveness. The United States has not found sufficient evidence to recommend implementing the supply shock adjustment for the remaining five products.

30. Both the AD adjustment and the third-country supply shock adjustment stem from the fact that the correct methodology for this proceeding should control for any other factors that affected the evolution of relative competitiveness in the U.S. market for the products at issue between the imposition of the measure at issue and the remedy year, as long as there is evidence to support those effects and sufficient quantitative information to incorporate them into the model. The United States has controlled for these two factors because there is sufficient evidence to demonstrate their effects on the evolution of relative competitiveness between the imposition of the relevant CVD measures and 2017. On the other hand, the United States has not adjusted for any other factors due to lack of sufficient evidence that any other factors (including any other duties or non-tariff actions) meaningfully affected the evolution of relative competitiveness during the interim period.

31. China falsely argues that incorporating the necessary adjustments proposed in the U.S. methodology would be equivalent to adopting a one-step Armington model. However, the step one counterfactual market shares generated by the U.S. methodology are consistently and significantly greater than China's actual 2017 market shares that would be used in a one-step Armington model. The U.S. methodology corrects the critical deficiency in the unadjusted two-step Armington model so that the model can generate accurate counterfactual 2017 market shares and thus estimate the

level of nullification and impairment that is properly attributable to the CVD measures at issue – the very purpose of adopting a two-step Armington model.

2. The Correct Methodology Relies on the Correct Assumption that the Elasticity of Substitution across Imported Varieties is Same as the Elasticity of Substitution Between Imported Goods and Domestic Goods

32. Contrary to China's argument, the so-called "Rule of Two" is not the correct assumption for the methodology in this proceeding. The Rule of Two is an *ad hoc* assumption that the elasticity of substitution across imported varieties ("micro-elasticity") is two times the elasticity of substitution between imported goods and domestic goods ("macro-elasticity"). This proposition has serious implications, as it would result in a significantly higher estimate of the level of nullification or impairment. However, China has not sufficiently demonstrated why the Arbitrator should deviate from the more reasonable assumption that the micro-elasticity and the macro-elasticity are constant (*i.e.*, the Rule of One), which is the standard in Armington partial equilibrium modeling in the academic literature and which has been used in previous WTO arbitrations, including DS471.

33. While China has frequently referenced *Feenstra et al.*, there simply is no evidence in the paper to conclude that the micro-elasticity is double the macro-elasticity for the products at issue in this proceeding. Rather, China has misinterpreted the statistical data presented in the paper. The corrected outcome provided by the United States is, in fact, evidence in favor of the null hypothesis that the macro-elasticity and micro-elasticity are equal.

34. Moreover, the results of *Feenstra et al.* do not support China's position because they do not apply to the products at issue here and cannot be generalized. The sample examined in *Feenstra et al.* only covers 0.5 percent of all Harmonized Tariff Schedule of the United States ("HTSUS") categories at the 10-digit level. In addition, it appears that the only overlap between the sample in *Feenstra et al.* and the products at issue in this proceeding is a limited subset of the products subject to the OCTG CVD measure. From a statistical perspective, it is unreasonable to generalize the weak results of *Feenstra et al*. The small sample in *Feenstra et al.* is not randomly sampled from the population of all products, and there is no evidence that it is a representative sample. In fact, the authors of *Feenstra et al.* themselves do not assert that the paper's results are generalizable outside of the specific sample, contrary to China's argument. The weak evidence in *Feenstra et al.* that the micro-elasticities may be higher than the macro-elasticities for the products sampled in the paper does not support the application of the Rule of Two for the specific products at issue in this proceeding that are largely from different industries.

35. Further, a nested approach – which encompasses the Rule of Two and other model arrangements in which the elasticity of substitution is not assumed to be constant across all sources of supply – is not appropriate in this proceeding because trade diversion is not expected for the products at issue. A nested approach could be used where there is evidence that buyers are more likely to substitute one source of supply over another in response to a change in the price of the subject variety. However, product-specific evidence reported by the USITC shows that the domestic variety, imports from China, and imports from ROW are not systematically differentiated, but rather are comparable and interchangeable in terms of product quality, terms of sale, and use. That is, there is no basis to assume that an increase in the price of imports from China would lead U.S. buyers to systematically and disproportionately substitute toward imports from ROW, over U.S. domestic products. And there is certainly no evidence that buyers are likely to substitute toward imports from ROW at double the rate of substitution toward U.S. domestic products.

36. Accordingly, the correct methodology should rely on the standard Rule of One and thus use the substitution elasticity estimates reported by the USITC for both micro- and macro-elasticities. These USITC elasticities (which were developed under the implicit assumption that the micro-elasticity and macro-elasticity are equal) are tailored to the specific products subject to the duties and are based on analysis of responses from purchasers, producers, and importers to questionnaires concerning the pertinent market, as well as arguments made by interested parties.

D. The Correct Data Inputs that Would Be Used in Applying the Two-Step Armington-Based Partial Equilibrium Model

37. In an effort to identify the best data available for this proceeding, the United States has maintained a reasoned and consistent approach of using the same year-prior and 2017 U.S. market data that the arbitrator in DS471 chose to use for the seven products for which AD measures were at issue in the DS471 arbitration proceeding (Aluminum Extrusions, Line Pipe, OCTG, Print Graphics, Seamless Pipe, Solar Panels, and Steel Cylinders). For the other three products that were not at issue in DS471 (Kitchen Shelving, Pressure Pipe, and Wire Strand), the United States has estimated the U.S. market data by applying estimation methods that are similar to those applied by the DS471 arbitrator. In contrast, China has unnecessarily deviated from the data and data estimation methods used by the DS471 arbitrator and has proposed data that are not suitable for accurately estimating the level of nullification or impairment.

1. Year-Prior U.S. Market Data

38. China has chosen the wrong year-prior for three of the products (OCTG, Line Pipe, and Pressure Pipe). Since step one of the two-step Armington approach uses the year-prior data to generate market shares that reflect relative competitiveness in the U.S. market in 2017, it is necessary to ensure that the two-step approach uses the correct year-prior – that is, the year prior to the imposition of the final CVD measure. However, China has attempted to deviate from the approach taken by the arbitrators in DS471 and DS464 by arguing that the year-prior should be based on the date of imposition of the preliminary CVD measure.

39. However, the imposition of a CVD measure is not made final until both the U.S. Department of Commerce and the USITC make affirmative final determinations. Any cash deposits collected following an affirmative preliminary CVD determination are merely provisional and subject to refund depending on the outcome of the final determination. Moreover, for all of the products at issue, no provisional CVD duties were collected for a "gap period" of several months between the expiration of the preliminary CVD measure and the publication of the final CVD measure. China has not explained how, or why, any changes in trade flows during the gap period should be attributed to CVD duties when there were no CVD duties in place. Therefore, the United States has maintained the use of the year prior to the imposition of the final CVD measure, rather than a temporary preliminary CVD measure.

40. In addition to misidentifying the relevant year-prior and thus using incorrect year-prior data, China has also misidentified the relevant domestic shipments or imports values for three other products (Print Graphics, Steel Cylinders, and Solar Panels). For Kitchen Shelving, China's estimated imports values improperly rely on "basket" HTSUS categories that broadly include a number of products that fall outside the scope of the Kitchen Shelving CVD measure.

41. In contrast, the United States has correctly identified the year-prior for each product in a manner that is consistent with the year-prior identified by the arbitrator in DS471, and has used the domestic shipments and imports values that were either used by the DS471 arbitrator, or calculated those values using sources and methods similar to those relied on by the DS471 arbitrator. There are only two exceptions. First, for the domestic shipments value for Steel Cylinders, whereas the DS471 arbitrator relied on an estimate based on industry data, the United States has replaced the estimate with actual data, which became available after the release of the DS471 decision. Second, for Kitchen Shelving, the United States has corrected for the overinclusion problem of relying on basket tariff categories by incorporating industry data-based adjustments to data collected in the relevant USITC investigations.

2. 2017 U.S. Market Data

42. With respect to the 2017 data, the United States has generally used the data already reported by the DS471 arbitrator for the seven products that were also at issue in that arbitration. Where the United States has adjusted data used by the DS471 arbitrator due to an overinclusion issue (Print Graphics and Seamless Pipe imports from ROW) or due to the availability of more recent or better data (OCTG and Steel Cylinders domestic shipments), ample evidence and explanations have been submitted for the application of those adjustments.

43. As for the three products that were not at issue in DS471, the United States has calculated an estimate using industry-specific data to estimate each component of the U.S. market for each product (*i.e.*, domestic shipments, imports from China, and imports from ROW). This is the method that the DS471 arbitrator used and also the method that the USITC uses in its investigations.

44. While the United States has used HTSUS-based data for the year-prior data due to lack of a better alternative, the United States has used, for 2017 imports from China, USCBP data reporting company-specific imports of subject merchandise that are subject to the CVD measures at issue. USCBP data, which are collected by the U.S. federal agency that enforces CVD measures at the time of importation, provide the most accurate estimates of the imports from China that were subject to the CVD measures at issue in this proceeding.

45. In contrast, China has abandoned the reasoned approach of estimating each component of the U.S. market using industry-specific data, and has instead resorted to a novel approach of applying a GDP deflator to the reported value of the U.S. market for a specific product in an earlier year and extrapolating the value of the 2017 U.S. market for that product. This is not supported by economic theory. A GDP deflator is based on the entire U.S. economy and is not tailored to specific products. A GDP deflator, which is nominal GDP divided by real GDP, is a measurement of inflation. Accordingly, the outcome of China's GDP deflator approach merely states the value of the earlier U.S. market in terms of 2017 dollars – it does not estimate the size of the 2017 U.S. market. By attempting to project a future market size using a GDP deflator, China improperly assumes that the U.S. market for each individual product grew in line with the prices of all final goods and services produced in the United States between the earlier data year and the remedy year. Furthermore, regardless of the number of years over which a GDP deflator is applied, the deflator's estimate for the 2017 market size would vary depending on the year that the deflator happens to extrapolate from – which demonstrates that the GDP deflator method is not a reliable proxy for projecting a future market size.

46. While China has suggested the Producer Price Index (PPI) as an alternative, applying the PPIs would also merely state the value of an earlier U.S. market in terms of 2017 dollars, similar to the GDP deflator approach. Moreover, the PPIs, while narrower in product coverage than the economy-wide GDP deflator, are not tailored to the specific products at issue in this proceeding and are unsuitable for estimating the market size for these products. Generally, applying the PPIs would include the price effects of many other, non-subject products that are often produced by different manufacturers or distributed through different channels.

E. The Level of Nullification or Impairment that Would Result from the Application of an Appropriate Armington-Based Partial Equilibrium Model

47. As a result of applying the two-step Armington-based approach that incorporates the two necessary adjustments proposed by the United States, the level of nullification or impairment from the maintenance following the expiration of the RPT of the U.S. WTO-inconsistent CVD measures on Aluminum Extrusions, Print Graphics, OCTG, Solar Panels, Steel Cylinders, Line Pipe, Seamless Pipe, Kitchen Shelving, Pressure Pipe, and Wire Strand from China is no more than **$105.77 million** per year.

II. CONCLUSION

48. For the reasons given throughout this proceeding, the United States respectfully requests that the Arbitrator find that the level of suspension of concessions or other obligations requested by China is not "equivalent" to the level of nullification or impairment. The United States requests that the Arbitrator find that the level of nullification or impairment is no more than **$105.77 million** annually.

