

***UNITED STATES – COUNTERVAILING DUTY MEASURES ON
SUPERCALENDERED PAPER FROM CANADA***

Recourse to Article 22.6 of the DSU by the United States

(DS505)

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

November 13, 2020

TABLE OF CONTENTS

TABLE OF CONTENTS.....	i
TABLE OF REPORTS AND AWARDS.....	iv
TABLE OF EXHIBITS	vii
I. INTRODUCTION	1
II. PROCEDURAL BACKGROUND.....	3
III. CANADA SUFFERS FROM NO NULLIFICATION OR IMPAIRMENT	4
A. The DSU Permits the Arbitrator to Find That Nullification or Impairment Does Not Exist	5
B. The Challenged “Ongoing Conduct” Measure Causes No Nullification or Impairment to Canada.....	7
C. Canada’s Reliance on Past Arbitrations Is Misplaced	9
IV. IN THE ALTERNATIVE, THE APPROPRIATE CALCULATION OF THE LEVEL OF NULLIFICATION OR IMPAIRMENT	11
A. Article 22.4 of the DSU Requires that the Proposed Level of Suspension be Equivalent to the Level of Nullification or Impairment.....	11
B. Canada’s Counterfactual Is Flawed and Fails to Ensure an Estimate That Is Equivalent to the Level of Future Nullification or Impairment	13
1. The Counterfactual Company-Specific CVD Rate.....	14
2. The Reference Period.....	14
3. The Appropriate Counterfactual “All Others” CVD Rate Should Be Determined in Accordance with Commerce’s Statute and Use the Same Methodology Applied by Commerce in the Future CVD Proceeding.....	15
a. The Necessary Information Will Exist to Calculate the Counterfactual All Others Rate.....	17
4. Summary of the Appropriate Counterfactual.....	19
C. The Selected Approach Must Allow for The Level of Nullification or Impairment to Be Determined Case by Case	19

1.	The Correct Methodology for Determining the Level of Nullification or Impairment Is an Armington-Based Partial Equilibrium Model with Multiple Varieties Solved in Its Non-Linear Form	21
2.	Canada’s Formula Is Derived from a Flawed Model and Would Result in an Unreasoned Estimate of the Level of Future Nullification or Impairment	23
a.	The Underlying Model of Canada’s Formula Is Seriously Flawed Because It Only Captures Two Varieties	24
b.	Canada’s Approach Fails to Accurately Reflect the Counterfactual Where the Challenged Measure Is Removed from All Affected Companies at the Same Time.....	25
c.	Canada Introduces Approximation Error by Not Solving the Model Directly in Its Non-Linear Form.....	26
d.	Canada’s Use of a Pre-Determined Scaling Factor Results in an Unreasoned Estimate of the Level of Nullification or Impairment and Is Inconsistent with Article 22.4 of the DSU.....	27
D.	Correct Model Inputs That Would Be Used in Applying an Armington-Based Partial Equilibrium Model.....	29
1.	The Appropriate Sources for the Parameter Values	29
a.	Demand Elasticity	31
b.	Substitution Elasticity within the Industry.....	32
c.	Supply Elasticity	34
d.	Market Share	35
2.	Change in Duty	36
3.	Value of Imports	37
4.	Relevant Time Period	38
V.	CONCLUSION.....	39
	APPENDIX 1: A Technical Illustration of the U.S. Armington Model With Multiple Varieties.....	40

APPENDIX 2: Solution and Calculation of Nullification or Impairment 42

APPENDIX 3: Comparison Chart of Elasticity Estimates..... 44

TABLE OF REPORTS AND AWARDS

Short Form	Full Citation
<i>Argentina – Import Measures (AB)</i>	Appellate Body Reports, <i>Measures Affecting the Importation of Goods</i> , WT/DS438/AB/R / WT/DS444/AB/R / WT/DS445/AB/R, adopted 26 January 2015
<i>EC – Bananas III (US) (Article 22.6 – EC)</i>	Decision by the Arbitrators, <i>European Communities – Regime for the Importation, Sale and Distribution of Bananas – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU</i> , WT/DS27/ARB, 9 April 1999
<i>EC – Hormones (Canada) (Article 22.6 – EC)</i>	Decision by the Arbitrators, <i>European Communities – Measures Concerning Meat and Meat Products (Hormones), Original Complaint by Canada – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU</i> , WT/DS48/ARB, 12 July 1999
<i>EC – Hormones (US) (Article 22.6 – EC)</i>	Decision by the Arbitrators, <i>European Communities – Measures Concerning Meat and Meat Products (Hormones), Original Complaint by the United States – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU</i> , WT/DS26/ARB, 12 July 1999
<i>US – 1916 Act (EC) (Article 22.6 – US)</i>	Decision by the Arbitrators, <i>United States – Anti-Dumping Act of 1916, Original Complaint by the European Communities – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS136/ARB, 24 February 2004
<i>US – Anti-Dumping Methodologies (China) (Article 22.6 – US)</i>	Decision by the Arbitrators, <i>United States – Certain Methodologies and their Application to Anti-Dumping Proceedings Involving China – Recourse to Article 22.6 of the DSU by the United States</i> , WT/DS471/ARB, and Add.1 circulated 1 November 2019
<i>US – COOL (Article 22.6)</i>	Decision by the Arbitrators, <i>United States – Certain Country of Origin Labelling (COOL) Requirements - Recourse to Article 22.6 of the DSU by the United States</i> , WT/DS384/ARB, and Add. 1; WT/DS386/ARB, and Add. 1, circulated 7 December 2015

<i>US – Countervailing Measures (Article 21.5 – China) (AB)</i>	Appellate Body Report, <i>United States – Countervailing Duty Measures on Certain Products from China – Recourse to Article 21.5 of the DSU by China</i> , WT/DS437/AB/RW and Add.1, circulated 16 July 2019
<i>US – Gambling (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS285/ARB, 21 December 2007
<i>US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Continued Dumping and Subsidy Offset Act of 2000, Original Complaint by Brazil – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS217/ARB/BRA, 31 August 2004
<i>US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Continued Dumping and Subsidy Offset Act of 2000, Original Complaint by Canada – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS234/ARB/CAN, 31 August 2004
<i>US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Continued Dumping and Subsidy Offset Act of 2000, Original Complaint by the European Communities – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS217/ARB/EEC, 31 August 2004
<i>US – Section 110(5) Copyright Act (Article 25)</i>	Award of the Arbitrators, <i>United States – Section 110(5) of the US Copyright Act – Recourse to Arbitration under Article 25 of the DSU</i> , WT/DS160/ARB25/1, 9 November 2001
<i>US – Supercalendered Paper (Canada) (AB)</i>	Appellate Body Report, <i>United States – Countervailing Measures on Supercalendered Paper from Canada</i> , WT/DS505/AB/R, circulated 6 February 2020
<i>US – Supercalendered Paper (Panel)</i>	Panel Report, <i>United States – Countervailing Measures on Supercalendered Paper from Canada</i> , WT/DS505/R and Add. 1, circulated 5 July 2018
<i>US – Tuna II (Mexico) (Article 22.6)</i>	Decision by the Arbitrator, <i>United States – Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products (Recourse to Article 22.6 of the DSU by Mexico)</i> , WT/DS381/ARB, 25 April 2017

<i>US – Upland Cotton (Article 22.6 – US I)</i>	<i>Decision by the Arbitrator, United States – Subsidies on Upland Cotton – Recourse to Arbitration by the United States under Article 22.6 of the DSU and Article 4.11 of the SCM Agreement, WT/DS267/ARB/1, 31 August 2009</i>
<i>US – Washing Machines (Korea) (Article 22.6 – US)</i>	<i>Decision by the Arbitrator, United States – Anti-Dumping and Countervailing Measures on Large Residential Washers from Korea (Recourse to Article 22.6 of the DSU by the United States), WT/DS464/ARB, 8 February 2019</i>

TABLE OF EXHIBITS

Exhibit No.	Description
USA-1	U.S. Solution and Computer Code for the Armington Partial Equilibrium Model
USA-2	Issues and Decision Memorandum for the Final Determination in the Countervailing Duty Investigation of Supercalendered Paper from Canada (“Supercalendered Paper IDM”) (excerpt)
USA-3	Final Determination Calculations for Resolute FP Canada Inc. (“Resolute’s Calculation Memo”)
USA-4	19 U.S.C. § 1671d
USA-5	Table of GTAP Sectors with Number of Harmonized Tariff Schedule (“HTS”) Categories
USA-6	Supercalendered Paper from Canada: Final Affirmative Countervailing Duty Determination, 80 Fed. Reg. 63535 (Oct. 20, 2015)
USA-7	Calculation of the All-Others Rate for the Final Determination in the Countervailing Duty Investigation of Supercalendered Paper from Canada (“Supercalendered Paper All Others Rate Calculation Memo”), Oct. 13, 2015
USA-8	Countervailing Duty Investigation of Certain Softwood Lumber Products from Canada: Amended All Others Rate Calculation for Final Determination Memo, Dec. 4, 2017
USA-9	Countervailing Duty Investigation of Certain Softwood Lumber Products from Canada: Amended All Others Rate Calculation for Final Determination Attachment, Dec. 4, 2017
USA-10	Utility Scale Wind Towers from Canada, Indonesia, and the Socialist Republic of Vietnam: Amended Final Affirmative Countervailing Duty Determination and Countervailing Duty Orders, 85 Fed. Reg. 52543 (Aug. 26, 2020)
USA-11	Sample U.S. Model Data File
USA-12	<i>Supercalendered Paper from Canada</i> , USITC Publication 4583, Investigation No. 701-TA-530 (Final), December 2015 (excerpt)

I. INTRODUCTION

1. On September 18, 2020, Canada submitted to the Arbitrator its methodology paper that explains the methodological basis for Canada’s request to suspend concessions and related obligations in this dispute. Canada’s methodology paper demonstrates that Canada’s request for suspension of concessions is contrary to the requirements of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* (“DSU”).¹ Canada suffers no nullification or impairment from a measure (the discovered subsidy “ongoing conduct”) that is not applied to it. Canada has also requested to suspend concessions on the basis of a formula, but this cannot generate an estimate that is equivalent to a future level of nullification or impairment because the formula simply speculates as to what duty might result from the discovered subsidy “ongoing conduct”.²

2. This submission is structured as follows: after a brief recounting of the procedural background of this proceeding, section III explains that Canada cannot demonstrate the existence of nullification or impairment because no benefit to Canada accruing under a covered agreement is being nullified or impaired. Specifically, because *Supercalendered Paper from Canada* was the only countervailing duty (“CVD”) order on Canadian goods that contributed to the “ongoing conduct” measure, and that CVD order was subsequently revoked by the U.S. Department of Commerce (“Commerce”) in July 2018, Canada is not subject to any “ongoing conduct” and suffers from no adverse impact from the measure. Accordingly, Canada’s request for suspension of concessions should be rejected, and no further evaluation of Canada’s methodology paper is necessary.

3. In the event the Arbitrator proceeds to evaluate a future, hypothetical level of nullification or impairment, the United States also provides its views in section IV on conceptual and methodological flaws in Canada’s approach. After presenting the relevant legal framework, section IV.B discusses errors in the counterfactual used by Canada to determine the level of nullification or impairment. Even assuming that the discovered subsidy “ongoing conduct” would increase the total CVD rate of an affected Canadian exporter, an assertion that cannot be known at this time, this would not make it appropriate to set the counterfactual All Others rate to zero as Canada proposes. As the United States demonstrates, such an approach will not result in a reasoned estimate because it simply presumes that there would be no other basis to set an All Others rate. To the contrary, the information will exist on the record of each CVD proceeding to

¹ As the Arbitrator is aware, the United States considers that no DSB recommendation has been adopted in this dispute. At the March 5, 2020 DSB meeting, the United States explained how the appellate document cannot be an Appellate Body report because an individual who served on the appeal is not a valid member of the Appellate Body given that the individual is affiliated with a government in breach of Article 17.3 of the DSU. The concern related to the individual’s service was further compounded because the appeal directly implicated the interests of that government. In addition, the United States also reiterated its concerns of ex-Appellate Body members’ continuation of service without authorization by the DSB, and the failure to adhere to the deadline in Article 17.5 of the DSU. Minutes from the Dispute Settlement Body meeting, Mar. 5, 2020, WT/DSB/M/441, pp. 18-25. Without prejudice to this position, in this submission the United States focuses on other flaws in Canada’s requested level of suspension.

² Methodology Paper of Canada (Corrected Version) (October 28, 2020) (“Canada’s Methodology Paper”), para. 7.

recalculate the All Others rate in accordance with the methodology that Commerce uses in the future CVD proceeding.

4. Section IV.C next discusses correcting the flaws in Canada’s approach to determining the level of nullification or impairment. As an initial matter, because the discovered subsidy “ongoing conduct” measure is not applied to Canada, there is no basis to select a singular analytical framework to assess a hypothetical level of suspension. Given that the product and market at issue are unknown, Canada’s formula (which ignores the product and the market) will not generate an estimate that is “equivalent” to the future level of nullification or impairment resulting from application of the measure to Canadian goods. This contravenes Article 22.4 of the DSU, which requires that the suspension of concessions be equivalent to the nullification or impairment.

5. To the extent that the Arbitrator disagrees and decides to set a hypothetical future nullification or impairment, the United States also explains that because a hypothetical future application of the measure could involve any Canadian product, the methodology that is selected must be one that has the flexibility to capture the nuances of any product and market at issue for a specific point in time. Section IV.C.1 explains that the correct methodology for determining the level of nullification or impairment is an Armington-based partial equilibrium model with multiple sources of supply (otherwise known as “varieties”), applied directly in its non-linear form. Appendix 1 and 2, accompanying this submission, contain a technical illustration and solution to the United States’ model.

6. Section IV.C.2 demonstrates that Canada’s formula cannot be selected as the appropriate methodology because the formula cannot and will not generate an estimate that is equivalent to the level of nullification or impairment. This is for several reasons. First, Canada’s formula is derived from an underlying model that is seriously flawed and does not represent the correct counterfactual. Canada’s underlying model only accounts for two sources of supply and does not capture the counterfactual wherein the United States would remove the challenged measure from the affected Canadian exporters at the same time. Rather, Canada incorrectly proposes to execute its formula multiple times and use the sum of the results as the level of nullification or impairment. Canada further compounds these errors by deriving its formula from the log linearized form of the model, thereby unnecessarily introducing approximation error.

7. Section IV.C.2 also explains that Canada’s formula remains flawed because it seeks to rely on fixed and imprecise data inputs for its scaling factor when the product and market are unknown, further confirming that its formula could not generate an estimate that is equivalent to the level of nullification or impairment, consistent with Article 22.4 of the DSU. Although Canada relies on *US – Washing Machines (Korea) (Article 22.6 – US)* for its approach, the United States explains that in that dispute, neither Korea nor the United States supported fixing the values of inputs, and similarly raised concerns about the consistency of such an approach with Article 22.4 of the DSU.

8. Section IV.D discusses the correct model inputs that would be used under either party’s approach. The United States disagrees with Canada’s approach to pre-determine the parameter values (that is, elasticity estimates and market share) based on sources focused on broad sector

data because such an approach would not result in an estimate that is equivalent to nullification or impairment given that the product and market are unknown. Instead, in the event the “ongoing conduct” measure is applied in a future CVD proceeding, it would be appropriate to obtain the relevant values from the final determination published by the U.S. International Trade Commission (“Commission”) in the future CVD proceeding. The Commission report is directly tailored to the product and market at issue, and is therefore the appropriate source of data inputs. Table 2 in Appendix 3 compares the estimates selected by the arbitrators in *US – Washing Machines (Korea) (Article 22.6 – US)* and *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, and the estimates from the Commission in the *Supercalendered Paper from Canada* CVD investigation, with the estimates proposed by Canada in this dispute. The table confirms the appropriateness of the United States’ approach to use the applicable Commission report, and further illustrates that once the product is known, Canada’s suggested values for data inputs will not produce a reasoned estimate equivalent to the level of nullification or impairment. The United States also explains how the change in duties should be calculated, and provides its views on how the value of imports should be obtained.

9. In sum, this written submission demonstrates why Canada’s request for suspension of concessions must be rejected. In the event the Arbitrator were to continue and determine a hypothetical level of future nullification or impairment, the United States provides a more correct and appropriate basis to determine the level of nullification or impairment.

II. PROCEDURAL BACKGROUND

10. On March 5, 2020, the Dispute Settlement Body (“DSB”) convened to consider the appellate document circulated on February 6, 2020, as WT/DS505/AB/R and Add.1. The document contained statements by two Division members that an unwritten measure in the form of “ongoing conduct” exists when Commerce “ask[s] the [other forms of assistance] question and, where [Commerce] discovers information during verification that it deems should have been provided in response to the [other forms of assistance] question, applying [adverse facts available] to determine that such information amounts to countervailable subsidies,”³ and that the “ongoing conduct” was inconsistent with Article 12.7 of the *Agreements on Subsidies and Countervailing Measures* (“SCM Agreement”). In a separate opinion, one Division member opined that the “Division could and should have mooted the relevant findings of the Panel” because the *Supercalendered Paper* CVD order had been revoked, and “no real dispute remains to be resolved regarding any ‘ongoing conduct’ that may or may not continue.”⁴

11. At the March 5 DSB meeting, the United States explained that there were serious procedural and substantive concerns with document WT/DS505/AB/R, and objected to the adoption of the document as an Appellate Body report.⁵ The United States made clear at the

³ *US – Supercalendered Paper (Canada) (AB)*, para. 5.24.

⁴ *US – Supercalendered Paper (Canada) (AB)*, para. 5.87.

⁵ Minutes from the Dispute Settlement Body meeting, Mar. 5, 2020, WT/DSB/M/441, pp. 18-25. The United States explained how the document cannot be an Appellate Body report because an individual who served on the appeal is not a valid member of the Appellate Body given that the individual is affiliated with a government in breach of Article 17.3 of the DSU. The concern related to the individual’s service was further compounded because the

March 5 meeting that, because there was no valid Appellate Body report in this dispute, the appellate and panel reports could only be adopted by positive consensus. As there was no consensus on adoption, the DSB did not adopt any reports in this dispute. Therefore, there was no recommendation of the DSB with which to bring a measure into conformity with a covered agreement.⁶

12. On June 18, 2020, Canada requested authorization from the DSB to suspend the application of concessions or other obligations pursuant to Article 22.2 of the DSU.⁷ On June 26, 2020, the United States objected to the level of suspension of concessions and related obligations proposed by Canada.⁸ Pursuant to Article 22.6, the United States’ objection referred the matter to arbitration.⁹

III. CANADA SUFFERS FROM NO NULLIFICATION OR IMPAIRMENT

13. When a Member objects to the level of suspension of concessions proposed pursuant to Article 22.6 of the DSU, that objection refers the matter to arbitration. Under the terms of Article 22.7, the arbitrator considering the matter “shall determine whether the level of such suspension is equivalent to the level of nullification or impairment.” Article 22.4 of the DSU requires that the “level of the suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of the nullification or impairment.” Therefore, where nullification or impairment does not exist, the level of suspension should be set at zero. To do otherwise would breach Articles 22.4 and 22.7 of the DSU because the level of suspension of concessions would fail to be “equivalent” to the correct level of nullification or impairment, which is zero.

14. The same conclusion follows from the second sentence of Article 22.7 of the DSU. This provision reads: “The arbitrator may also determine if the proposed suspension of concessions or

appeal directly implicated the interests of that government. The United States also reiterated its concerns of ex-Appellate Body members’ continuation of service without authorization by the DSB, and the failure to adhere to the deadline in Article 17.5 of the DSU. Accordingly, the United States did not join in a consensus to adopt the documents that were before the DSB.

⁶ See Minutes from the Dispute Settlement Body meeting, Mar. 5, 2020, WT/DSB/M/441, pp. 18-25. See also Communication from the United States, Apr. 17, 2020, WT/DS505/12.

⁷ WTO/DS505/13. Canada’s request for authorization to suspend concessions or other obligations is limited to the “ongoing conduct” measure, and does not relate to the “as applied” measures challenged in this dispute. This is appropriate given that the *Supercalendered Paper from Canada* countervailing duty order was revoked in July 2018, and no countervailing duties are or will be collected under the countervailing duty order. *US – Supercalendered Paper (Canada) (AB)*, para. 5.2. Accordingly, the “as applied” measure – *i.e.*, the *Supercalendered Paper* countervailing duty order – is not a subject of this proceeding.

⁸ WTO/DS505/14.

⁹ The United States’ views on the appellate document are clearly reflected in the minutes of the March 5, 2020 and June 29, 2020 DSB meetings, as well as the United States’ communication to the DSB on April 17, 2020. See WT/DSB/M/441; WT/DSB/M/442; WT/DS505/12. In this submission, the United States will not repeat those objections. However, the United States emphasizes that its participation in this arbitration is without prejudice to its views concerning the invalidity of the appellate document and the purported adoption of recommendations by the DSB. Furthermore, the use of the term “challenged measure” in this submission is without prejudice to the United States’ position concerning the DSB adoption procedures and existence of DSB recommendations.

other obligations is allowed under the covered agreement.”¹⁰ Under Article 1.1 and Appendix 1 of the DSU, the DSU itself is a “covered agreement”.¹¹ Article 22.4 of the DSU establishes that the level of suspension authorized by the DSB shall be equivalent to the nullification or impairment. However, a proposed suspension of concessions that is not zero is not equivalent to a level of nullification or impairment that is zero, and therefore, as discussed below, Canada’s proposed suspension is not allowed under the DSU.