ANNEX B-2

EXECUTIVE SUMMARY OF THE ARGUMENTS OF CHINA

I. INTRODUCTION

1. This proceeding under Article 22.6 of the Dispute Settlement Understanding ("DSU") commenced because of the United States' continued refusal to comply with the recommendations and rulings of the Dispute Settlement Body ("DSB") in *United States – Countervailing Measures (China)* ("DS437").

2. On 15 August 2019, the DSB adopted the compliance panel's report in DS437, as modified by the Appellate Body Report. In that report, the Appellate Body upheld the compliance panel's findings that the United States had acted inconsistently with Articles 1.1(b) and 14(d) of the Agreement on Subsidies and Countervailing Measures ("SCM Agreement") in four countervailing duty ("CVD") investigations. The Appellate Body also upheld the compliance panel's findings that the United States had acted inconsistently with Article 2.1(c) of the SCM Agreement in those same four investigations and in an additional seven countervailing duty investigations.

3. The DSB ruled that the U.S. measures at issue are inconsistent with the relevant provisions of the SCM Agreement and recommended that the United States bring its measures into conformity with its obligations under that agreement. Despite these findings, the United States has refused to bring its measures into compliance with the recommendations and rulings of the DSB.

4. Because the United States has refused to bring its unlawful measures into compliance with its WTO obligations, China is seeking authorization to suspend concessions or other obligations under the covered agreements in the amount of USD **788.75 million**. For the reasons set out in China's methodology paper, written submission, oral statements, responses to questions from the Arbitrator, and comments on the United States' responses to questions from the Arbitrator, China submits that the United States has failed to demonstrate that China's proposed level of suspension is not equivalent to the level of nullification and impairment suffered by China as a result of the U.S. failure to bring its measures into conformity with the recommendations and rulings of the DSB.

II. CHINA'S PROPOSED COUNTERFACTUAL SCENARIO IS PLAUSIBLE AND REASONABLE

5. Pursuant to Article 22.4 of the DSU, "[t]he level of the suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of the nullification or impairment." Pursuant to Article 22.7 of the DSU, it is the Arbitrator's task to "determine whether the level of such suspension is equivalent to the level of nullification or impairment." Specifically, it is the Arbitrator's task to determine whether the level of suspension proposed by China is equivalent to the level of nullification and impairment caused by the United States' continued non-compliance with the recommendations and rulings of the DSB concerning the measures at issue.

6. WTO arbitrators have consistently adopted the approach of examining the relevant "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.[1]

7. The compliance panel's findings as affirmed by the Appellate Body concern the USDOC's incorrect interpretation and application of Articles 14(d) and 2.1(c) of the SCM Agreement and its resulting incorrect determination that China provides inputs for less than adequate remuneration ("LTAR"). The only reasonable inference that can be drawn in light of these findings is that had the USDOC sought to bring its measures into conformity with its obligations under the SCM Agreement by properly interpreting and applying Articles 14(d) and 2.1(c), it would not have identified a countervailable subsidy in respect of the alleged provision of inputs for LTAR. Consequently, the benefit that China could have legitimately expected to receive as a result of the recommendations and rulings of the DSB was that any countervailing duties applied to the products at issue would be

[1] See China's methodology paper, para. 15.

calculated so as to exclude the portion of the total CVD margin attributed to the alleged input subsidy programmes.

8. Accordingly, in this proceeding China proposed a plausible and reasonable counterfactual scenario of modifying the relevant CVD orders to exclude the portion of the total CVD margin attributable to the alleged input subsidy programmes. The United States has agreed that the appropriate counterfactual analysis would entail modifying the relevant CVD rates by deducting the portion of the total CVD rate attributable to the input subsidy programs.[2]

III. CHINA'S PROPOSAL TO CALCULATE NULLIFICATION OR IMPAIRMENT USING THE TWO-STEP ARMINGTON MODEL IS REASONABLE AND CONSISTENT WITH THE APPROACH ADOPTED BY PRIOR ARBITRATORS

A. Overview of China's Application of the Two-Step Armington Model

9. China has proposed that the Arbitrator utilize a two-step Armington elasticities model consistent with the approach implemented in two recent Article 22.6 proceedings: *US – Washing Machines (Korea)* ("DS464") and *US – Anti-Dumping Methodologies (China)* ("DS471"). The Armington elasticities model estimates the impact of the WTO-inconsistent countervailing duties on China's 2017 exports of the subject products to the United States.

10. At step one, China applied the Armington model to the U.S. market as it existed prior to the imposition of the WTO-inconsistent CVD orders in order to simulate, for each CVD order, the impact of imposing the WTO-inconsistent countervailing duties on the sales of Chinese exporters, exporters from the rest of the world ("ROW"), and U.S. producers. These counterfactual sales were then used to compute counterfactual market shares for each supplier.

11. At step two, China multiplied the counterfactual market shares simulated under the first step by the actual 2017 total value of the U.S. market, i.e. the total value of the U.S. market in the remedy year, in order to obtain a counterfactual 2017 value of U.S. imports from Chinese exporters, ROW exporters, and sales by U.S. producers. China then applied the Armington model to these counterfactual 2017 sales in order to estimate, for each CVD order, the impact of changing the countervailing duties from WTO-inconsistent rates to WTO-consistent rates. This second step yielded new counterfactual estimates of the value of U.S. imports from China, ROW exporters, and sales by U.S. producers.

12. For each CVD order, China then computed the amount of nullification and impairment suffered by China by subtracting China's counterfactual export value with WTO-inconsistent duties (step one) from China's simulated export value with WTO-consistent duties (step two). Adding the amount of nullification and impairment for each of the underlying cases yielded China's estimate of the total amount of nullification and impairment suffered by China.[3]

13. In its submissions, China explained in detail why a two-step approach to the Armington model is appropriate for the purposes of calculating nullification and impairment caused by the United States' WTO-inconsistent CVD duties in this proceeding. A simpler one-step approach is not appropriate because implicit in that approach is the assumption that the change from the WTO-*inconsistent* countervailing duty to the WTO-*consistent* countervailing duty occurs quickly, i.e. it is essentially a short-run analysis. That assumption does not hold if the WTO-inconsistent countervailing duties are in place for many years.[4]

14. In each of the underlying cases at issue, the WTO-inconsistent countervailing duties were imposed between 2008 and 2012. The remedy year is 2017. Thus, for each of the underlying cases, a considerable period of time has passed since the countervailing duty was originally imposed. It would therefore be inappropriate to assume either that the market share of the three types of suppliers in the remedy year is a reasonable benchmark from which to evaluate the trade impact of the long-ago imposed countervailing duties or that the size of the overall U.S. market in the year prior to the imposition of WTO-inconsistent duties is a reasonable proxy for the size of the market

[2] See China's written submission, Section II.
[3] See China's methodology paper, Section III.B.
[4] See, e.g. China's methodology paper, Section III.

in the remedy year. Accordingly, step one of the two-step approach is necessary to account for the small market shares resulting from the trade-depressing effect of the WTO-inconsistent duties.

15. China incorporated two advancements to the two-step Armington methodology applied by prior arbitrators. First, China allowed the elasticity of substitution to vary by source. China provided strong factual and academic support for the proposition that the Arbitrator use a nested approach, rather than the single elasticity approach used in DS464 and DS471, including the use of the standard "Rule of Two", i.e. setting the elasticity across different import sources at twice the elasticity between domestic and import varieties.[5]

16. China pointed out that this "nested" approach to Armington modelling has been used by the WTO in its Global Trade model and the U.S. International Trade Commission ("USITC"). The practice of using the nested approach should carry over to partial-equilibrium analyses of disaggregated products where significant trade diversion to other importers can be expected. Failing to account for the higher rates of substitution across import varieties would lead to an understatement of nullification or impairment because the model would understate the diversion of trade to non-subject sources induced by the WTO-inconsistent duties.[6]

17. Second, China discovered a critical programming error in the DS471 computer code. China explained the nature of this error and provided corrected computer code to the Arbitrator. Specifically, the computer code includes a new variable named "NI_fixed", which calculates the amount of nullification or impairment net of duty payments, which is the correct approach and consistent with that reported in DS464.[7] The parties agree that the Arbitrator should calculate nullification and impairment net of duties because duties do not accrue to the producers of the subject imports.[8]

18. China has also proposed that the Arbitrator implement the two-step approach using public, verifiable data. Step one of the two-step Armington model requires three sets of data: (i) actual U.S. market data (the sales of the domestic producers, Chinese exporters, and ROW exporters); (ii) Armington elasticity model parameters; and (iii) the WTO-inconsistent CVD rate imposed in each case.

19. For eight of the underlying cases, the public version of the relevant USITC investigation report contained all necessary market sales information. For three other cases, some of the necessary market information was not provided in the relevant final USITC report. Accordingly, for these three cases, China used the HS10 tariff codes listed in the relevant USITC reports to obtain the value of trade for Chinese exporters and ROW exporters from USITC Dataweb. For domestic sales value, China relied on public data, including 10K reports and North American Industry Classification System ("NAICS") industry data.[9]

20. With respect to Armington elasticity parameters, three elasticities are reported in the relevant final USITC reports: demand elasticity, domestic supply elasticity, and the elasticity of substitution between domestic and imported products. Import supply elasticities, however, are not provided in those reports. China therefore followed the approach adopted by the arbitrator in DS471 and assumed a value of 10 for each of these elasticities. For the elasticity of substitution between the imported varieties, China proposed a separate elasticity: the standard "Rule of Two".[10]

21. China submitted to the Arbitrator the relevant WTO-inconsistent countervailing duty rates at the time of the expiry of the reasonable period of time ("RPT").[11]

22. Step two of the two-step Armington model requires two additional sets of data: (i) the total value of the U.S. market in 2017 and (ii) the WTO-consistent CVD rate for each case. For five cases, China used information from either a USITC sunset review, a USITC report from a subsequent trade dispute involving the same product scope, or a publicly available 10K report. For cases where those

[5] See China's methodology paper, Section III.C.5.
[6] See China's written submission, Section V.A.
[7] See China's methodology paper, para. 78.
[8] See China's oral statement, para. 9.
[9] See China's methodology paper, Section IV.B.
[10] See China's methodology paper, para. 96.
[11] See China's methodology paper, Section IV.B.3.

subsequent reports were published prior to 2017, China scaled data from the latest year with reported market data to 2017 values using the GDP deflator. For the other cases, all relevant market information was redacted in all subsequent USITC reports. China therefore estimated 2017 market size by scaling the size of the market prior to the WTO-inconsistent duties being imposed using the GDP deflator.[12]

23. China submitted to the Arbitrator the WTO-consistent countervailing duty rates calculated by deducting the inputs for LTAR subsidy rate from the total CVD rate for each of the CVD orders at issue.[13] China has acknowledged that the USDOC's methodology for calculating the All-Others rate varies depending on the rates calculated for the individually-investigated respondents and accepted the U.S. proposal that the All-Others WTO-consistent rate for *Solar Panels* and *Aluminum Extrusions* be calculated using the same methodology applied by the USDOC in the underlying proceeding, i.e. using a weighted average of the rates assigned to the two mandatory respondents in each case, rather than a simple average. China's estimates also reflect certain other revisions proposed by the United States to the relevant CVD rates.[14]

24. Thus, China has reasonably proposed that the Arbitrator implement the two-step Armington methodology developed and applied by prior arbitrators incorporating the "Rule of Two", correcting the error in the DS471 computer code, and using public, verifiable data.

B. The Arbitrator Should Reject the U.S. Proposed "Adjustments" to the Two-Step Armington model

25. The United States has purportedly agreed with China that the appropriate methodology for estimating the level of nullification or impairment in this dispute is a two-step approach to the Armington model. In reality, however, the United States seeks to revert to a one-step approach.

26. The U.S. objective to revert to a one-step approach is apparent from its two proposed "adjustments" to the two-step model, both of which are designed to depress China's market shares in the remedy year and reduce the level of nullification and impairment. The first proposed adjustment is to incorporate other trade remedy measures into the two-step approach, in this case, the effects of parallel antidumping ("AD") duties on the relevant Chinese products. The United States refers to this approach as the "CVD+AD model".[15]

27. Parallel duties were also present in DS464 and DS471. In both of those disputes, the arbitrator correctly computed nullification and impairment by isolating the impact of the specific WTO-inconsistent measures at issue in each dispute. In fact, a major reason for the two-step Armington method implemented in DS464 and DS471 was that it allowed the arbitrator in those cases to separately identify and evaluate the effect of the specific measures under scrutiny. Within the two-step Armington framework, there is no basis for the U.S. proposal to incorporate parallel AD duties into the analysis.[16]

28. The second proposed adjustment is to account for "other factors" that allegedly influenced the evolution of market shares. The United States proposes, in particular, to implement a so-called "supply shock", based on supposed changes that contributed to China's decline in imports separately from the WTO-inconsistent CVD duties. The supply shock is a transparent attempt by the United States to ignore the objective of the two-step approach and use the duty-distorted trade levels of the remedy year as the basis for the nullification and impairment calculation. The issue of distortion of trade levels in the remedy year is the primary reason why the arbitrator in DS464 developed the two-step approach. Thus, there is again no basis for the U.S. proposal to incorporate "supply shocks" within the two-step Armington framework.[17]

1. The Arbitrator Should Reject the U.S. Proposal to "Adjust" the Two-Step Armington Model to Account for Parallel Anti-Dumping Duties

[12] See China's methodology paper, Section IV.C.1.
[13] See China's methodology paper, Section IV.C.2.
[14] See, e.g. China's written submission, para. 25.
[15] China's written submission, para. 4.
[16] See China's written submission, para. 4.
[17] See China's written submission, paras. 4 and 5.

29. Adjusting the two-step Armington model to incorporate the parallel AD duties would prevent the model from accurately estimating the effect of the WTO-inconsistent CVD duties and fail to capture the full amount of nullification and impairment caused by those duties.

30. The U.S. approach of adjusting for parallel AD duties necessarily distorts the base upon which nullification and impairment is calculated and therefore cannot be used to calculate the level of suspension "equivalent" to the amount of nullification and impairment caused by the measures at issue as required by Article 22.4 of the DSU. The U.S. approach ignores the non-linear nature of contemporaneous duties. China demonstrated that this non-linearity means that imposing other duties inevitably reduces the impact of the incremental measure at issue. Consequently, the U.S. approach of first adjusting for any contemporaneous duties necessarily underestimates the amount of nullification and impairment attributable to the measures at issue.[18]

31. This is true regardless of when the AD duties were imposed or their duration. Alleged dumping in the year-prior, the remedy year, or the period in between is not relevant to the analysis of nullification and impairment caused by the WTO-inconsistent CVD measures. In all cases, the effect of the WTO-inconsistent CVD duties would be distorted by adjusting for the AD duties. The relatively contemporaneous nature of the specific AD duties that the United States proposes to incorporate in the context of this proceeding does not make it appropriate to consider those duties as part of the counterfactual analysis. Trade actions other than the measures at issue, regardless of their nature, timing, duration, or WTO-consistency or inconsistency, do not form part of the counterfactual analysis under Article 22.6 of the DSU.[19]

32. The United States argues that because the sum of the AD and CVD nullification and impairment calculated *separately* does not equal the level of nullification and impairment when the effects of the two duties are modelled *together*, the "unadjusted" model must be attributing *more* than the full amount of nullification and impairment to the WTO-inconsistent CVD duties.[20] The United States is mistaken. China has shown that the U.S. assertion fails to take into account the non-linear effects of duties (or other measures) that affect trade.[21]

33. The United States would have the Arbitrator arbitrarily first reduce China's market size through the effects of the duty not at issue in the arbitration and then calculate the level of nullification and impairment on the basis of that already-reduced market size. The level of nullification and impairment resulting from this approach will inevitably understate the true level of nullification and impairment associated with the measure that is the subject of the Article 22.6 inquiry. The proposed U.S. approach therefore cannot determine the "equivalent" level of nullification and impairment in a manner consistent with Article 22.6 of the DSU.[22]

2. The Arbitrator Should Reject the U.S. Proposal to "Adjust" the Two-Step Armington Model for "Supply Shocks"

34. Consistent with the arguments it made in DS464 and DS471, the United States in this dispute argues that information on remedy-year shares is preferred to year-prior shares. The U.S. argument and proposed procedure in this dispute is considerably less transparent, but upon close review, it is unmistakeable that the U.S. proposed "supply shift" procedure is designed to reduce the complainant's market share incorporated into the nullification and impairment calculation.

35. First, the United States proposes a decomposition of ROW suppliers into a group of rising-supplier ("RS") countries and other suppliers. Second, the United States uses the model to find a set of "phantom subsidies" on U.S. imports from these RS countries such that a remedy-year target is met. According to some unexplained theory of how market competition works, the phantom subsidies are set to match the ratio of RS to other third-country shares in the remedy year. Crucially, no evidence is given that the fast growth in market share was not a result of the trade-diverting effect of the WTO-inconsistent duties imposed on China.

[18] See China's response to Arbitrator question No. 104.
[19] See, e.g. China's response to Arbitrator question No. 72.
[20] See China's oral statement, para. 28.
[21] See China's response to Arbitrator question No. 104.
[22] See China's response to Arbitrator question No. 104.

36. With these phantom subsidies in place, the market shares used to calibrate the model at the remedy-year benchmark are substantially consistent with the observed shares in the remedy year. The only reason the U.S. procedure does not fully match the remedy year observation is because the set of phantom subsidies is limited to the RS countries. The United States then purports to run a two-step model similar to that proposed by China. Because the United States assumes large phantom subsidies (whose size is dependent on trade values in the remedy year) the U.S. implementation effectively ties China's market share to the trade-distorted value in the remedy year. By using these "adjusted" step one counterfactual market shares to calibrate the model at step two, the United States effectively eliminates the first step of the two-step approach.[23]

37. China recognizes that adopting the U.S. approach of "adjusting" for other factors would spell the end of the two-step Armington model. With each "adjustment", the model would edge closer to the observed remedy-year market shares that the two-step model explicitly rejects. In contrast to the United States, China has therefore refrained from proposing any such adjustments. Rather, China has requested that the Arbitrator apply the two-step approach in a manner that permits the isolation of the effect of the WTO-inconsistent CVD duties and is consistent with the approach adopted by prior arbitrators, i.e. without any adjustments for the parallel AD duties or so-called "supply shocks".[24]

IV. THE UNITED STATES HAS FAILED TO REBUT CHINA'S PROPOSED APPLICATION OF THE "RULE OF TWO"

38. The U.S. criticism of China's proposed application of the "Rule of Two" is without merit. The United States ignores the fact that applying the "Rule of Two" is, in fact, the norm for general equilibrium analyses of trade restrictions.[25]

39. The primary basis for the U.S. criticism of the "Rule of Two" is based on its misinterpretation of the results in the Feenstra et al. paper. This paper was submitted by China with its methodology paper. Feenstra et al. estimate macro-elasticities for broad product categories (e.g. Metal Products). Their analysis focuses on the relationship between the product-specific micro-elasticities and the broader product macro-elasticities.

40. Feenstra et al. provide considerable evidence that the micro-elasticities exceed the macro-elasticity and that this should be accommodated through the application of the standard "Rule of Two". Exemplifying the evidence in favour of higher micro-elasticities, Feenstra et al. "find evidence that the former elasticity, which we call the micro-Armington elasticity, is larger than the latter elasticity, the macro-Armington elasticity".[26] Feenstra et al.'s finding is inconsistent with the extreme assumption adopted by the United States; that is, its assumption that the micro- and macro-elasticities are the same.

41. Contrary to the U.S. assertion that the Feenstra et al. study does not cover any of the products at issue in this proceeding, Feenstra et al. do estimate a micro-elasticity of substitution for carbon-steel OCTG (NAICS code 3312100130). This directly corresponds to the carbon-steel OCTG product at issue in this case. Adopting Feenstra et al.'s point estimates of the micro-elasticity would result in a significant increase in nullification and impairment under the two-step Armington model. China has reasonably proposed only that the Arbitrator take into account this evidence in support of the application of the conservative "Rule of Two".[27]

42. The United States argues that the cited USITC reports for the specific products at issue support the restriction of equivalent micro- and macro-elasticities. In fact, they do not. The elasticities of substitution reported in these reports specifically apply to the import-domestic response—not the "micro" import-import response. The United States further appeals to the USITC's discussions of "comparability" and "interchangeability". In the context of economic analysis, comparability and interchangeability among sources does not directly indicate high substitution elasticities.

[23] See China's written submission, Section IV.B.
[24] See China's oral statement, para. 36; China's response to Arbitrator question No. 105.
[25] See China's written submission, Section V.A.
[26] China's response to Arbitrator question No. 70, para. 3.
[27] See China's response to Arbitrator question No. 70, para. 2.

Furthermore, comparability and interchangeability in no way indicate similar micro-elasticities and macro-elasticities.[28]

43. The United States itself has provided direct evidence that the macro- and micro-elasticities must be different. For *Aluminum Extrusions*, *OCTG*, and *Solar Panels*, the United States has provided evidence that a set of other countries were able to significantly increase import penetration into the U.S. market – the so-called "rising suppliers". This pattern of third-country responses is explained by the fact that the elasticity among import varieties is greater than the elasticity between imports and domestic varieties.[29]

44. To provide further direct evidence that the elasticity among imports is higher than the elasticity between imports and domestic varieties, such that a nested structure is appropriate, China reported the percentage point changes in China's market shares and the changes in China's share of U.S. imports across each product. China demonstrated that the data submitted by the United States shows a substantial diversion away from Chinese imports and toward other import sources. China further demonstrated that the United States' own data shows a systematic bias in the increase in ROW shares over U.S. shares at the same time that China's market shares plummeted.[30]

V. THE ARBITRATOR SHOULD REJECT THE U.S. PROPOSAL TO USE INCORRECT AND UNRELIABLE DATA INPUTS

A. The Arbitrator Should Reject the U.S. Proposal to Use CVD Rates Implemented After the Expiry of the Reasonable Period of Time

45. The United States has proposed incorrectly that in five cases, the Arbitrator should use the CVD rates promulgated pursuant to Section 129 of the Uruguay Round Agreements Act ("Section 129 rates"), despite the fact that these rates were implemented after expiry of the RPT.