15. In the sections that follow, the United States explains that the DSU permits the Arbitrator to assess the existence of nullification or impairment. Then, the United States explains that no nullification or impairment exists with respect to Canada because the *Supercalendered Paper* CVD order, which was the only CVD determination on a Canadian product among the determinations that formed the basis of the “ongoing conduct” measure, was revoked in July 2018. Third, the United States demonstrates that Canada’s reliance on past arbitrations involving “as such” measures is misplaced. Accordingly, the United States requests that the Arbitrator determine that Canada’s proposed suspension of concessions is not allowed, or is determined to be zero, because no nullification or impairment exists.

A. The DSU Permits the Arbitrator to Find That Nullification or Impairment Does Not Exist

16. As an initial matter, Article 3.8 of the DSU provides that:

In cases where there is an infringement of the obligations assumed under a covered agreement, the action is considered *prima facie* to constitute a case of nullification or impairment. This means that there is normally a presumption that a breach of the rules has an adverse impact on other Members parties to that covered agreement, and in such cases, it shall be up to the Member against whom the complaint has been brought to rebut the charge.¹²

17. Therefore, Article 3.8 of the DSU plainly provides for the possibility that the Member concerned may rebut the presumption of the existence of nullification or impairment by putting forth evidence that a breach of WTO obligations does not have an adverse impact on the complaining Member.¹³ This is because nullification or impairment and violation are two

¹⁰ DSU, Article 22.7.

¹¹ DSU, Article 1.1 (“The rules and procedures of this Understanding shall also apply to consultations and the settlement of disputes between Members concerning their rights and obligations under the provisions . . . of this Understanding taken in isolation or in combination with any other covered agreement.”); DSU, Appendix 1 (entitled “Agreements covered by the Understanding” and listing “Annex 2: Understanding on Rules and Procedures Governing the Settlement of Disputes”).

¹² DSU, Art. 3.8 (underline added).

¹³ See also DSU, Art. 23.2(a). Article 23.2(a) provides that “...Members shall: (a) not make a determination to the effect that a violation has occurred, that benefits have been nullified or impaired or that the attainment of any objective of the covered agreements has been impeded, except through recourse to dispute settlement in accordance with the rules and procedures of this Understanding, and shall make any such determination consistent with the findings contained in the panel or Appellate Body report adopted by the DSB or an arbitration award rendered under

separate concepts.¹⁴ As the arbitrator in *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, explained:

A violation generates, pursuant to Article 3.8 of the DSU, a *presumption* of nullification or impairment. Article 3.8 does not treat violation as a *form* of nullification or impairment. Article 3.8 merely exempts the party having demonstrated the violation from also having to demonstrate nullification or impairment. It does not modify the fundamental requirement that what is ultimately to be demonstrated is nullification or impairment.

This is confirmed by the last sentence of Article 3.8, which provides the opportunity for the alleged violating party to rebut the presumption of nullification or impairment. If violation was conceptually equated by Article 3.8 to nullification or impairment, there would be no reason to provide for a possibility to rebut the presumption. The theoretical possibility to rebut the presumption established by Article 3.8 can only exist because violation and nullification or impairment are two different concepts.¹⁵

18. Therefore, although Article 3.8 of the DSU permits a presumption of nullification or impairment, “a Member’s legal interest in compliance by other Members does not . . . automatically imply that it is entitled to obtain authorization to suspend concessions under Article 22 of the DSU.”¹⁶ Thus, if the Member concerned successfully rebuts the presumption, then there is no nullification or impairment even if the measure at issue continues to exist.¹⁷

19. Additionally, nothing in Article 3.8 of the DSU, which is one of the “General Provisions” of the DSU, limits the opportunity of the Member concerned to make such a rebuttal only during the original panel phase of a dispute settlement proceeding. Indeed, in the underlying panel proceeding, the Panel did not make a finding that the United States failed to rebut the charge.¹⁸

this Understanding”. Article 23.2(a) distinguishes between a Member’s determination “to the effect that a violation has occurred” and a Member’s separate determination “that benefits have been nullified or impaired,” as well as a third type of determination “that the attainment of any objective of the covered agreements has been impeded”.

¹⁴ See, e.g., *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, paras. 3.20, 3.36.

¹⁵ *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, paras. 3.22-3.23 (underline added).

¹⁶ *EC – Bananas III (US) (Article 22.6 – EC)*, para. 6.10.

¹⁷ See *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, para. 3.26 (“We accept the view that some nullification or impairment should exist if it has not been rebutted.”) (underline added).

¹⁸ *US – Supercalendered Paper (Canada) (Panel)*, para. 8.5 (“Under Article 3.8 of the DSU, in cases where there is an infringement of the obligations assumed under a covered agreement, the action is considered *prima facie* to constitute a case of nullification or impairment. The Panel concludes that, to the extent that the measures at issue are inconsistent with certain provisions of the SCM Agreement and the GATT 1994, they have nullified or impaired benefits accruing to Canada under those agreements.”). Cf. *US – 1916 Act (EC) (Article 22.6 – US)*, para. 2.4 (stating that the original panel found, “since violations have been established that have not been rebutted by the United States, the United States nullifies or impairs benefits accruing to the European Communities under the WTO Agreement.”) (underline added).

Rather, the Panel assumed that the violation was considered *prima facie* to constitute nullification or impairment under Article 3.8 of the DSU.¹⁹

20. The more logical time for a Member concerned to make such a rebuttal would be in the context of an arbitration under Article 22.6 of the DSU. In the countermeasures arbitration, the question of the level of nullification or impairment – including whether there is any nullification or impairment at all – is placed squarely before the adjudicator that is tasked by the DSU with evaluating the equivalency of the proposed level of suspension and the nullification or impairment – *i.e.*, the DSU Article 22.6 arbitrator.²⁰

21. Furthermore, as is the case in this dispute, the factual circumstances related to the effect of a challenged measure on the complaining Member might change over time, including after a panel report is circulated and before a suspension request is made under Article 22.2 of the DSU. Thus, in an arbitration under Article 22.6 of the DSU, it is incumbent upon the arbitrator to determine whether nullification or impairment exists as part of its evaluation of whether the level of suspension authorized by the DSB is equivalent to the level of nullification or impairment.

22. As discussed below, because the discovered subsidy “ongoing conduct” measure does not continue to exist and be applied to Canadian goods, there is no nullification or impairment and Canada has not experienced any trade or economic effects that would support its request under Article 22.2 of the DSU.

B. The Challenged “Ongoing Conduct” Measure Causes No Nullification or Impairment to Canada

23. Canada requests suspension of concessions purportedly related to an alleged nullification or impairment that might occur “if the ‘ongoing conduct’ continues to exist and applies to exports from Canada in the future”.²¹ In this section, the United States rebuts Canada’s contention that the discovered subsidy “ongoing conduct” measure “continues to exist” and be applied to exports from Canada. In the subsequent section, the United States rebuts the validity of Canada’s request for authorization on the basis that the “ongoing conduct” measure could apply “in the future”.

24. As discussed below, there is no adverse impact on Canada because the “ongoing conduct” measure does not continue to exist and be applied to exports from Canada. In the underlying proceeding, Canada used nine CVD determinations to allege an “ongoing conduct” measure; however, only one CVD determination involved a Canadian good – that is,

¹⁹ *US – Supercalendered Paper (Canada) (Panel)*, para. 8.5.

²⁰ The United States respectfully disagrees with past arbitrators that have found that “[i]t is a panel that ‘deals with the establishment of the existence of nullification or impairment.’” *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 3.49 n. 142 (citing *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, para. 3.24)). As highlighted above, the text of Article 3.8 of the DSU does not state that a Member’s rebuttal of the presumption of nullification or impairment is limited to a panel proceeding. Further, an interpretation that diminishes Article 3.8 of the DSU is contrary to Article 3.2 of the DSU, which prohibits WTO adjudicators from “add[ing] to or diminish[ing] the rights and obligations provided in the covered agreements.”

²¹ WT/DS505/13.

Supercalendered Paper.²² In July 2018, the *Supercalendered Paper* countervailing duty order was revoked with retroactive effect to the beginning of the CVD proceeding.²³ With the revocation of the order, Canada is not subject to any “ongoing conduct” and suffers from no adverse impact from the challenged measure.

25. This is a fact acknowledged by Canada in its request for authorization – the request relates to an alleged nullification or impairment that might occur “if the ‘ongoing conduct’ continues to exist and applies to exports from Canada in the future”.²⁴ As Canada itself stated at the June 29, 2020 DSB meeting, “Canada’s request for authorization to suspend concessions related to ‘ongoing conduct’ by the United States that was not currently being applied to Canada, and would relate to future U.S. investigations or administrative reviews of Canadian goods.”²⁵ As it is undisputed that the “ongoing conduct” measure is not currently applied to any imports from Canada, the measure cannot “continue” to exist in relation to Canada. Rather, Canada’s request solely relates to the existence and application of a measure “in the future”.

26. One member of the Division hearing the appeal similarly considered the revocation of the *Supercalendered Paper* countervailing duty order to be critical:

I also consider relevant the fact that *Supercalendered Paper* from Canada 2015, the underlying CVD proceeding at issue in this case, has been revoked retroactively to its beginning. To me, this means that no real dispute remains to be resolved regarding any “ongoing conduct” that may or may not continue with respect to the proceeding at issue here. It follows that further addressing this matter could be characterized as an advisory opinion based on, and pertaining mainly to, cases involving other countries that are not complainants and in which key facts and circumstances may differ from those present in this case.²⁶

27. The United States requests that the Arbitrator determine that Canada’s proposed suspension of concessions is not allowed or is not equivalent to the correct level of nullification or impairment, which is zero. Because the *Supercalendered Paper* CVD order was revoked, the “ongoing conduct” measure does not “continue to exist” and be applied to exports from Canada. Therefore, there can be no adverse impact on Canada, and Canada is unable to assert that it suffers from any nullification or impairment today. Accordingly, any proposed suspension of concessions would be contrary to DSU Articles 22.4 and 22.7, under which “level of the

²² US – *Supercalendered Paper (Canada)* (AB), para. 5.7.

²³ US – *Supercalendered Paper (Canada)* (AB), para. 5.2.