46. It is well established that compliance measures implemented after the expiry of the RPT do not form part of the counterfactual analysis under Article 22.6 of the DSU. In *US – Tuna II (Mexico) (Article 22.6 – US)*, the arbitrator rejected the U.S. argument that it should consider the relevant measure to be the latest version of the measure rather than the version that was in force at the time the RPT expired. Contrary to the U.S. contention, the decisions of other arbitrators are consistent with the conclusion reached by the arbitrator in *US – Tuna II (Mexico) (Article 22.6 – US)*.[31]

47. At the time of the expiry of the RPT in this dispute, the applicable CVD rates for *Pressure Pipe*, *Line Pipe*, *OCTG*, *Solar Panels*, and *Seamless Pipe* were not the revised Section 129 rates. The Section 129 rates for these five cases came into effect after the expiry of the RPT on 1 April 2016. The USDOC did not publish the Section 129 determinations in these cases until 9 June 2016 and when it did, it explicitly stated that the effective date of the determinations was 26 May 2016, almost two months after the expiry of the RPT. The USDOC revised the total CVD rates in only three of these five cases: *Line Pipe*, *OCTG*, and *Seamless Pipe*.[32]

48. For this reason, China has submitted that the Arbitrator should not use the revised net subsidy rates from the Section 129 determinations in *Line Pipe*, *OCTG*, and *Seamless Pipe*. Similarly, the Arbitrator should not use the unrevised net subsidy rates from the Section 129 determinations in *Pressure Pipe* and *Solar Panels*. China recognizes that in the context of this proceeding, whether the Arbitrator uses the Section 129 net subsidy rates or the final determination rates will have only a marginal effect on the amount of concessions that China is permitted to suspend. But there is more at stake here than the ultimate retaliation amount. The requirement to bring measures into compliance by the expiry of the RPT is a legal obligation. The Arbitrator should not permit the United States as the respondent in this case to benefit from its failure to comply with that obligation.[33]

[28] See China's response to Arbitrator question No. 70; China's comment on the U.S. response to Arbitrator question No. 70.
[29] See China's response to Arbitrator question No. 1.
[30] China's comment on the U.S. response to Arbitrator question No. 101.
[31] See China's comment on the U.S. response to Arbitrator question No. 113.
[32] See China's written submission, Section III.A.
[33] See China's oral statement, para. 42.

B. The Arbitrator Should Reject the U.S. Proposal to Rely on the Incorrect Year-Prior

49. In addition to proposing incorrect rates for purposes of determining the counterfactual WTO-consistent CVD rates, the United States has relied on the incorrect year-prior for evaluating nullification and impairment in six cases. By definition, any year prior to the year in which duties were imposed cannot include months where duties were already in place.

50. The preliminary determinations in these particular investigations were not at issue in earlier stages of this dispute in respect of China's claims concerning alleged inputs for LTAR subsidies. However, it does not follow that the year-prior may include WTO-inconsistent preliminary duties imposed pursuant to those determinations. The preliminary duties in each of these cases were imposed as part of the same investigation that resulted in the imposition of final duties and both sets of duties suffer from the same legal flaws that the DSB identified in respect of the final determinations, i.e. the USDOC's findings in respect of the alleged "inputs for LTAR" subsidies.

51. In order to accurately estimate nullification and impairment, the effects of the WTO-inconsistent duties in the reference year must be compared to a prior year in which trade flows were not distorted by those duties. Using a year-prior when the preliminary duties were in place for any period of time cannot satisfy that basic requirement. It is irrelevant that the duty liability is not final. From the time that an importer pays a preliminary duty, it is at risk of losing the full amount of that duty. This fact necessarily affects the economic behaviour of exporters.[34]

52. China has shown that distortive effects occur as a result of the preliminary liability imposed on importers. Specifically, China has demonstrated that imports dropped significantly following the imposition of the preliminary duties and submitted economic papers confirming the distortive effects of preliminary duties. In order to ensure that these effects do not compromise the accuracy of the two-step approach, the year-prior must be a year in which neither preliminary nor final duties were in place.[35]

C. The Arbitrator Should Reject the Incorrect and Unreliable U.S. Proposed Year-Prior and Remedy-Year Data

53. Furthermore, the United States has adopted an inconsistent, non-transparent, and unreasonable approach to selecting the data for use in the two-step Armington model. Most of the U.S. proposed changes to the data submitted by China are transparent attempts to distort the market share held by Chinese exporters. A number of the U.S. proposals directly contradict the factual record developed by the USITC and ignore the timing of when the WTO-inconsistent duties were levied on China. Critically, the United States mistakenly insists that its confidential exporter-specific data is the only basis to compute nullification and impairment.

54. As China has stressed, the first place the Arbitrator should look for data in this case is the public reports of the USITC. Only if such data does not exist would the Arbitrator need to turn to verifiable outside sources.[36]

55. The U.S. data is not the best data available to the Arbitrator. The United States has submitted USCBP exporter-specific data for imports from China for the year-prior in four cases. In three of these cases, the parties disagree on the year-prior.[37] For these three cases, the U.S. estimates are inevitably under-inclusive because they do not account for exporters that exited the market following the imposition of the preliminary duties, as the USCBP does not track subject imports until the preliminary duties are imposed.

56. The United States has emphasized that the arbitrator in DS471 relied on exporter-specific USCBP data. This fact does not support use of that data in the present arbitration. The WTO violations

[34] See China's response to Arbitrator question No. 31.
[35] See China's response to Arbitrator question No. 107.
[36] See, e.g. China's response to Arbitrator question No. 57.
[37] See China's response to Arbitrator question No. 73, para. 21 (referring to *OCTG*, *Steel Cylinders*, and *Line Pipe*).

at issue in DS471 related to an exporter-specific duty adjustment. In contrast to DS471, the WTO violation at issue in this proceeding does not vary depending on the exporter.[38]

57. In addition to the year-prior issue, there are other serious problems with the exporter-specific USCBP data. In the case of *Solar Panels*, for example, the data submitted by the United States is demonstrably inaccurate. China has shown that the USCBP and U.S. Census figures submitted by the United States contain a significant amount of out-of-scope merchandise. In the case of *OCTG*, the United States proposes measuring imports by customs value. In the case of *Line Pipe*, the U.S. data again is measured using customs value, despite the fact that the USITC deemed landed duty value paid the correct metric to measure imports.[39]

58. The confidential USCBP data that the United States prefers to use for subject imports does not exist for imports from nonsubject suppliers. The public HTS trade data therefore must be the basis for calculating the size of imports from non-subject suppliers in the remedy year.[40]

59. China's approach to scaling the data in the remedy-year is reasonable. The GDP deflator approach used by China assumes that, on average, a particular product sector grows at the same rate as the overall economy. This assumption does not imply that only prices grow or that only quantities grow. Rather, it assumes that the value of the market (p times q) grows at the same rate as the overall economy. If prices grow faster than average, quantities will adjust. This is consistent with the law of demand.[41]

60. China would also reiterate that, in most cases, the number of years for which China applies the GDP deflator is small, which means that China's approach is unlikely to significantly distort the estimate of the total size of the market in the remedy year.[42]

VI. THE UNITED STATES HAS FAILED TO SATISFY ITS BURDEN OF PROOF

61. As China has explained, in proceedings under Article 22.6 of the DSU, the burden of proof is initially allocated to the respondent. As the respondent, the United States bears the burden of establishing a *prima facie* case that the level of suspension proposed by China is not "equivalent" to the level of nullification and impairment caused by the WTO-inconsistent CVD measures at issue.[43]

62. The United States is not relieved of this initial burden by the fact that China submitted a different nullification and impairment estimate in its methodology paper than in its request for authorization to suspend concessions submitted to the DSB. China's decision to revise its nullification and impairment estimate reflects its reasonable choice to adopt the same methodology as the arbitrators in DS464 and DS471.[44]

63. China submits that the United States has not met its initial burden of proof to establish the WTO-inconsistency of the level of suspension proposed by China. The United States has not established a *prima facie* case that the two-step Armington methodology adopted by prior arbitrators should be adjusted to account for AD duties, so-called "supply shocks", or any other tariff or non-tariff trade action. Nor has the United States established a *prima facie* case that the extreme assumption of the "Rule of One" should be applied to any of the cases at issue rather than the standard "Rule of Two", or that any of the verifiable public data submitted by China is inaccurate.[45]

64. China has submitted evidence and argument rebutting the U.S. assertions that its proposed adjustments to the two-step Armington methodology are necessary to correctly calibrate the model and revealing the critical flaws in the United States' year-prior and remedy-year data. Therefore, even assuming, *arguendo*, that the United States had met its initial burden, China has satisfied its burden of rebutting the U.S. *prima facie* case.

[38] See China's response to Arbitrator question No. 73, para. 23.
[39] See China's response to Arbitrator question No. 73, para. 22.
[40] See, e.g. China's response to Arbitrator question No. 24.
[41] See China's response to Arbitrator question No. 80.
[42] See, e.g. China's response to Arbitrator question No. 26.
[43] See China's oral statement, para. 11.
[44] See China's response to Arbitrator question No. 98.
[45] See, e.g. China's response to Arbitrator question No. 99.

VII. CONCLUSION

65. China has utilized a two-step approach to the Armington elasticities model similar to that implemented in DS464 and DS471 in order to estimate the amount of nullification or impairment caused by the U.S. failure to comply with its WTO obligations. China selected the two-step approach to the Armington model in order to accurately estimate the impact of the WTO-inconsistent countervailing duties at issue in this dispute on China's 2017 exports of the subject products to the United States. The U.S. proposed approach to calculating nullification and impairment in this dispute is not reasonable or verifiable. For the reasons set forth in its submissions, China respectfully requests that the Arbitrator grant China's request to suspend the application of concessions or other obligations under the covered agreements in the amount of **788.75 million.**

ANNEX C

DATA INPUTS AND CALCULATIONS OF THE ARBITRATOR

ANNEX C-1

DATA INPUTS FOR US MARKET VALUES IN THE YEARS-PRIOR[1]

Product	Year-prior	US shipments *(1,000 USD)*[*]	US imports from China *(1,000 USD)*[*]	US imports from the rest of the world *(1,000 USD)*[*]	Data sources
Pressure Pipe	2007	201,460	154,833	158,535	Annualized value of US shipments based on data from USITC Publication 4064 (Exhibit CHN-4). Value of import varieties from USITC Publication 4064 (Exhibit CHN-4).
Line Pipe	2007	757,701	153,881	315,411	Data for all three varieties from USITC Publication 4055 (Exhibit CHN-11).
Kitchen Shelving	2008	84,256	150,477	276,171	Data on value of US shipments provided by China based on US Census estimates for the primary 6-digit NAICS code adjusted to correct for out-of-scope products (Exhibit CHN-53). Values of import varieties based on midpoint estimates between the figures submitted by China (Exhibit CHN-53) and the figures submitted by the United States (Exhibit USA-61).
OCTG	2008	6,148,818	2,805,206	2,572,888	Data for all three varieties from USITC Publication 4124 (Exhibit CHN-23).
Wire Strand	2008	333,721	194,276	21,771	Data for all three varieties from USITC Publication 4162 (Exhibit CHN-28).
Seamless Pipe	2009	199,357	135,240	348,609	Data for all three varieties from USITC Publications 4190 (Exhibit CHN-32) and 4595 (Exhibit USA-16).
Print Graphics	2009	1,023,688	297,527	420,989	Data for all three varieties from USITC Publication 4192 (Exhibit CHN-50).
Aluminum Extrusions	2009	2,888,945	547,968	359,382	Data for all three varieties from USITC Publications 4229 (Exhibit CHN-36) and 4677 (Exhibit CHN-37).
Steel Cylinders	2010	[[***]]	23,009	2,821	Value of US shipments based on data from Norris Cylinders (Exhibit USA-116 (BCI)) provided by the United States.

[1] For the determination of the year-prior for each product and the relevant data, see section 3.4.1 of the Decision of the Arbitrator.
[*] The values in this table have been rounded to 1,000 USD for display purposes only. The actual values were used when implementing the Armington model under the two steps to estimate the level of nullification or impairment.

Product	Year-prior	US shipments *(1,000 USD)**	US imports from China *(1,000 USD)**	US imports from the rest of the world *(1,000 USD)**	Data sources
					Value of import varieties based on USITC's online DataWeb system provided by China (Exhibit CHN-74).
Solar Panels	2011	804,853	1,905,220	824,588	Value of US shipments from USITC Publication 4519 (Exhibit USA-21). Value of import varieties from USITC Publication 4360 (Exhibit CHN-45).

ANNEX C-2

DATA INPUTS FOR ELASTICITIES[1]

Product	Total demand elasticity	Domestic supply elasticity	Import supply elasticity China	Import supply elasticity RoW	Elasticity of substitution[2]	Data sources
Pressure Pipe	-0.500	7.500	10	10	4.500	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4064 (Exhibit CHN-4). Import supply elasticities provided by the parties.
Line Pipe	-0.375	4.000	10	10	3.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4055 (Exhibit CHN-11). Import supply elasticities provided by the parties.
Kitchen Shelving	-0.300	7.500	10	10	5.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4098 (Exhibit CHN-19). Import supply elasticities provided by the parties.
OCTG	-0.875	5.000	10	10	4.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 5090 (Exhibit USA-148). Import supply elasticities provided by the parties.
Wire Strand	-0.750	4.000	10	10	3.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4162 (Exhibit CHN-28). Import supply elasticities provided by the parties.
Seamless Pipe	-0.750	7.500	10	10	3.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4190 (Exhibit CHN-32). Import supply elasticities provided by the parties.
Print Graphics	-1.000	4.000	10	10	3.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4656

[1] Exhibits CHN-120 and USA-154. See section 3.4.3 of the Decision of the Arbitrator.

[2] The Elasticity if Substitution in this column refers to the macroelasticity (i.e. the elasticity between the domestic and imported varieties). For the Elasticity of Substitution among imported varieties, we use a value of the square root of two. See section 3.3.1 of the Decision.

Product	Total demand elasticity	Domestic supply elasticity	Import supply elasticity China	Import supply elasticity RoW	Elasticity of substitution[2]	Data sources
						(Exhibit CHN-51). Import supply elasticities provided by the parties.
Aluminum Extrusions	-0.375	4.000	10	10	5.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4677 (Exhibit CHN-37). Import supply elasticities provided by the parties.
Steel Cylinders	-0.500	7.500	10	10	4.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4328 (Exhibit CHN-41). Import supply elasticities provided by the parties.
Solar Panels	-0.875	5.500	10	10	4.000	Midpoint values for the demand elasticity, domestic supply elasticity and elasticity of substitution from USITC Publication 4874 (Exhibit CHN-46). Import supply elasticities provided by the parties.

ANNEX C-3

DATA INPUTS FOR THE WTO-INCONSISTENT CVD RATES AND THE WTO-CONSISTENT CVD RATES[1]

Product	Respondents in the relevant CVD investigations	WTO-inconsistent CVD rates	WTO-consistent CVD rates	Data sources
Pressure Pipe	Froch Enterprise Co. Ltd.	299.16	298.8	WTO-inconsistent CVD rates based on records of CVD investigation on Circular Welded Austenitic Stainless Pressure Pipe from the People's Republic of China (Exhibits CHN-1 to 3) and on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided jointly by the parties (Exhibits CHN-100 and USA-138).
	Winner Companies: Winner Stainless Tube Co., Ltd., Winner Steel Products (Guangzhou), and Winner Machinery Enterprise Company Ltd.	1.10	0.74	
	All Others	1.10	0.74	
Line Pipe	Huludao Companies: Huludao Seven Star Group, Huludao Steel Pipe Industrial Co. Ltd., and Huludao Bohai Oil Pipe Industrial Co. Ltd.	32.65	1.37	WTO-inconsistent CVD rates based on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided by the United States (Exhibit USA-138).
	Liaoning Northern Steel Pipe Co., Ltd.	40.05	6.35	
	All Others	36.35	3.86	
Kitchen Shelving	Asber Enterprises	170.82	159.06	WTO-inconsistent CVD rates based on records of CVD Investigation on Certain Kitchen Appliance Shelving and Rack from the People's Republic of China (Exhibits CHN-16 to 18) and on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1).
	Guandong Wire King	13.30	1.54	
	Non-cooperative companies: Changzhou Yixiong Metal Products; Foshan Winleader Metal Products;	149.91	138.15	

[1] As explained in para. 3.25 of the Decision of the Arbitrator, these CVD rates correspond to the ones provided by the United States in Exhibit USA-138. For an explanation of the calculation of the WTO-consistent CVD rates see para. 3.11 of the Decision of the Arbitrator.

Product	Respondents in the relevant CVD investigations	WTO-inconsistent CVD rates	WTO-consistent CVD rates	Data sources
	Kingsun Enterprises Group; Yuyao Hanjun Metal; Zhongshan Iwatani Co.			WTO-consistent CVD rates provided jointly by the parties (Exhibits CHN-100 and USA-138).
	All Others	13.30	1.54	
OCTG	Jiangsu Changbao Steel Tube (Changbao)	12.46	0.78	WTO-inconsistent CVD rates based on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided by the United States (Exhibit USA-138).
	Tianjin Pipe (TPCO)	7.71	3.23	
	Wuxi Seamless Oil Pipe (Wuxi)	14.95	3.98	
	Zhejiang Jianli (Jianli)	15.78	0.30	
	All Others	12.26	2.07	
Wire Strand	Fasten Group	9.42	2.83	WTO-inconsistent CVD rates based on records of CVD Investigation on Pre-Stressed Concrete Steel Wire Strand from the People's Republic of China (Exhibits CHN-25 to 27) and on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided jointly by the parties (Exhibits CHN-100 and USA-138).
	Xinhua Metal Products	45.85	30.54	
	All Others	27.64	16.69	
Seamless Pipe	Hengyang Steel, Hengyang Valin Steel, Hengyang Valin MPM, Xigang Seamless Steel (Hengyang)	49.56	47.05	WTO-inconsistent CVD rates based on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided by the United States (Exhibit USA-138).
	Tianjin Pipe (TPCO)	8.24	3.47	
	All Others	28.90	25.26	

Product	Respondents in the relevant CVD investigations	WTO-inconsistent CVD rates	WTO-consistent CVD rates	Data sources
Print Graphics	Gold Companies: Gold East Paper (Jiangsu) Co., Ltd, Gold Huasheng Paper Co., Ltd., Gold East Trading (Hong Kong) Company Ltd., Ningbo Zhonghua Paper Co., Ltd., and Ningbo Asia Pulp & Paper Co., Ltd.	19.46	18.66	WTO-inconsistent CVD rates based on records of CVD Investigation on Certain Coated Paper Suitable for High-Quality Print Graphics from the People's Republic of China (Exhibits CHN-47 to 49) and on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided jointly by the parties (Exhibits CHN-100 and USA-138).
	Sun Paper Companies: Shandong Sun Paper Industry Joint Stock Co., Ltd. and Yanzhou Tianzhang Paper Industry Co., Ltd.	202.84	202.04	
	All Others	19.46	18.66	
Aluminum Extrusions	Dragonluxe Limited	374.15	371.6	WTO-inconsistent CVD rates based on records of CVD Investigation on Aluminum Extrusions from the People's Republic of China (Exhibits CHN-33 to 35 and USA-3 and 4) and on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided jointly by the parties (Exhibits CHN-100 and USA-138).
	Miland Luck Limited	374.15	371.6	
	Liaoyang Zhongwang Group	374.15	371.6	
	Zhongya Companies	4.89	3.27	
	Guang Ya Companies	9.94	3.88	
	All Others	7.37	3.57	
Steel Cylinders	Tianhai Industry (BTIC)	15.81	1.47	WTO-inconsistent CVD rates based on records of CVD Investigation on High Pressure Steel Cylinders from the People's Republic of China (Exhibits CHN-38 to 40) and on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided jointly by the parties (Exhibits CHN-100 and USA-138).
	All Others	15.81	1.47	

Product	Respondents in the relevant CVD investigations	WTO-inconsistent CVD rates	WTO-consistent CVD rates	Data sources
Solar Panels	Trina Solar	15.97	14.83	WTO-inconsistent CVD rates based on records of CVD Investigation on Crystalline Silicon Photovoltaic Cells from the People's Republic of China (Exhibits CHN-42 to 44) and on Implementation of Determinations Pursuant to Section 129 of the Uruguay Round Agreements Act, 81 Fed. Reg. 37180, June 9, 2016 (Exhibit USA-1). WTO-consistent CVD rates provided jointly by the parties (Exhibits CHN-100 and USA-138).
	Wuxi Suntech	14.78	14.49	
	All Others	15.24	14.62	

ANNEX C-4

DATA INPUTS FOR US MARKET VALUES IN 2017

Product	Total US market (1,000 USD)	US shipments *(1,000 USD)*	US imports from China *(1,000 USD)*	US imports from the rest of the world *(1,000 USD)*	Data sources
Pressure Pipe	[[***]]	89,091	[[***]]	156,207	Value of US shipments estimated by applying the growth rate of the primary 6-digit NAICS industry associated with Pressure Pipe (Annex C-5) between 2015 and 2017 (Annex C-6) to the 2015 value of US shipments reported in USITC publication 4644 (Exhibit CHN-5 and Annex C-8). Data on the value of US imports from China provided by the United States from USCBP data (Exhibit USA-66(BCI)). Data on the value of US imports from the rest of the world provided by the United States based on HTS aggregated data from the US Census Bureau (Exhibit USA-65) scaled using average ratio of subject to total HTSUS imports over years 2007-2009 based on USITC Publication 4064 (Exhibit CHN-4).
Line Pipe	[[***]]	542,483	[[***]]	605,500	Data on value of US shipments provided by the United States estimated by multiplying the average US price by the 2017 total production quantity of welded line pipe multiplied by the share of all line pipe less than 16 inches sales in total line pipe sales, based on data from Preston Pipe (Exhibits USA-60 and USA-136 (BCI)). Data on value of US imports from China provided by the United States from USCBP data (Exhibit USA-64 (BCI)). Data on value of US imports from the rest of the world provided by the United States based on HTSUS aggregated data from US Census (Exhibit USA-59).
Kitchen Shelving	[[***]]	278,363	[[***]]	412,630	Value of US shipments estimated by applying the growth rate of the primary 5-digit NAICS industry associated with Kitchen Shelving (Annex C-5) between 2016 and 2017 (Annex C-6) to 2016 sales estimates for the primary 6-digit NAICS industry associated with Kitchen Shelving (Annex C-5) from the US Census' Annual Survey of Manufactures 2016 and correcting for out-of-scope products on the basis of data from USITC Dataweb (see Exhibit CHN-43 and Annexes C-7 and C-8). Data on the value of US imports from China provided by the United States from USCBP data (Exhibit USA-66(BCI)). Value of US imports from the rest of the world estimated by applying an estimate of the share of

Product	Total US market (1,000 USD)	US shipments *(1,000 USD)*	US imports from China *(1,000 USD)*	US imports from the rest of the world *(1,000 USD)*	Data sources
					subject products within HTSUS basket categories to aggregate HTSUS imports under these categories. The subject product share is estimated using the year-prior midpoint estimate divided by total imports from the rest of the world under the basket categories in the year-prior (Annex C-7, Exhibits CHN-120 and USA-155(BCI)).
OCTG	6,356,019,000	3,248,604	3,107,415		Value of US shipments estimated by adjusting the figure on Table I-11/III-11 in USITC Publication 5090 (Exhibit USA-148) to include the incremental value of heat-treating imported unfinished OCTG. Value of total US imports from USITC Publication 5090 (Exhibit USA-148).
Wire Strand	[[***]]	201,603	[[***]]	91,619	Data on value of US shipments provided by the United States estimated by using data from the World Steel Association on wire rod production, scaled by the average 2007-2009 wire rod to wire strand production ratio based on data from the World Steel Association for wire rod and USITC Publication 4569 (Exhibit USA-25) for wire strand, and the trend in the unit price of imported wire strand varieties taken from USITC DataWeb (Exhibit USA-61). Data on the value of US imports from China provided by the United States from USCBP data (Exhibit USA-66(BCI)). Data on the value of US imports from the rest of the world provided by the United States based on HTS aggregated data from the US Census Bureau (Exhibit USA-65).
Seamless Pipe	[[***]]	294,963	[[***]]	390,161	Value of US shipments estimated by applying the growth rate of the primary 6-digit NAICS industry associated with Seamless Pipe (Annex C-5) between 2009 and 2017 (see Annex C-6) to the 2009 value of US shipments reported in USITC publication 4190 (Exhibit CHN-32) and USITC Publication 4595 (Exhibit USA-16 and Annex C-8). Data on the value of US imports from China provided by the United States from USCBP data (Exhibit USA-64 (BCI)). Data on the value of US imports from the rest of the world provided by the United States based on adjusted HTSUS aggregated data from US Census Bureau (Exhibit USA-59) and USITC Publication 4595 (Exhibit USA-16).