²⁴ WT/DS505/13.

²⁵ WT/DSB/M/442, para. 12.6.

²⁶ US – *Supercalendered Paper (Canada)* (AB), para. 5.87. See also *id.*, para. 5.95 (“I offer these views with the hopes that any future consideration of these issues will take this separate opinion into account, as well as that of the majority.”).

suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of the nullification or impairment”.

C. Canada’s Reliance on Past Arbitrations Is Misplaced

28. Canada’s reliance on past arbitrations that have assessed “measures that have yet to be applied against the WTO complainant in the future” is misplaced.²⁷ First, the cited arbitrations concern “as such” measures, not “ongoing conduct” measures, a distinctly different type of measure that has been challenged in WTO dispute settlement. Second, the arbitrations relied upon by Canada concern instances where arbitrators assessed requests where the measure at issue was currently applied and would continue to be applied.²⁸ In contrast, Canada asks for the Arbitrator to consider imposing countermeasures because of a measure that is not applied to any Canadian good today.

29. Canada relies on arbitrations involving “as such” measures; none of the arbitrations involve “ongoing conduct” measures, the type of measure that is at issue in this proceeding.²⁹ Some prior reports have recognized “ongoing conduct” as a distinct category by which a Member may establish the existence of a measure that is challengeable in dispute settlement, and those reports have not considered “ongoing conduct” to be the same as a measure that is challenged “as applied” or “as such”.³⁰ The type of measure chosen by the complainant influences the requirements that must be demonstrated.³¹ Therefore, the approaches taken in past arbitrations involving “as such” measures are not relevant to this dispute.

30. Furthermore, in each of the disputes upon which Canada relies, while the arbitrators considered measures that had not yet been applied, such consideration coincided with the current application and existence of the measure at issue. First, in *US – Washing Machines (Korea) (Article 22.6 – US)*, the arbitration involved assessing nullification or impairment for an “as such” finding where Korean imports in U.S. antidumping duty (“AD”) proceedings were subject to comparison methodologies that were currently applied in antidumping duty orders involving Korean goods and would “continue[] to be used”.³² In *US – 1916 Act (EC) (Article 22.6 – US)*, the Arbitrator considered final judgments and settlement agreements under the 1916 Act to constitute nullification or impairment of benefits accruing to the European Communities.³³ Importantly, the European Communities entities had entered into settlement agreements under the 1916 Act since the expiration of the implementation period,³⁴ and therefore nullification or

²⁷ Canada’s Methodology Paper, para. 5.

²⁸ Canada’s Methodology Paper, para. 5 n. 9.

²⁹ Canada’s Methodology Paper, para. 5 n. 9.

³⁰ See *US – Supercalendered Paper (Canada) (AB)*, para. 5.17 n. 64; *Argentina – Import Measures (AB)*, paras. 5.101-5.110.

³¹ *US – Supercalendered Paper (Canada) (AB)*, para. 5.17 n. 64.

³² See *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.13, 4.2.

³³ See *US – 1916 Act (EC) (Article 22.6 – US)*, paras. 5.58, 5.61, 6.14, 8.2.

³⁴ *US – 1916 Act (EC) (Article 22.6 – US)*, para. 6.8 and para. 6.12 (noting that the settlement agreements were confidential and to the extent that the European Communities could disclose information of such agreements, the amounts payable to the European Communities entities in settlement under the 1916 Act could be included in any calculation of the level of nullification or impairment).

impairment existed at the time of the European Communities’ request for suspension of concessions.³⁵ In *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, the nullification or impairment concerned disbursements that had been made and would continue to be made under the legislation at issue.³⁶ In *US – Upland Cotton (Article 22.6 – US)*, the dispute similarly concerned a measure that existed at the time and could continue to exist such that an award was given for a specific calendar year, as well as for future years.³⁷

31. Thus, each of the above disputes involved “as such” measures and contained findings concerning present day application of a measure to a complainant and consequent nullification or impairment. That is, the measures at issue existed and were maintained such that they nullified or impaired the rights of a Member. Here, on the other hand, Canada only asserts – and can only assert – a hypothetical, future nullification or impairment because the “ongoing conduct” measure does not continue to exist or be applied to exports from Canada.

32. Finally, in each of the “as such” disputes relied upon by Canada, the measure is easily discernable and a future application of the measure would not be disputed. Specifically, the disputes involved Commerce’s application of zeroing in its comparison methodology in AD proceedings (that is, a discernable methodology in a calculation),³⁸ final judgments and settlement agreements under the 1916 Act,³⁹ disbursements under the Byrd Amendment,⁴⁰ and payments made under certain prohibited and actionable subsidies.⁴¹

33. Here, in contrast, all aspects of the existence of the “ongoing conduct” measure – the precise content, the repeated application, and the likelihood to continue – were highly contested between the parties and involved the evaluation of the specific facts of multiple CVD determinations.⁴² As the United States explained during the original dispute settlement proceedings, the application of facts available by Commerce is a determination made on a case-by-case basis.⁴³ Therefore, because the “ongoing conduct” measure does not continue to exist and be applied to Canadian goods, the determination that a future application of facts available constitutes the existence of the “ongoing conduct” measure would be subject to dispute, yet that determination would be left solely to the discretion of Canada. The fact that such an assessment would be left to the complaining party makes this dispute distinctly different from the arbitration decisions relied upon by Canada, which involved “as such” measures where a future application of the measure would be readily discernable and evident to both disputing parties.

³⁵ See also *US – 1916 Act (EC) (Article 22.6 – US)*, para. 6.14 (“The existence and maintenance of the 1916 Act as such violates the rights of the European Communities . . .”).

³⁶ See, e.g., *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, paras 3.149-3.150 (discussing past and future disbursements).

³⁷ *US – Upland Cotton (Article 22.6 – US I)*, para. 6.5(a).

³⁸ *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 4.2.

³⁹ *US – 1916 Act (EC) (Article 22.6 – US)*, paras. 2.6, 7.7.

⁴⁰ *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, para. 1.4.

⁴¹ *US – Upland Cotton (Article 22.6 – US I)*, paras. 1.13, 1.18.

⁴² *US – Supercalendered Paper (Canada) (AB)*, paras. 5.15-5.47.

⁴³ *US – Supercalendered Paper (Canada) (AB)*, para. 5.18.

34. Accordingly, the United States requests that the Arbitrator determine that Canada’s proposed suspension of concessions is not allowed or is not equivalent to the correct level of nullification or impairment, which is zero.

IV. IN THE ALTERNATIVE, THE APPROPRIATE CALCULATION OF THE LEVEL OF NULLIFICATION OR IMPAIRMENT

35. As discussed above in section III, Canada is unable to demonstrate nullification or impairment because no benefit to Canada accruing under a covered agreement is being nullified or impaired. Accordingly, Canada’s request for suspension of concessions should be rejected. However, in the event the Arbitrator proceeds to evaluate the level of nullification or impairment, the United States also provides its views on the conceptual and methodological flaws in Canada’s approach.

36. Below, section IV.A explains the relevant legal framework for assessing Canada’s request for suspension of concessions. Section IV.B presents the errors in the counterfactual used by Canada to determine the level of nullification or impairment. Section IV.C explains that because the discovered subsidy “ongoing conduct” measure is not applied to Canada, there is no basis to select a singular analytical framework to assess a hypothetical level of suspension. To the extent the Arbitrator disagrees and decides to set a hypothetical future nullification or impairment, we explain that the selected approach for calculating nullification or impairment must be one that is tailored to the specific product and market at issue in a CVD proceeding. We establish that the specific modeling framework under the Armington partial equilibrium model is one that accounts for at least five sources of supply (that is, “varieties”). The United States explains why its approach will ensure a reasoned estimate, and also demonstrates why the flaws in Canada’s approach – deriving a formula from the incorrect model variant and using a formula with pre-determined scaling factors – will result in an estimate of nullification or impairment that is not consistent with Article 22.4 of the DSU. Lastly, section IV.D explains the appropriate sources for the inputs to be used in the Armington partial equilibrium model under either party’s approach. For clarity in exposition, Appendix 1 provides a technical illustration of the United States’ approach, and Appendix 2 and its accompanying exhibit⁴⁴ provide the model solution.

A. Article 22.4 of the DSU Requires that the Proposed Level of Suspension be Equivalent to the Level of Nullification or Impairment

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

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

⁴⁴ See U.S. Solution and Computer Code for the Armington Partial Equilibrium Model (Exhibit USA-1).

“something equal in value or worth”, also “something tantamount or virtually identical.”⁴⁵

38. 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 a measure at issue is maintained following the expiration of the implementation period such that it nullifies or impairs benefits accruing to the complaining Member under the relevant covered agreement(s).

39. Thus, an analysis of the level of nullification or impairment must focus on the “benefit” accruing to the complaining Member under a covered agreement that is allegedly nullified or impaired as a result of the breach found by the DSB.⁴⁶ 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.’”⁴⁷ As the arbitrators in *EC – Hormones (US) (Article 22.6 – EC)* and *EC – Hormones (Canada) (Article 22.6 – EC)* found, “we need to guard against claims of lost opportunities where the causal link with the inconsistent [measure] is less than apparent, i.e., where exports are allegedly foregone not because of the [inconsistent measure] but due to other circumstances.”⁴⁸

40. Therefore, a determination of the level of nullification or impairment should result in a “reasoned estimate”.⁴⁹ Although the determination will “rely on certain assumptions”, “[s]uch

⁴⁵ *EC – Bananas III (US) (Article 22.6 – EC)*, para. 4.1. See also *US – COOL (Article 22.6 – US)*, para. 4.3.

⁴⁶ The concept of nullification or impairment derives from Article XXIII of the GATT 1994. Article XXIII provides: “If any contracting party should consider that any benefit accruing to it directly or indirectly under this Agreement is being nullified or impaired . . . as a result of . . . the failure of another contracting party to carry out its obligations under this Agreement” This concept is then reflected in the DSU, including Article 3.3 (“The prompt settlement of situations in which a Member considers that any benefits accruing to it directly or indirectly under the covered agreements are being impaired by measures taken by another Member is essential to the effective functioning of the WTO and the maintenance of a proper balance between the rights and obligations of Members.”), as well as Articles 3.5, 10.4, and 23. For example, in *US – Section 110(5) Copyright Act (Article 25)*, the arbitrator found that the analysis of nullification or impairment analysis must focus on what benefits the EC would receive if the measure at issue – Section 110(5)(B) – were modified in accordance with the DSB recommendation. See *US – Section 110(5) Copyright Act (Article 25)*, paras. 3.20-3.35.