Product	Total US market (1,000 USD)	US shipments *(1,000 USD)*	US imports from China *(1,000 USD)*	US imports from the rest of the world *(1,000 USD)*	Data sources
Print Graphics	[[***]]	1,100,263	[[***]]	961,770	Value of US shipments estimated by applying the growth rate of the primary 6-digit NAICS industry associated with Print Graphics (Annex C-5) between 2015 and 2017 (Annex C-6) to the the 2015 value of US shipments reported in USITC Publication 4656 (Exhibit CHN-51 and Annex C-8). Data on the value of US imports from China provided by the United States from USCBP data (Exhibit USA-64 (BCI)). Value of US imports from the rest of the world estimated by using adjusted HTSUS aggregated data from US Census (Exhibit USA-59), scaled using the average ratio over the years 2011-2015 of subject to total HTSUS imports based on USITC Publication 4656 (Exhibit CHN-51 and Annexes C-7 and C-8).
Aluminum Extrusions	[[***]]	5,514,091	[[***]]	1,077,900	Value of US shipments estimated by applying annual real growth rates provided by the United States (Exhibit USA-149 (BCI)) and a PPI-based inflation index provided by China (Exhibit CHN-103) to the 2015 value of US shipments reported in USITC Publication 4677 (Exhibit CHN-37). Data on the value of US imports from China provided by the United States from USCBP data (Exhibit USA-62 (BCI)). Data on the value of US imports from the rest of the world provided by the United States based on HTSUS aggregated data from US Census (Exhibit USA-63).
Steel Cylinders	[[***]]	[[***]]	[[***]]	5,200	Value of US shipments based on data from Norris Cylinders (Exhibit USA-116(BCI)) provided by the United States. Data on the value of US imports from China provided by the United States from USCBP data (Exhibit USA-64(BCI)). Data on the value of US imports from the rest of the world provided by the United States based on HTS aggregated data from the US Census Bureau (Exhibit USA-59).
Solar Panels	4,055,230,000	259,535	441,381	3,354,314	Value of US shipments estimated by calculating a 6.4% share of the total market relying on 2017 import varieties figures from USITC Publication 4874 (Exhibit CHN-46). Value of US imports from China from USITC Publication 4874 (Exhibit CHN-46). Value of US imports from the rest of the world from USITC Publication 4874 (Exhibit CHN-46).

ANNEX C-5

PRIMARY NAICS CODES FOR PRESSURE PIPE, KITCHEN SHELVING, SEAMLESS PIPE, AND PRINT GRAPHICS

Product	HTSUS codes	Corresponding NAICS code	Primary NAICS code	Data sources
Pressure Pipe	7306405005	331110	331110	HTSUS codes as reported in section "Tariff treatment" (p. I-8) of *U.S. International Trade Commission, Welded Stainless Steel Pressure Pipe from India, USITC Publication No. 4644, November 2016* (Exhibit CHN-5). HTSUS-NAICS concordance by *Justin R. Pierce and Peter K. Schott (2012), A Concordance Between Ten-Digit U.S. Harmonized System Codes and SIC/NAICS Product Classes and Industries, Journal of Economic and Social Measurement 37(1-2):61-96* available at https://sompks4.github.io/sub_data.html.
	7306405040	331110		
	7306405062	331110		
	7306405064	331110		
	7306405085	331110		
	7306401010	331110		
	7306401015	331110		
	7306405042	331110		
	7306405044	331110		
	7306405080	331110		
	7306405090	331110		
Kitchen Shelving	N/A	N/A	335221	Primary NAICS code as reported by China in Exhibit CHN-53.

Product	HTSUS codes	Corresponding NAICS code	Primary NAICS code	Data sources
Seamless Pipe	7304191020	331110	331110	HTSUS codes as reported in section "Tariff treatment" (p. I-9 and I-10) of *U.S. International Trade Commission, Certain Seamless Carbon and Alloy Steel Standard, Line, and Pressure Pipe from China, USITC Publication No. 4190, November 2010* (Exhibit CHN-32). HTSUS-NAICS concordance by *Justin R. Pierce and Peter K. Schott (2012), A Concordance Between Ten-Digit U.S. Harmonized System Codes and SIC/NAICS Product Classes and Industries, Journal of Economic and Social Measurement 37(1-2):61-96* available at https://sompks4.github.io/sub_data.html.
	7304191030	331110		
	7304191045	331110		
	7304191060	331110		
	7304195020	331110		
	7304195050	331110		
	7304313000	331110		
	7304316050	331110		
	7304390016	331110		
	7304390020	331110		
	7304390024	331110		
	7304390028	331110		
	7304390032	331110		
	7304390036	331110		

Product	HTSUS codes	Corresponding NAICS code	Primary NAICS code	Data sources
	7304390040	331110		
	7304390044	331110		
	7304390048	331110		
	7304390052	331110		
	7304390056	331110		
	7304390062	331110		
	7304390068	331110		
	7304390072	331110		
	7304515005	331110		
	7304515060	331110		
	7304596000	331110		
	7304598010	331110		
	7304598015	331110		
	7304598020	331110		

Product	HTSUS codes	Corresponding NAICS code	Primary NAICS code	Data sources
	7304598025	331110		
	7304598030	331110		
	7304598035	331110		
	7304598040	331110		
	7304598045	331110		
	7304598050	331110		
	7304598055	331110		
	7304598060	331110		
	7304598065	331110		
	7304598070	331110		
Print Graphics	4810141900	322121	322121	HTSUS codes as reported in section "Tariff treatment" (p. I-20) of *U.S. International Trade Commission, Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses from China and Indonesia, USITC Publication No. 4656, December 2016* (Exhibit CHN-51). HTSUS-NAICS concordance by *Justin R. Pierce and Peter K. Schott (2012), A Concordance Between Ten-Digit U.S. Harmonized System Codes and SIC/NAICS Product Classes and Industries, Journal*
	4810142010	322130		
	4810142010	322121		
	4810142090	322130		

Product	HTSUS codes	Corresponding NAICS code	Primary NAICS code	Data sources
	4810142090	322121		*of Economic and Social Measurement 37(1-2):61-96* available at https://sompks4.github.io/sub_data.html. No concordance available for five HTSUS codes. Primary NAICS codes identified based on most common concordance.
	4810145000	322299		
	4810146000	322121		
	4810191100	322121		
	4810191900	322121		
	4810192010	322121		
	4810192010	322130		
	4810192090	322121		
	4810192090	322130		
	4810221000	322121		
	4810226000	322121		
	4810291000	322121		
	4810295000	322299		
	4810296000	322121		

Product	HTSUS codes	Corresponding NAICS code	Primary NAICS code	Data sources
	4810921200	322121		
	4810921200	322130		
	4810921400	322121		
	4810921400	322130		

ANNEX C-6

SCALING INDEX FOR DOMESTIC VARIETIES OF PRESSURE PIPE, KITCHEN SHELVING, SEAMLESS PIPE, AND PRINT GRAPHICS

Product	Primary NAICS code	Latest year with product-level data availability	Sales in latest year (in '000 USD) (A)	Exports in latest year (in '000 USD) (B)	Domestic shipments in latest year (in '000 USD) (C=A-B)	Sales 2017 (in '000 USD) (D)	Exports 2017 (in '000 USD) (E)	Domestic shipments 2017 (in '000 USD) (F=D-E)	Scaling Index[1] (G=F/C)	Data sources
Pressure Pipe	331110	2015	84,342,031	12,806,457	71,535,573	87,557,262	13,052,125	74,505,137	1.04	Primary NAICS code based on Annex C-5. NAICS-level sales estimates from US Census' Annual Survey of Manufactures 2016 and Economic Census 2017 available at https://www.census.gov/data/tables/time-series/econ/asm/2013-2016-asm.html ("2016 Value of Product Shipments") and https://www.census.gov/data/tables/2017/econ/economic-census/naics-sector-31-33.html ("EC1700BASIC"). Export data from USITC Dataweb for Domestic exports, FAS Value available at https://dataweb.usitc.gov/.
Kitchen Shelving	33522[2]	2016	18,014,705[3]	2,817,671	15,197,034	18,936,670	2,826,241	16,110,429	1.06	Primary NAICS code based on Annex C-5. NAICS-level sales estimates from US Census' Annual Survey of Manufactures 2016 and Economic Census 2017 available at https://www.census.gov/data/tables/time-series/econ/asm/2013-2016-asm.html ("2016 Value of Product Shipments") and https://www.census.gov/data/tables/2017/econ/economic-census/naics-sector-31-33.html ("EC1700BASIC").

[1] Figures rounded to the second decimal for representation only.
[2] Data for Kitchen Shelving only available at 5-digit NAICS level in Economic Census 2017.
[3] 5-digit NAICS level sales generated by summing across 6-digit NAICS level codes pertaining to 5-digit NAICS code 33522 (335221, 335222, 335224, 335228).

										Export data from USITC Dataweb for Domestic exports, FAS Value available at https://dataweb.usitc.gov/.
Seamless Pipe	331110[4]	2009	60,984,598	10,628,749	50,355,849	87,557,262	13,052,125	74,505,137	1.48	Primary NAICS code based on Annex C-5. NAICS-level sales estimates from US Census' Annual Survey of Manufactures 2010 and Economic Census 2017 available at https://www.census.gov/data/tables/time-series/econ/asm/2008-2011-asm.html ("2010 Value of Product Shipments") and https://www.census.gov/data/tables/2017/econ/economic-census/naics-sector-31-33.html ("EC1700BASIC"). Export data from USITC Dataweb for Domestic exports, FAS Value available at https://dataweb.usitc.gov/.
Print Graphics	322121	2015	40,359,975	2,456,397	37,903,578	36,968,156	2,326,820	34,641,336	0.91	Primary NAICS code based on Annex C-5. NAICS-level sales estimates from US Census' Annual Survey of Manufactures 2016 and Economic Census 2017 available at https://www.census.gov/data/tables/time-series/econ/asm/2013-2016-asm.html ("2016 Value of Product Shipments") and https://www.census.gov/data/tables/2017/econ/economic-census/naics-sector-31-33.html ("EC1700BASIC"). Export data from USITC Dataweb for Domestic exports, FAS Value available at https://dataweb.usitc.gov/.

[4] Under the 2007 version of NAICS which was effective in 2009, code 331110 corresponds to code 331111 (see 2007 NAICS to 2012 NAICS concordance available at https://www.census.gov/naics/?68967). In the US Census' Annual Survey of Manufactures 2010 the relevant data is thus listed under the code 331111.

ANNEX C-7

SCOPE ADJUSTMENTS FOR SELECTED VARIETIES OF KITCHEN SHELVING AND PRINT GRAPHICS

Product	Variety	Primary NAICS code	HTSUS codes linked to primary NAICS code[1]	Imports under all HTSUS codes linked to primary NAICS code in 2017 (A)	Subject Imports linked to primary NAICS code in 2017 (B)	Scope adjustment[2] (C=B/A)	Data sources
Kitchen Shelving	Domestic	335221	7321111030, 7321111060, 7321113010, 7321113020, 7321113050, 7321116000, 7321120000, 7321190020, 7321190040, 7321190060, 7321190080, 7321901000, 7321902000, 7321904000, **7321905000**, **7321906040**, **7321906060**, 7418100021 7418100051, 8516500030, 8516500060, 8516500090, 8516604060, 8516604070, 8516604074, 8516604078, 8516604082, 8516604086, 8516903500, 8516905000, 8516905500, 8516906500, 8516907500, **8516908010, 8516908050**	USD 5,216,804,617	USD 328,243,066	0.06	Primary NAICS code based on Annex C-5. Subject codes based on Exhibits CHN-53 and USA-61 defining the statistical reporting numbers under which Kitchen Shelving is classifiable. HTS codes linked to primary codes based on HTSUS-NAICS concordance by *Justin R. Pierce and Peter K. Schott (2012), A Concordance Between Ten-Digit U.S. Harmonized System Codes and SIC/NAICS Product Classes and Industries, Journal of Economic and Social Measurement 37(1-2):61-96* available at https://sompks4.github.io/sub_data.html. Import data from USITC Dataweb for General Imports available at https://dataweb.usitc.gov/.

[1] Subject imports, i.e. codes referenced in Exhibit CHN-53, in bold. Codes with zero trade flows removed.
[2] Figures rounded to the second decimal for representation only.

Product	Variety	Mid-point between parties' estimates for imports from the RoW in the year-prior (A)	Imports under HTSUS codes under which the product is classifiable in the year-prior (B)	Scope adjustment (Share of subject imports in HTSUS codes)[3] (C=A/B)	Data sources
Kitchen Shelving	Imports from the RoW	USD 276,170,928	USD 547,341,857	0.50	HTSUS codes under which Kitchen Shelving is classifiable based on Exhibits CHN-53 and USA-61. Import data from USITC Dataweb for General Imports available at https://dataweb.usitc.gov/.

Product	Variety	Imports under HTSUS codes under which the product is classifiable (in USD '000)[4] (A)					Subject imports (in USD '000)[5] (B)					Scope adjustment[6] (C)[7]	Data sources
		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015		
Print Graphics	Imports from the RoW	1,690,265	1,154,087	1,139,722	1,100,101	1,180,584	1,196,763	1,136,151	1,139,356	1,094,453	1,066,559	0.92	HTSUS codes under which Print Graphics is classifiable as reported in section "Tariff treatment" (p. I-20) of *U.S. International Trade Commission, Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses from China and Indonesia, USITC Publication No. 4656, December 2016* (Exhibit CHN-51). Subject imports as reported in Table I-9

[3] Figures rounded to the second decimal for representation only.
[4] Figures rounded for representation only.
[5] Figures rounded for representation only.
[6] Figures rounded to the second decimal for representation only.
[7] The scope adjustment is obtained by taking the 2011-2015 average across the share of subject imports in total imports under the HTSUS codes under which Print Graphics is classifiable (C=(B2011/A2011+B2012/A2012+B2013/A2013+B2014/A2014+B2015/A2015)/5).

Product	Variety	Imports under HTSUS codes under which the product is classifiable (in USD '000)[4] (A)					Subject imports (in USD '000)[5] (B)					Scope adjustment[6] (C)[7]	Data sources
		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015		
													(p. I-36) of *U.S. International Trade Commission, Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses from China and Indonesia, USITC Publication No. 4656, December 2016* (Exhibit CHN-51). HTSUS Import data from USITC Dataweb for General Imports available at https://dataweb.usitc.gov/.

ANNEX C-8

REMEDY YEAR FIGURES FOR SELECTED VARIETIES OF PRESSURE PIPE, KITCHEN SHELVING, SEAMLESS PIPE, AND PRINT GRAPHICS

Product	Variety	Latest year with product-level data availability[1]	Latest available estimate (A)	Scaling index[2] (B)	Scope adjustment[3] (C)	Remedy year figure[4] (D=A*B*C)	Data sources
Pressure Pipe	Domestic	2015	USD 85,540,000	1.04	N/A	USD 89,090,911	Latest available estimate from Table IV-3 (p. IV-8) in U.S. International Trade Commission, *Welded Stainless Steel Pressure Pipe from India*, USITC Publication No. 4644, November 2016 (Exhibit CHN-5). Scaling index based on Annex C-6.
Kitchen Shelving	Domestic	2016	USD 4,173,231,241	1.06	0.06	USD 278,363,000	Latest available estimate from US Census' Annual Survey of Manufactures 2016 available at https://www.census.gov/data/tables/time-series/econ/asm/2013-2016-asm.html ("2016 Value of Product Shipments") for Primary NAICS code 335221 (see Annex C-5). Scaling index based on Annex C-6. Scope Adjustment based on Annex C-7.

[1] In the case of the domestic variety of Kitchen Shelving, we rely on industry-level data since no product-level data is available.
[2] Figures rounded to the second decimal for representation only.
[3] Figures rounded to the second decimal for representation only.
[4] Figures rounded to closest USD '000 for reasons of consistency across products.

Product	Variety	Latest year with product-level data availability[1]	Latest available estimate (A)	Scaling index[2] (B)	Scope adjustment[3] (C)	Remedy year figure[4] (D=A*B*C)	Data sources
Kitchen Shelving	Imports from RoW	2017	USD 817,790,284	N/A	0.50	USD 412,630,000	Latest available estimate based on HTSUS import data from USITC Dataweb for General Imports available at https://dataweb.usitc.gov/ for HTSUS codes under which Kitchen Shelving is classifiable based on Exhibits CHN-53 and USA-61. Scope Adjustment based on Annex C-7.
Seamless Pipe	Domestic	2009	USD 199,357,000	1.48	N/A	USD 294,963,000	Latest available estimate from Table C-4 (p. C-6) in U.S. International Trade Commission, *Certain Seamless Carbon and Alloy Steel Standard, Line, and Pressure Pipe from China*, USITC Publication No. 4190, November 2010 (Exhibit CHN-32). Scaling index based on Annex C-6.
Print Graphics	Domestic	2015	USD 1,203,877,000	0.91	N/A	USD 1,100,263,085	Latest available estimate from Table I-9 (p. I-36) in U.S. International Trade Commission, *Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses from China and Indonesia*, USITC Publication No. 4656, December 2016 (Exhibit CHN-51). Scaling index based on Annex C-6.

Product	Variety	Latest year with product-level data availability[1]	Latest available estimate (A)	Scaling index[2] (B)	Scope adjustment[3] (C)	Remedy year figure[4] (D=A*B*C)	Data sources
Print Graphics	Imports from RoW	2017	USD 1,047,576,114	N/A	0.92	USD 961,770,000	Latest available estimate based on HTSUS import data from USITC Dataweb for General Imports available at https://dataweb.usitc.gov/ for HTSUS codes under which Print Graphics is classifiable as reported in section "Tariff treatment" (p. I-20) of *U.S. International Trade Commission, Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses from China and Indonesia, USITC Publication No. 4656, December 2016* (Exhibit CHN-51). Scope Adjustment based on Annex C-7.

ANNEX C-9

GAMS CODE OF THE TWO-STEP ARMINGTON MODEL[1]

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$Title partial equilibrium Armington trade model for DS437

*Specify the default case (i.e. product subject to CVD order)
$if not set case $set case 931

Set case cases /
931 "C-570-931 Pressure Pipe",
936 "C-570-936 Line Pipe",
942 "C-570-942 Kitchen Shelving",
944 "C-570-944 OCTG",
946 "C-570-946 Wire Strand",
957 "C-570-957 Seamless Pipe",
959 "C-570-959 Print Graphics",
968 "C-570-968 Aluminum Extrusions",
978 "C-570-978 Steel Cylinders",
980 "C-570-980 Solar Panels"
/,

item data items /
USA "USA shipments year prior",
CHN "CHN shipments year prior",
ROW "ROW shipments year prior",
IMP "Total imports year prior",
MKT "Total market year prior",
theta_lo "Demand elasticity lower bound",
theta_up "Demand elasticity upper bound",
eps_usa_lo "Supply elasticity USA lower bound",
eps_usa_up "Supply elasticity USA upper bound",
sig_lo "Substitution elasticity lower bound",
sig_up "Substitution elasticity upper bound",
eps_sub "Supply elasticity subject imports",
eps_chn "Supply elasticity Chinese imports",
eps_row "Supply elasticity Other imports",
MKT2017 "Total market size remedy year",
tau_ocvd "Original CVD rate",
tau_LTAR "LTAR rate",
tau_cons "WTO Consistent CVD rate"
/;

Parameter raw(case,item);
$gdxin data[2]
$loaddc raw

Scalar scale "Rescale the value data from $ to $M" /1e-6/;

Set r(*) supply regions /USA,CHN,ROW/
usa(r) usa region /usa/;

Parameter
psi(r) supply quantity for calibration
phi total quantity demanded for calibration
theta demand elasticity
epsilon(r) supply elasticity for region r
sigma_1 elasticity of substitution dm
sigma_2 elasticity of substitution mm (import nest)
;

* Initial calibration is to the year-prior data. Quantity units
* are chosen such that year-prior prices are one.
psi("USA")= raw("%case%","USA") *scale;
psi("CHN")= raw("%case%","CHN") *scale;
psi("ROW")= raw("%case%","ROW") *scale;
```

[1] The code is based on Exhibit CHN-54
[2] See Annex C-10 for the data inputs to the model.

```
phi = raw("%case%","MKT") *scale;

display psi,phi;


* Elasticities: Ranges converted to averages by default
theta = -(raw("%case%","theta_lo")+raw("%case%","theta_up"))/2;
*theta = -1;
* [NB] minus sign in front of theta added since theta is positive in data file
sigma_1 =(raw("%case%","sig_lo")+raw("%case%","sig_up"))/2;
* Elasticity of substitution among imports (sigma_2) set to sqrt(2)*sigma_1 (see section 3.3.1)
sigma_2 = sqrt(2) * sigma_1;
epsilon("USA") =(raw("%case%","eps_usa_lo")+raw("%case%","eps_usa_up"))/2;
epsilon("CHN") =raw("%case%","eps_chn");
epsilon("ROW") =raw("%case%","eps_row");

*NB: The data include a supply elasticity for subject imports, "eps_sub", but
* these are Chinese imports for our purposes. Regardless, the values of
* these elasticities are all the same -- 10.