⁴⁷ *US – 1916 Act (EC) (Article 22.6 – US)*, para. 6.10. See also *US – Section 110(5) Copyright Act (Article 25)*, paras. 5.54 (“In determining the level of nullification or impairment . . . we need to rely, as much as possible, on credible, factual, and verifiable information. We cannot base any such estimates on speculation.”) and 5.69 (“We are of the view that any claim for a deterrent or ‘chilling effect’ by the European Communities in the present case would be too speculative, and too remote.”).

⁴⁸ *EC – Hormones (US) (Article 22.6 – EC)*, para. 41; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 40. See also *EC – Hormones (US) (Article 22.6 – EC)*, para. 77 (refusing to consider, as “too speculative,” lost exports that would have resulted from foregone marketing campaigns).

⁴⁹ *EC-Hormones (US) (Article 22.6 – EC)*, para. 41.

assumptions must, however, be reasonable and based on ‘credible, factual and verifiable information’, and ‘not on speculation’.”⁵⁰

41. In previous Article 22.6 proceedings, the arbitrator has compared the level of trade for the complaining party under the measure at issue to what the complaining party’s level of trade would be expected to be where the Member concerned has brought the measure into conformity following the expiration of the implementation period. 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.

42. Therefore, Article 22.6 arbitrators have recognized that a counterfactual is an appropriate method to calculate a level of nullification or impairment,⁵¹ and Canada itself proposes the use of a counterfactual in this proceeding.⁵² In assessing a counterfactual, past arbitrators have explained that the counterfactual should “reflect at least a plausible or reasonable scenario”.⁵³ Assumptions in the counterfactual should be reasonable such that the proposed level of suspension will accurately reflect the level of nullification or impairment.⁵⁴

43. As detailed below, the United States agrees that the use of a counterfactual analysis is appropriate if the Arbitrator does not accept the United States’ argument above that Canada has suffered no nullification or impairment, but explains why Canada’s counterfactual must be adjusted to ensure a result that is more equivalent to any future, hypothetical level of nullification or impairment.

B. Canada’s Counterfactual Is Flawed and Fails to Ensure an Estimate That Is Equivalent to the Level of Future Nullification or Impairment

44. In the event the Arbitrator proceeds to evaluate the hypothetical level of future nullification or impairment, an analysis using a counterfactual – a comparison of the application of the challenged measure with a scenario in which the measure is eliminated with respect to Canadian exporters – is appropriate to determine the level of nullification or impairment that hypothetically would be caused by the challenged measure. In particular, as explained below, the United States provides clarifications to Canada’s proposed counterfactual for company-

⁵⁰ *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 1.12 (citing *US – 1916 Act (EC) (Article 22.6 – US)*, paras. 5.54, 5.63; *US – COOL (Article 22.6 – US)*, para. 4.5; *US – Tuna II (Mexico) (Article 22.6 – US)*, para. 5.16; *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 1.16).

⁵¹ See, e.g., *US – Gambling (Article 22.6 – US)*, para. 3.14 (“the use of a counterfactual to assess the level of exports that would have accrued to Antigua, had the United States complied with the rulings, constitutes an appropriate basis for assessing the level of nullification or impairment of benefits accruing . . .”); *US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US)*, para. 4.22; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 37; *EC – Bananas III (US) (Article 22.6 – EC)*, para. 7.1 *et seq.*; *US – Tuna II (Mexico) (Article 22.6)*, para. 4.4.

⁵² See Canada’s Methodology Paper, paras. 9-12.

⁵³ See, e.g., *US – Gambling (Article 22.6 – US)*, para. 3.27; *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.10-3.11.

⁵⁴ See, e.g., *US – Gambling (Article 22.6 – US)*, para. 3.30; *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.10-3.11.

specific CVD rates and the proposed counterfactual reference period. Further, Canada’s proposed counterfactual All Others rate – which Canada seeks to set to zero – is not appropriate because Canada’s proposal would not accurately reflect the benefits actually nullified or impaired.⁵⁵

1. The Counterfactual Company-Specific CVD Rate

45. First, in its methodology paper, Canada argues that “[t]he elimination of the OFA-AFA measure in the counterfactual scenario results in the lowering of the countervailing duty rate for the respondent companies that had been subjected to the application of the OFA-AFA measure.”⁵⁶ As an initial matter, the United States notes that it would not necessarily be the case that removal of the challenged “ongoing conduct” measure always results in the portion of the CVD rate being reduced. Rather, the removal of the challenged “ongoing conduct” measure – when Commerce applies facts available to information it discovers at verification that it determines should have been reported in response to the “any other forms of assistance question” – could result in Commerce continuing to find subsidization because Commerce utilizes the information from verification to find a countervailable subsidy, and therefore the respondent company’s rate could stay the same or even increase. Therefore, in instances where information exists on the record of the future CVD proceeding to use for the discovered subsidy program, the United States considers it would be more appropriate to use such information to calculate the counterfactual company-specific CVD rate.

46. If such information does not exist, then the United States agrees that the removal of the challenged measure would result in the lowering of the total CVD rate for an individually-investigated company to which the measure had been applied.⁵⁷ That is, the total CVD rate for the affected respondent company will be reduced by the amount of the rate attributable to the application of the measure. The information needed to recalculate the respondent’s rate will be publicly available in the countervailing duty determination and the respondent’s calculation memo.⁵⁸

2. The Reference Period

47. Second, the United States agrees with Canada on the reference period, with clarifications.⁵⁹ Because the discovered subsidy “ongoing conduct” measure is not currently applied to any Canadian goods, the reference period to be used to determine the value of imports should be the full calendar year prior to the issuance of the final determination or final results by

⁵⁵ See *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 5.2 (explaining that the counterfactual assessment should be “connected to the specific circumstances of the dispute and the original proceedings”, and any assumptions made “must be reasonable and ‘accurately reflect the benefits . . . that have actually been nullified or impaired.’”).

⁵⁶ Canada’s Methodology Paper, para. 10.

⁵⁷ Canada’s Methodology Paper, para. 10.

⁵⁸ *E.g.*, Issues and Decision Memorandum for the Final Determination in the Countervailing Duty Investigation of Supercalendered Paper from Canada (“Supercalendered Paper IDM”), p. 30 (discussing the application of 8.55 percent to each of discovered subsidy programs) (Exhibit USA-2); Final Determination Calculations for Resolute FP Canada Inc. (“Resolute’s Calculation Memo”), Attachment 1 (Exhibit USA-3).

⁵⁹ Canada’s Methodology Paper, para. 12.

Commerce that applies the challenged measure in a CVD proceeding concerning Canadian goods. This is appropriate given that the value of imports in the calendar year prior to the issuance of Commerce’s determination will have not yet been affected by the challenged measure. As illustration, if the final determination in a CVD investigation or the final results in a CVD administrative review is issued in 2015, the reference period will be 2014 – that is, the full calendar year prior to the issuance of the determination.

3. The Appropriate Counterfactual “All Others” CVD Rate Should Be Determined in Accordance with Commerce’s Statute and Use the Same Methodology Applied by Commerce in the Future CVD Proceeding

48. Canada asserts that the appropriate counterfactual for the All Others rate should be zero when the All Others rate includes duties based on the application of the discovered subsidy “ongoing conduct” measure.⁶⁰ In making such a proposal, Canada falsely assumes that the counterfactual is the elimination of the entirety of the countervailing duty applied to companies under the All Others rate. The selection of zero is not a reasonable or plausible counterfactual to estimate the level of nullification or impairment because the All Others rate is based on an average of the individually-investigated respondent company rates in the CVD proceeding, and the information will exist on the record of the future CVD proceeding to calculate the counterfactual All Others rate.⁶¹

49. By way of background, Commerce calculates the All Others rate in its CVD investigations in accordance with 19 U.S.C. § 1671d(c)(5)(A), which is section 705(c)(5)(A) of the Tariff Act of 1930. Pursuant to 19 U.S.C. § 1671d(c)(5)(A)(i), for companies not individually investigated, Commerce determines an All Others rate equal to the weighted average of the countervailable subsidy rates established for exporters and producers individually investigated (“individually-investigated respondents”) based on their relative sales of subject merchandise in the U.S. market, excluding any zero and *de minimis* countervailable subsidy rates, and any rates determined entirely under 19 U.S.C. § 1677e (*i.e.*, based on the facts otherwise available).⁶² Commerce looks to the same statutory provision for guidance in determining an All Others rate in a CVD administrative review.

50. However, 19 U.S.C. § 1671d(c)(5)(A)(ii) provides that, if the countervailable subsidy rates established for all individually-investigated respondents are zero or *de minimis* rates, or are determined entirely under 19 U.S.C. § 1677e (*i.e.*, based on the facts otherwise available), Commerce “may use any reasonable method to establish an all-others rate for exporters and producers not individually investigated, including averaging the weighted average countervailable subsidy rates determined for the exporters and producers individually investigated.”⁶³

⁶⁰ Canada’s Methodology Paper, para. 11.

⁶¹ See *US – Gambling (Article 22.6 – US)*, para. 3.27; *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.10-3.11 (finding that a counterfactual should “reflect at least a plausible or reasonable scenario”).

⁶² 19 U.S.C. § 1671d(c)(5)(A)(i) (Exhibit USA-4).

⁶³ 19 U.S.C. § 1671d(c)(5)(A)(ii) (Exhibit USA-4).

51. Importantly, where Commerce determines that weight-averaging the countervailable subsidy rates established for the individually-investigated respondents risks disclosure of business confidential information (referred to by Commerce as “business proprietary information”), Commerce typically will request publicly-ranged data from those respondents to calculate a weighted-average All Others rate equal to the weighted average countervailable subsidy rates based on those publicly-ranged data.

52. Further, in certain circumstances where weight-averaging the rates of the individually-investigated respondents risks disclosure of business confidential information, Commerce sometimes will use a simple average of the individually-investigated respondents’ countervailable subsidy rates to determine the All Others rate.

53. Therefore, depending on the factual circumstances, the All Others rate is based on either a weighted average of actual U.S. sales values, a weighted average of publicly-ranged sales values, or a simple average of the individually-examined respondent company rates. Given that the All Others rate calculation differs depending on the factual circumstances of a proceeding, to ensure that the counterfactual will accurately reflect the level of nullification or impairment, it would be appropriate that the counterfactual All Others rate be calculated in accordance with Commerce’s statute and in accordance with the All Others rate calculation methodology that is used in the future CVD proceeding.