* These are data used to setup the counterfactuals
Parameter
a1 total quantity demanded in 2017
t_ocvd Original CVD rate,
t_LTAR LTAR rate (WTO inconsistent duty),
t_cons WTO Consistent CVD rate;

a1 = raw("%case%","MKT2017" )*scale;
t_ocvd = raw("%case%","tau_ocvd")/100;
t_LTAR = raw("%case%","tau_LTAR")/100;
t_cons = raw("%case%","tau_cons")/100;

Parameter
tau(r) duty rate on goods from region r
alpha(*) calibrated share of region r variety
beta(r) share of region r variety in imports;

tau(r) = 0;
alpha(r)=psi(r)/phi;
alpha("M")=(1-alpha("USA"));
beta(r)$(not usa(r)) = (alpha(r)/sum(r.local$(not usa(r)),alpha(r)));

*Perform some data checks
Abort$(round(sum(r,alpha(r)),7) ne 1) "Market shares do not sum to one";
Abort$(round(sum(r,beta(r)),7) ne 1) "Import market shares do not sum to one";
Abort$(round(sum(r,psi(r))-phi,7) ne 0) "Total value of supply not equal to demand";
Abort$(round(sum(r,psi(r))-psi("USA")-raw("%case%","IMP")*scale,7) ne 0) "Component supplies inconsistent
with imports";


* Setup the model (see China's Methodology Paper, Section III.C.1, for the model in text form)

Positive Variables

A Armington activity index
P Price index
PX(r) Net-of-tariff price of variety from region r
X(r) Index on supply quantity;

Equations
Eq_1 Aggregate demand
Eq_2 Armington technology (dual representation)
Eq_3(r) Market clearance for regional varieties
Eq_4(r) Supply functions;

*Clean up the equations by using a macro for the import price index.
$macro PMM ((sum(r.local$(not usa(r)),beta(r)*((1+tau(r))*PX(r))**(1-sigma_2)))**(1/(1-sigma_2)))
```

```
* Equation (1)
Eq_1.. A - phi*P**theta =g= 0 ;

* Equation (2) (oriented properly for MCP: MargCost-MargBenefit ge 0)
Eq_2.. (alpha("usa")*PX("usa")**(1-sigma_1) + alpha("M")*PMM**(1-sigma_1))**(1/(1-sigma_1)) -  P =g=
0;


* Equations (3), (4), and (5)
Eq_3(r).. X(r)
- (alpha("M")*beta(r) * A * (P/PMM)**sigma_1 *(PMM/((1+tau(r))*PX(r)))**sigma_2)$(not usa(r))
- (alpha(r)* A * ( P/((1+tau(r))*PX(r)))**sigma_1 )$(usa(r))
=g= 0;

* Equations (6), (7), and (8) (oriented properly for MCP: Supply-Demand ge 0)
Eq_4(r).. psi(r)*PX(r)**epsilon(r) - X(r) =g= 0;


Model PEARM /Eq_1.P,Eq_2.A,Eq_3.PX,Eq_4.X/;


* Set the initial level values and check the benchmark:
A.l =phi;
X.l(r) =psi(r);
P.l =1;
PX.l(r) =1;

PEARM.iterlim=0;
Solve PEARM using mcp;
Abort$(PEARM.objval gt 1e-6) "Initial year-prior calibration failed";



* Generate intermediate reports
* Domain sets for report indexing
Set equ equilibrium /
pybmk "year prior benchmark",
pyscn "year prior scenario (duties imposed)",
rybmk "remedy year benchmark",
ryscn "remedy year scenario (duties removed)"/
acct Account /
revenue "revenue by market",
duty_pmt "duty payments",
share "gross of duty share",
totalmkt "total market size (value gross of duties)"
"NI_$M" "Nullification or Impairment"/
;



Parameter report(case,*,equ,acct,*) summary report
vchk value check;



* Write the actual reporting assignments out to a file that can be
* recalled for different solutions
$onechov > rpt.gms
report("%case%","no","%1","revenue" ,r) = X.l(r)*PX.l(r);
report("%case%","no","%1","duty_pmt",r) = tau(r)*X.l(r)*PX.l(r);
report("%case%","no","%1","revenue","Total_gross_of_duty") = sum(r,(1+tau(r))*X.l(r)*PX.l(r));
report("%case%","no","%1","share",r) = (1+tau(r))*X.l(r)*PX.l(r)/(P.l*A.l);
vchk = P.l*A.l - report("%case%","no","%1","revenue","Total_gross_of_duty");
Abort$(round(vchk,5)) "Value check failed: equilibrium=%1";
Abort$(round(sum(r,report("%case%","no","%1","share",r)),5) ne 1) "Report shares do not sum to one";
$offecho

* Report the year-prior benchmark (in parameter report)
$batinclude rpt pybmk
```

```
*--------------------
* Equilibrium = pyscn
* Impose the duties to generate the year-prior counterfactual

tau("chn") = t_ocvd;

PEARM.iterlim=1000;
Solve PEARM using mcp;

* Report the year-prior counterfactual (in parameter report)
$batinclude rpt pyscn

*--------------------
*--------------------

* Equilibrium = rybmk (remedy year hypothetical benchmark)
* Now recalibrate the model to this solution applied to the 2017 market size

alpha(r)=(1+tau(r))*PX.l(r)*X.l(r)/(P.l*A.l);
alpha("M")=1-alpha("usa");
beta(r)$(not usa(r)) = (1+tau(r))**(sigma_2 - 1) * alpha(r)/sum(r.local$(not usa(r)),alpha(r));
psi(r)=alpha(r)*a1/(1+tau(r));
phi = a1;

Abort$(round(sum(r,alpha(r)),7) ne 1) "Hypothetical 2017 market shares do not sum to one";

* Set the level values and check the Hypothetical 2017 benchmark 222
A.l =phi;
X.l(r) =psi(r);
P.l =1;
PX.l(r) =1;

PEARM.iterlim=0;
Solve PEARM using mcp;
Abort$(PEARM.objval gt 1e-6) "Hypothetical 2017 benchmark replication fails";

* Report the remedy year benchmark
$batinclude rpt rybmk
*--------------------
*--------------------
* Equilibrium = ryscn
* Remove the WTO inconsistent duties

tau("chn") = t_cons;


PEARM.iterlim=1000;
Solve PEARM using mcp;

* Report the remedy year counterfactual
$batinclude rpt ryscn

* Calculation of NI:
report("%case%","no","ryscn","NI_$M","CHN")=
report("%case%","no","ryscn","revenue","CHN")
-report("%case%","no","rybmk","revenue","CHN");

*--------------------
display report;
```

ANNEX C-10

DATA INPUTS USED TO IMPLEMENT THE ARMINGTON MODEL UNDER THE TWO STEPS[1,2]

Product	USA	CHN	ROW	IMP	MKT	theta_lo	theta_up	eps_usa_	eps_usa_	sig_lo	sig_up	eps_sub	eps_chn	eps_row	MKT2017	tau_ocvd	tau_LTAR	tau_cons
931	201,460,000	154,833,000	158,535,000	313,368,000	514,828,000	0.3	0.7	5	10	3	6	10	10	10	[[***]]	1.1	0.36	0.74
936	757,701,000	153,881,000	315,411,000	469,292,000	1,226,993,000	0.25	0.5	3	5	2	4	10	10	10	[[***]]	36.35	32.49	3.86
942	84,256,000	150,477,000	276,171,000	426,648,000	510,904,000	0.1	0.5	5	10	4	6	10	10	10	[[***]]	13.3	11.76	1.54
944	6,184,818,000	2,805,206,000	2,572,888,000	5,378,094,000	11,562,912,000	0.75	1	4	6	3	5	10	10	10	6,356,019,000	12.26	10.19	2.07
946	333,721,000	194,276,000	21,771,000	216,047,000	549,768,000	0.5	1	3	5	2	4	10	10	10	[[***]]	27.64	10.95	16.69
957	199,357,000	135,240,000	348,609,000	483,849,000	683,206,000	0.5	1	5	10	2	4	10	10	10	[[***]]	28.9	3.64	25.26

[1] The code of the software GAMS in Annex C-9 refers to this input table.

[2] The names used in the table refer to the following; 931: Pressure Pipe; 936: Line Pipe; 942: Kitchen Shelving; 944: OCTG; 946: Wire Strand; 957: Seamless Pipe, 959: Print Graphics; 968: Aluminum Extrusions; 978: Steel Cylinders; 980: Solar Panels; USA: year-prior sales US domestic variety; CHN: year-prior sales of imports from China; ROW: year_prior sales of imports from the RoW; theta: demand elasticity; up: maximum value of range; lo: minimum value of range; eps_usa: domestic supply elasticity; eps_sub: import supply elasticity; eps_chn: supply elasticity of imports from China; eps_row: supply elasticity of imports from RoW; sig: elasticity of substitution; MKT2017: total US market value in USD in 2017; tau_ocvd: WTO-inconsistent CVD rate; tau_LTAR: LTAR rate; tau_cons: WTO-consistent CVD rate.

Product	USA	CHN	ROW	IMP	MKT	theta_lo	theta_up	eps_usa_lo	eps_usa_up	sig_lo	sig_up	eps_sub	eps_chn	eps_row	MKT2017	tau_ocvd	tau_LTAR	tau_cons
959	1,023,688,000	297,527,000	420,989,000	718,516,000	1,742,204,000	0.75	1.25	3	5	2	4	10	10	10	[[***]]	19.46	0.8	18.66
968	2,888,945,000	547,968,000	359,382,000	907,350,000	3,796,295,000	0.25	0.5	3	5	4	6	10	10	10	[[***]]	7.37	3.8	3.57
978	[[***]]	23,009,000	2,821,000	25,830,000	41,967,000	0.25	0.75	5	10	3	5	10	10	10	[[***]]	15.81	14.34	1.47
980	804,853,000	1,905,220,000	824,588,000	2,729,808,000	3,534,661,000	0.75	1	4	7	3	5	10	10	10	4,055,230,000	15.24	0.715	14.62

ANNEX C-11

RESULTS OF IMPLEMENTING THE FIRST STEP OF THE TWO-STEP ARMINGTON MODEL[1]

Product	Simulated market share of US domestic producers		Simulated market share of Chinese exporters		Simulated market share of exporters from the rest of the world	
	WTO-inconsistent CVD rate	WTO-consistent CVD rate	WTO-inconsistent CVD rate	WTO-consistent CVD rate	WTO-inconsistent CVD rate	WTO-consistent CVD rate
Pressure Pipe	0.394	0.393	0.294	0.296	0.312	0.311
Line Pipe	0.643	0.621	0.069	0.117	0.287	0.261
Kitchen Shelving	0.178	0.167	0.213	0.284	0.609	0.550
OCTG	0.562	0.540	0.191	0.233	0.247	0.227
Wire Strand	0.677	0.652	0.271	0.300	0.053	0.048
Seamless Pipe	0.310	0.308	0.123	0.130	0.567	0.561
Print Graphics	0.610	0.609	0.125	0.126	0.265	0.264
Aluminum Extrusions	0.779	0.770	0.120	0.132	0.101	0.098
Steel Cylinders	[[***]]	[[***]]	[[***]]	[[***]]	[[***]]	[[***]]
Solar Panels	0.260	0.259	0.446	0.449	0.294	0.292

[1] Figures rounded to third decimal for representation only.