54. Canada’s selection of zero for the counterfactual All Others rate is unreasonable and would create a grossly inaccurate estimate of nullification or impairment. To illustrate, in the *Supercalendered Paper* investigation, the final determination contained the following rates: Port Hawkesbury’s rate was 20.18 percent; Resolute’s rate was 17.87 percent; and the All Others rate was 18.85 percent.⁶⁴ The All Others rate was calculated using a weighted average of the publicly-ranged sales data of the individually-investigated companies in the final determination.⁶⁵ To calculate a counterfactual All Others rate for the *Supercalendered Paper* final determination, the discovered subsidy “ongoing conduct” measure would need to be removed. Port Hawkesbury’s rate in the final determination did not contain the challenged “ongoing conduct” measure; therefore, its rate would not change. However, the removal of the measure would impact Resolute’s rate in the final determination – specifically, 17.1 percent of Resolute’s rate was from the two discovered subsidy programs.⁶⁶ Therefore, a removal of the challenged measure would result in Resolute’s rate being reduced to 0.77 percent (17.87 percent minus 17.1 percent from the two discovered programs), a *de minimis* rate.⁶⁷ In this scenario, the counterfactual All Others rate would not be based on an average of the two individually-

⁶⁴ *Supercalendered Paper from Canada: Final Affirmative Countervailing Duty Determination*, 80 Fed. Reg. 63535, 63536 (Oct. 20, 2015) (Exhibit USA-6).

⁶⁵ Calculation of the All-Others Rate for the Final Determination in the Countervailing Duty Investigation of *Supercalendered Paper from Canada* (“*Supercalendered Paper All Others Rate Calculation Memo*”), Oct. 13, 2015, p. 1 (Exhibit USA-7).

⁶⁶ *Supercalendered Paper IDM*, p. 30 (discussing the application of 8.55 percent to each of discovered subsidy programs) (Exhibit USA-2); Resolute’s Calculation Memo, Attachment 1 (Exhibit USA-3).

⁶⁷ The rate would be reduced because information does not otherwise exist on the record to use for the discovered subsidy programs.

investigated respondent rates because, as explained above, the U.S. statute 19 U.S.C. § 1671d(c)(5)(A)(i) provides that an All Others rate shall exclude any zero and *de minimis* countervailable subsidy rates.⁶⁸ Accordingly, the counterfactual All Others rate for the final determination in *Supercalendered Paper* would be based on the rate that Port Hawkesbury received in the final determination, 20.18 percent, thereby increasing the All Others rate from 18.85 percent to 20.18 percent.

55. The *Supercalendered Paper* example, the only Canadian CVD determination that has ever contained the challenged measure (before the order was revoked), illustrates the inaccuracy and unreasonableness of Canada’s proposal to set the All Others rate to zero. Further, as explained below, because the necessary information will exist on the record of a proceeding to calculate the counterfactual All Others rate, Canada’s oversimplification of the counterfactual All Others rate should be rejected.

a. The Necessary Information Will Exist to Calculate the Counterfactual All Others Rate

56. Contrary to Canada’s assertion, sufficient information will exist on the record of each CVD proceeding to identify the amount the discovered subsidy “ongoing conduct” measure contributes to the calculation of the All Others rate.⁶⁹ As detailed above, the All Others rate is calculated based on the average of the individually-investigated company rates, and Canada does not dispute that there is sufficient information in a CVD proceeding to change the rate of the individually-investigated respondent’s CVD rate when the challenged measure is removed.⁷⁰ Further, each countervailing duty proceeding contains calculation memoranda for the individually-investigated respondents, as well as a calculation memo for the All Others rate.⁷¹

57. In some instances, the information needed to calculate the counterfactual All Others rate will be publicly available. If, in a future proceeding, Commerce uses a simple average of the individually-investigated respondents or uses a weighted-average of the publicly-ranged values of U.S. sales to calculate the All Others rate, the counterfactual All Others rate would be established using the same methodology, and the information needed will be publicly available.⁷² For example, in the *Supercalendered Paper* investigation, the portion of Resolute’s CVD rate attributable to the “ongoing conduct” measure was publicly available in the final determination and Resolute’s calculation memo,⁷³ and the All Others rate was based on the weighted-average

⁶⁸ 19 U.S.C. § 1671d(c)(5)(A)(i) (Exhibit USA-4).

⁶⁹ Canada’s Methodology Paper, para. 11 (“The United States does not disclose sufficient information in its countervailing duty determinations to identify the amount the adverse facts available rate contributes to the calculation of the all others rate.”).

⁷⁰ Canada’s Methodology Paper, para. 10.

⁷¹ See, e.g., Resolute’s Calculation Memo, Attachment 1 (Exhibit USA-3); Supercalendered Paper All Others Rate Calculation Memo (Exhibit USA-7).

⁷² See, e.g., Resolute’s Calculation Memo, Attachment 1 (Exhibit USA-3); Supercalendered Paper All Others Rate Calculation Memo (Exhibit USA-7).

⁷³ See Supercalendered Paper IDM, p. 30 (discussing the application of 8.55 percent to each of discovered subsidy programs) (Exhibit USA-2); Resolute’s Calculation Memo, Attachment 1 (Exhibit USA-3).

of the publicly-ranged values of U.S. sales.⁷⁴ Therefore, public information existed on the record of the *Supercalendered Paper* investigation to calculate the counterfactual All Others rate.

58. In other situations, the information to calculate the All Others rate may be business confidential, particularly in instances where Commerce has calculated the All Others rate using actual U.S. sales values of subject merchandise.⁷⁵ In these situations, authorization letters from the individually-investigated respondents should be obtained. That is, in instances where the information needed to calculate the counterfactual All Others rate is considered business confidential, Canada will request that the individually-investigated respondents in the future CVD proceeding provide written authorization to the Government of Canada to permit access to the relevant calculation memoranda, containing the confidential sales data, that will be on the record of Commerce’s CVD proceeding for the purpose of calculating a counterfactual All Others rate. If Canada is not able to secure the necessary authorization from all individually-investigated respondents, the counterfactual All Others rate will remain the same – that is, there will be no change in duty – because there would be insufficient authorization to use the information necessary to recalculate the rate. Canada has proposed to remove companies that do not provide authorization from the calculation of nullification or impairment.⁷⁶ However, Canada’s proposal fails to account for the impact of the removal of the challenged measure on the supply of the entire market;⁷⁷ the impact is not solely limited to the affected company’s imports. Therefore, in the event an affected company fails to provide the needed authorization, the approach for the All Others rate to remain the same properly accounts for all other imports when the economic model is run.

59. Accordingly, it would be appropriate to consider the factual circumstances of an individual case to calculate a counterfactual All Others rate to ensure an estimate that will accurately reflect the benefits actually nullified or impaired in a future proceeding.⁷⁸ Because the calculation of the All Others rate is done on a case-by-case basis, the same methodology applied by Commerce in the future CVD proceeding – taking into account the U.S. statute’s requirements to exclude rates that are zero, *de minimis*, or entirely based on facts available – should be used to establish the counterfactual All Others rate.⁷⁹ Further, sufficient information

⁷⁴ Supercalendered Paper All Others Rate Calculation Memo, pp. 1-2 (Exhibit USA-7).

⁷⁵ Countervailing Duty Investigation of Certain Softwood Lumber Products from Canada: Amended All Others Rate Calculation for Final Determination Memo, Dec. 4, 2017 (Exhibit USA-8); Countervailing Duty Investigation of Certain Softwood Lumber Products from Canada: Amended All Others Rate Calculation for Final Determination Attachment, Dec. 4, 2017 (Exhibit USA-9).

⁷⁶ Canada’s Methodology Paper, para. 16.

⁷⁷ See sections IV.C.1 and IV.D.3 for further discussion of the impact of the removal of the challenged measure on the supply of the entire market – that is, subject Canadian companies, non-subject Canadian companies, domestic suppliers, and imports from the rest of the world. As detailed in those sections, the level of nullification or impairment is not just the change in U.S. imports by the affected companies when their rates are changed, but rather is a sum of the change in imports by the affected companies and non-affected companies.

⁷⁸ See *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 5.2 (explaining that the counterfactual assessment should be “connected to the specific circumstances of the dispute and the original proceedings”, and any assumptions made “must be reasonable and ‘accurately reflect the benefits . . . that have actually been nullified or impaired.’”).

⁷⁹ See *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 5.12 (“Specifically, we find it appropriate to determine the counterfactual on a case-by-case basis, taking into account the specific circumstances of each anti-dumping order and the types of violations it entails”).

will exist on the record of a CVD proceeding to follow that methodology and to calculate an All Others rate that excludes the duties that are the result of the application of the challenged measure.

60. In contrast, Canada’s arbitrary selection of zero for the All Others rate fails to account for the fact that the counterfactual is the countervailing duty that would apply with the challenged measure removed; it is not the elimination of the entirety of the countervailing duty rate applied to companies under the All Others rate. Canada’s selection of zero is an unreasonable and inaccurate counterfactual that necessarily would lead to an overstated level of suspension that is not equivalent to the level of nullification or impairment, and therefore would be inconsistent with Article 22.4 of the DSU.

4. Summary of the Appropriate Counterfactual

61. For the reasons discussed above, an analysis using a counterfactual – a comparison of the application of the challenged measure with a scenario in which the measure is eliminated with respect to Canadian exporters – is appropriate to determine the level of nullification or impairment that is consistent with Article 22.4 of the DSU. The counterfactual respondent rate should be the rate after the challenged measure is removed. The reference period to determine the value of imports should be the full calendar year prior to the application by Commerce of the challenged measure in a final CVD determination concerning Canadian goods. Further, Canada’s approach to set the counterfactual for the All Others rate to zero is not reasonable because the information will exist on the record of a future CVD proceeding to recalculate the All Others rate in accordance with Commerce’s methodology that is used in the future proceeding.

62. The next section details the appropriate methodology for estimating the level of nullification or impairment, in terms of trade flows, if the discovered subsidy “ongoing conduct” measure was removed in a future CVD proceeding, in the manner reflected in the counterfactual.

C. The Selected Approach Must Allow for The Level of Nullification or Impairment to Be Determined Case by Case

63. The central issue in this proceeding is the impact on trade flows of the *future* application of the discovered subsidy “ongoing conduct” measure. Canada has requested to suspend concessions on the basis of a formula that is described in its methodology paper.⁸⁰

64. As an initial matter, Canada’s formula cannot generate an estimate that is equivalent to a future level of nullification or impairment because the product and market are unknown, and therefore Canada’s formula rests on pure speculation as to what duty might result from the challenged measure.⁸¹ Indeed, given the unique circumstances of this dispute – an “ongoing conduct” measure that is not applied to Canada and only relates to an unknown future application – the selection of a singular analytical framework, as Canada proposes, to assess a hypothetical

⁸⁰ Canada’s Methodology Paper, para. 7.

⁸¹ See *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 1.12 (explaining that a determination of nullification or impairment should not be based on speculation).

level of suspension is contrary to the requirement of Article 22.4 of the DSU that the level of suspension of concessions or other obligations be equivalent to the level of nullification or impairment.

65. The United States recognizes that, as a general matter, neither the DSU nor past arbitrator decisions preclude the possibility that an arbitrator might base the level of suspension of concessions on a formula. However, where prior arbitrators adopted a formula, nullification or impairment was found to exist, and a formula was selected to estimate the level of suspension because the measure was currently applied and would continue to be applied.⁸² As previously discussed in section III.C, reliance on these past arbitrations is misplaced given that this proceeding involves an “ongoing conduct” measure, not an “as such” measure, and the measure is not applied in relation to Canada. Therefore, without knowing the product and market that could be at issue, any framework chosen at this juncture, including a formula, cannot generate an estimate that is equivalent to an unknown level of nullification or impairment, as required by Article 22.4 of the DSU.

66. However, in the event the Arbitrator disagrees and seeks to select a singular analytical framework to set a hypothetical future nullification or impairment, the United States presents in the sections that follow considerations that should be taken into account. Because a hypothetical future application of the “ongoing conduct” measure could involve any Canadian product, to accurately estimate the impact of the challenged measure on Canada’s trade flows, the methodology that is ultimately selected must have the flexibility to capture the nuances of the particular product and market at issue at a specific point in time in order to calculate an estimate equivalent to the level of nullification or impairment with precision. An Armington partial equilibrium model should be selected to assess the trade effect of the removal of the challenged measure. Both the United States and Canada agree on this basic point.⁸³ However, the parties diverge on which variant of the Armington-based partial equilibrium model to use.

67. As discussed in detail below, the United States considers that it would be more appropriate to use an Armington model that captures at least five sources of supply (also referred to as “varieties”), which is the appropriate methodology to correctly handle a counterfactual which involves duty rates of varying magnitudes across Canadian exporters. This model should be run directly in its non-linear form to avoid introducing approximation error. Further, as discussed in section IV.D.1, the United States considers it would be appropriate to pre-determine the sources for the inputs of the model. By pre-determining the data sources, the parties will have predictability, while also ensuring that any variation in the types of product and market will be taken into account.

68. In contrast, Canada’s formula is derived from a model that captures only two varieties. As demonstrated below, Canada’s formula can only be applied in cases that involve a single, uniform duty rate change applied to all imports from Canada, a scenario which will not be

⁸² See *US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)*, para. 5.2; *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 4.45.

⁸³ David Reishus & Andrew Lemon, “Methodology for Calculating Canada’s Losses from U.S. Application of the OFA-AFA Measure,” Sept. 18, 2020, Canada’s Methodology Paper Appendix (“Reishus & Lemon Methodology Report”), para. 17.

applicable here. Canada’s underlying model also introduces approximation error because Canada solves the model using the log-linearization method. In addition to the flaws of Canada’s underlying model, the formula itself is inappropriate because it contains a pre-determined coefficient (referred to by Canada as the “scaling factor”) to calculate the level of nullification or impairment. Using a pre-determined scaling factor is particularly problematic where it is unknown if and when the measure will be applied, and the product and market at issue is also unknown.

69. Therefore, for the reasons discussed below, the United States’ approach of using an Armington partial equilibrium model with multiple varieties, run in its inherent non-linear form, with pre-determined data sources rather than pre-determined data values, is the appropriate methodology for estimating the level of nullification or impairment. In contrast, Canada’s proposal to use a formula, derived from a flawed model, is inconsistent with the counterfactual and does not generate a reasoned estimate of the level of nullification or impairment.

70. This section is structured as follows: section IV.C.1 first explains that the correct methodology for determining the level of future nullification or impairment is an Armington-based partial equilibrium model with multiple varieties in a non-linear form. In Appendix 1 and 2, the United States includes a technical illustration and solution of the United States’ model. Section IV.C.2.a demonstrates that Canada errs in presenting a formula that is derived from an underlying model that does not represent the correct counterfactual because it contains only two varieties – Canadian and non-Canadian sources of supply. Section IV.C.2.b explains that Canada seeks to remedy the formula’s deficiency of only containing one Canadian variety by inaccurately proposing to execute its formula multiple times and use the sum of those results as the estimate of the level of nullification or impairment. Section IV.C.2.c illustrates that Canada compounds these errors by unnecessarily introducing approximation error by not solving the model directly in its non-linear form. Lastly, section IV.C.2.d explains that Canada’s formula will not result in a reasoned estimate of future nullification or impairment because it relies on fixed and imprecise data inputs.

1. The Correct Methodology for Determining the Level of Nullification or Impairment Is an Armington-Based Partial Equilibrium Model with Multiple Varieties Solved in Its Non-Linear Form

71. The appropriate methodology for determining the level of nullification or impairment is to evaluate the effects of duty rate changes in an Armington partial equilibrium model. Both the United States and Canada agree that this model is the appropriate starting point.⁸⁴ The Armington partial equilibrium model is a standard framework for evaluating the impacts of changes in *ad valorem* duties such as tariffs and antidumping and countervailing duties. The model assumes that buyers differentiate between varieties of a product based on their source and that these varieties are imperfect substitutes in demand.⁸⁵ The rate of substitution, known as the

⁸⁴ Reishus & Lemon Methodology Report, para. 17.

⁸⁵ See Ross Hallren & David Riker, “An Introduction to Partial Equilibrium Modeling of Trade Policy,” USITC Office of Economics Working Paper Series (July 2017) (“Hallren & Riker (2017)”), pp. 4-5 (Exhibit CAN-04). See also WTO & UN (2012), *A Practical Guide to Trade Policy Analysis*, pp. 104, 144-146 (Exhibit CAN-03).

elasticity of substitution, is a central element of the Armington model and it describes how sensitive consumers are to changes in the relative prices of each variety, which in this case reflects changes in their relative import duties.⁸⁶

72. The effect of a change in duty rate as a result of the removal of the challenged measure depends on the substitutability between four categories of varieties in the model: (1) the domestic like product (products at issue made in the United States), (2) subject imports from Canada (products at issue imported from Canada that are subject to the challenged measure), (3) non-subject imports from Canada (products at issue imported from Canada that are not subject to the challenged measure), and (4) non-subject imports from the rest of the world (products imported from countries other than Canada). However, Canada’s formula is derived from a model with only two sources of supply – imports from Canada and supply from all other sources, including domestic production.⁸⁷

73. For the proceeding at hand involving the “ongoing conduct” measure, at least five varieties are needed because there may be multiple varieties of the second category mentioned above, subject imports from Canada. When duties on subject import varieties are changed, their share of the U.S. market increases at the expense of all non-subject varieties (domestic, non-subject Canadian imports, and imports from the rest of the world) and other subject import varieties (subject companies under the All Others rate affected by the challenged measure).

74. It is essential to distinguish among the subject imports from Canada because in a model with imperfect substitution, when duty rates on Canadian imports are reduced, the market price of the corresponding varieties falls and the supply of each variety increases. Because all varieties are substitutes, lower prices cause buyers to demand more imports of subject-Canadian varieties and less of all others – domestic, non-subject Canadian imports, and non-subject imports from the rest of the world. Importantly, the increase in demand for each individual subject Canadian variety will depend not only on the magnitude of the reduction in their own duty rate, but also on the magnitude of the reduction relative to other subject Canadian varieties. Similarly, if the duty rates on Canadian imports increase, the impact of the rate increase would affect all varieties.

75. Therefore, the United States considers that it would be more appropriate to use an Armington-based partial equilibrium model that has the capacity to capture multiple varieties of the subject imports from Canada. Multiple varieties of subject Canadian imports are necessary because the challenged measure is a company-specific determination made by Commerce that may impact both an individually-investigated company and the All Others rate. As just explained, the change of one subject company’s rate primarily comes at the expense of imports from other companies. To illustrate, in a CVD proceeding with two individually-investigated companies and the All Others rate, we assume that one individually-investigated company is subject to a rate change and this also results in a change in the All Others rate because the rate is

⁸⁶ Hallren & Riker (2017), pp. 4-5 (Exhibit CAN-04).

⁸⁷ Reishus & Lemon Methodology Report, para. 18 (discussing two sources of supply) and Appendix 1, p. 18 (“the subscript “CA” denotes Canada and the subscript “US” denotes non-Canadian sources”).

an average of the rates of the individually-investigated companies. Because the removal of the challenged measure impacts both, each should be treated as distinct varieties in the model.

76. For full clarity then, the model selected must be able to account for at least five varieties: domestic sources, non-subject imports from the rest of the world, and three Canadian varieties – individually-investigated subject companies, the subject All Others rate, and non-subject Canadian companies – because the change in duty rate of the affected Canadian companies will be at the expense of not only U.S. domestic supply and imports from other countries, but will also be at the expense of other Canadian companies. The appropriate model must account for all of these varieties because the total level of nullification or impairment is based on the change in total imports from Canada, not just the change in total imports from affected companies. Substitution effects across all relevant varieties of the product must be taken into account to properly measure the effect of removing the challenged measure. Accordingly, the appropriate methodology to calculate the level of nullification or impairment is an Armington-based partial equilibrium model with at least five varieties.

77. Furthermore, the United States considers it would be more appropriate to apply the Armington partial equilibrium model directly in its non-linear form. Implementing the model in its non-linear form will avoid introducing approximation error – the difference in the estimate that occurs from calculating nullification or impairment directly in a non-linear model as opposed to solving it in log-linearized formulas. Appendix 1 presents a technical illustration of this model. Appendix 2 and its accompanying exhibit illustrate that this inherently non-linear model can be solved through software, thus providing an estimate of nullification or impairment without approximation error due to log linearization.⁸⁸

2. Canada’s Formula Is Derived from a Flawed Model and Would Result in an Unreasoned Estimate of the Level of Future Nullification or Impairment

78. In its methodology paper, Canada proposes to use a one-size-fits-all generic formula, similar to the one adopted by the arbitrator in *US – Washing Machines (Korea) (Article 22.6 – US)*, to determine the level of nullification or impairment. As discussed below, there are several flaws with Canada’s approach. First, the formula is derived from an incorrect variant of the Armington model. In particular, it oversimplifies sources of supply by collapsing all sources into two groups: Canadian and non-Canadian. Second, Canada seeks to cure its failure to distinguish among Canadian varieties by applying its formula multiple times in the case of multiple affected Canadian exporters. Such an approach falsely assumes that each affected Canadian firm facing a duty rate change experiences the change in a market that is entirely independent from the market in which other Canadian competitor rates are also changing. As explained below, in order to accurately reflect the counterfactual scenario in which the impact of the challenged measure is simultaneously removed, the methodology applied must also be executed simultaneously. Canada further compounds these errors by deriving its formula from a model in log-linearized form, thereby unnecessarily introducing approximation error. Lastly, the United States opposes the use by Canada of a formula with a fixed coefficient. Canada follows the approach of the

⁸⁸ See U.S. Solution and Computer Code for the Armington Partial Equilibrium Model (Exhibit USA-1).

arbitrator in *US – Washing Machines (Korea) (Article 22.6 – US)* to select a formula with pre-determined coefficients without knowledge of the product and market at issue. However, Canada’s adoption of the *Washing Machines* approach results in a formula that is inflexible and fails to capture the variation in the types of products and any variation in the types of markets in which a given product in the future is traded.

a. The Underlying Model of Canada’s Formula Is Seriously Flawed Because It Only Captures Two Varieties

79. As discussed above, to capture the effect of the removal of the challenged measure at issue in this proceeding, the Armington-based partial equilibrium model must have at least five varieties – domestic like product, two or more varieties of subject imports from Canada, non-subject imports from Canada, and non-subject imports from the rest of the world. Canada’s formula is flawed because its underlying model only accounts for two sources of supply.

80. First, Canada implicitly assumes domestic shipments and imports from all countries other than Canada are one variety.⁸⁹ However, domestic supply elasticities are typically assumed to be lower than import supply elasticities to account for the greater ability of foreign suppliers to shift supply from other markets.⁹⁰ Therefore, Canada’s simplification generates imprecision by failing in the underlying model to account for differences in the elasticity of supply between domestic and imported varieties.

81. Second, in its underlying model, Canada incorrectly places all Canadian sources into a single variety, thereby treating both subject and non-subject Canadian imports together.⁹¹ As an initial matter, it is unclear how Canada proposes in its approach to account for Canadian imports that are not subject to the challenged measure, and thus will not have a duty rate change. Further, as previously explained, because not all Canadian exporters will be subject to the “ongoing conduct” measure, it is pertinent to distinguish between Canadian exporters and treat subject imports from Canada and non-subject imports from Canada as distinct varieties.

82. To elaborate on this latter point: in an Armington-based partial equilibrium model, if everything else is held equal, a reduction in the duty rate on one Canadian entity results in an increase in demand for that Canadian variety and a decrease in demand for all other varieties, including Canadian varieties not benefitting from the reduction in their duty rate. Similarly, an increase in the duty rate of one Canadian entity results in a change in demand for that Canadian variety and a change to all other varieties. When removal of the challenged measure creates changes in duty rates of varying magnitudes across several Canadian exporters, the adjustment of U.S. demand is more complex and depends on the change in each entity’s relative duty rate. As such, in the instance where both an individually-investigated company and All Others rate are affected by the challenged measure, the model must be able to capture at least three Canadian

⁸⁹ Reishus & Lemon Methodology Report, Appendix 1, p. 18 (“the subscript “CA” denotes Canada and the subscript “US” denotes non-Canadian sources”).

⁹⁰ Hallren & Riker (2017), p. 4 (discussing that domestic product is treated as a separate variety from subject and non-subject imports) (Exhibit CAN-04).

⁹¹ Reishus & Lemon Methodology Report, Appendix 1, p. 18 (“the subscript “CA” denotes Canada).

varieties – the individually-investigated subject company, the subject All Others rate, and the non-subject Canadian companies.⁹²

83. Therefore, in contrast to Canada’s underlying model with only two varieties, the United States considers that it would be more appropriate to use an Armington model with multiple varieties, which correctly accounts for shifts in imports across Canadian suppliers, as well as between domestic and third country sources.

b. Canada’s Approach Fails to Accurately Reflect the Counterfactual Where the Challenged Measure Is Removed from All Affected Companies at the Same Time

84. Canada sets up its formula to have only one Canadian variety, arguing that if there are multiple groups of exporters with different duty rates, then the formula should be applied to each group separately, and the resulting amounts for each group of exporters would then be added together to obtain the level of nullification or impairment.⁹³ However, Canada inappropriately assumes that the result of using the formula multiple, separate times will produce a reasoned estimate of the level of nullification or impairment. Canada’s approach is not an accurate reflection of the counterfactual where the challenged measure would be removed from all affected Canadian companies at the same time. Rather, Canada’s approach of aggregating the results of multiple executions of the formula effectively bases the level of nullification or impairment on the sum of the approximate trade effects of duty rate changes in multiple, independent markets.

85. Specifically, as explained above, it is essential to specify separate Canadian entities to correspond to each change in duty rate in order to estimate trade effects that represent the correct counterfactual scenario. The counterfactual scenario that applies in this instance is one in which the United States removes the challenged measure and corrects all affected rates at the same time. When there are multiple affected Canadian entities, the model must simultaneously estimate the effects of moving from a scenario where there are rates determined using the challenged measure to a counterfactual scenario in which all affected rates have been amended. Simultaneously accounting for the effects of multiple changes in duty rates allows the model to properly account for shifts in imports across Canadian varieties, as well as between Canadian and non-Canadian varieties.

86. The U.S. Armington-based partial equilibrium model with multiple varieties reflects the correct counterfactual scenario. Canada’s approach, on the other hand, will reflect the sum of the approximate trade effects of duty rate changes in multiple, independent markets. As discussed above, each of these imaginary markets includes only two varieties – one affected “group” of Canadian exporters with the same duty rate and non-Canadian suppliers – and, as such fails to account for shifts in imports across all Canadian varieties (subject and non-subject Canadian imports), as well as between domestic supply and imports from the rest of the world. Therefore,

⁹² See also *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 6.80 (applying the Armington model with five varieties, which included three Chinese varieties).

⁹³ Reishus & Lemon Methodology Report, para. 37.

Canada’s approach simply does not correspond to the counterfactual scenario in which the United States simultaneously modifies all duty rates affected by the “ongoing conduct” measure.

87. Furthermore, as discussed in the next section, Canada’s approach of applying the formula several times compounds the approximation error, which is inherent in the formula and occurs each time the formula is applied.

c. Canada Introduces Approximation Error by Not Solving the Model Directly in Its Non-Linear Form

88. Even if the model underlying Canada’s formula were the correct variant, Canada’s approach remains flawed because it unnecessarily introduces approximation error to the model. Canada’s formula is derived by first solving its incorrect two-variety model through the log-linearization method.⁹⁴ While this is a common way to simplify model solution for non-linear models and allows for equilibrium trade effects to be calculated with arithmetic rather than by using a computer program, the simplification comes at the cost of precision by introducing an approximation error. A log-linearized model only produces a precise estimate of the effects of a change in duties under the unlikely assumption that the relevant supply and demand relationships are approximately linear. Because the Armington model is inherently non-linear, the log-linearization method introduces approximation error into the resulting estimates. The magnitude of this error increases with the size of the percent change in tariff.⁹⁵ Under Canada’s approach, approximation error is particularly problematic because Canada seeks to apply its formula multiple times,⁹⁶ thereby compounding the issue by introducing approximation error over and over again.

89. As the United States explained above, it is unnecessary to introduce approximation error when the model can be run directly in its non-linear form, with a sufficient number of sources of supply to differentiate imported varieties from their domestic counterparts and allow for nuanced treatment of changes in duties applied to different Canadian sources. Appendix 2 and its accompanying exhibit⁹⁷ illustrate that this non-linear model can be solved using the appropriate mathematical software, thus providing an estimate of nullification or impairment without approximation error.

90. Accordingly, as discussed above, the underlying model from which Canada derives its formula suffers from several fatal flaws such that Canada’s formula will not generate an estimate

⁹⁴ Reishus & Lemon Methodology Report, Appendix 1, p. 19 (“By linearizing the model’s equations around the equilibrium where demand and supply are satisfied (i.e., $d_{US} = s_{US}$ and $d_{CA} = s_{CA}$), we can solve for \widehat{vimp} as a function of \hat{t} , Canada’s share of imports at equilibrium and the model’s elasticity parameters only.”).

⁹⁵ *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 6.62 n. 246 (“Unlike solving the Armington model through a linear approximation, the accuracy of the simulation using the Armington model is not affected by the size of the duty rate changes if the model is solved through numerical iteration [that is, directly in its non-linear form].” (citing Hallren & Riker (2017) (Exhibit CAN-04))).

⁹⁶ Reishus & Lemon Methodology Report, para. 37.

⁹⁷ U.S. Solution and Computer Code for the Armington Partial Equilibrium Model (Exhibit USA-1).

that is equivalent to the level of nullification or impairment. The next section explains that Canada’s formula also suffers from another serious flaw – a pre-determined scaling factor.

d. Canada’s Use of a Pre-Determined Scaling Factor Results in an Unreasoned Estimate of the Level of Nullification or Impairment and Is Inconsistent with Article 22.4 of the DSU

91. In its methodology paper, Canada proposes to use a formula, and to apply a limited number of pre-determined values for the “scaling factor” based on broad sectors of the U.S. economy, similar to the approach of the arbitrator in *US – Washing Machines (Korea) (Article 22.6 – US)*.⁹⁸ Canada characterizes the combination of parameter values and market shares that is multiplied by the value of imports and change in duty rates as a “scaling factor”.⁹⁹ The scaling factor that Canada calculates is based on broader categories than any specified product to whose import value and duty rates such a scaling factor would be applied, and it includes pre-determined input values that would remain fixed to a specific period of time regardless of supply and demand changes in the U.S. market.

92. However, the use of such a pre-determined scaling factor, composed of a number of fixed elements, does not accord with an arbitrator’s mandate under the DSU to select a methodology that will result in setting the level of suspension equivalent to the level of nullification or impairment.¹⁰⁰ Past arbitrators have expressed the view that the determination of nullification or impairment must be a “reasoned estimate” with assumptions that are not based on speculation.¹⁰¹ However, the selection of a formula with a pre-determined and fixed scaling factor would fail to capture the characteristics of a yet-to-be known product in a specific case or account for future changes in market conditions, and therefore would not result in a reasoned estimate that is equivalent with the level of future nullification or impairment, consistent with Article 22.4 of the DSU.

93. Indeed, Canada’s approach to calculating the scaling factor freezes all of the parameter values and data inputs at one point in time, an approach that is particularly problematic given that the measure is not presently being applied to Canada and relates to a hypothetical future application of the challenged measure. Specially, Canada proposes to set the scaling factor to the numbers in Figure 2 of the Reishus and Lemon methodology report.¹⁰² The use of these pre-determined values associated with broad economic sectors, rather than elasticity estimates and U.S. market shares tailored to the specific product and the time period of the CVD proceeding at issue necessarily will yield imprecise estimates of trade effects.

94. Canada asserts that its approach of using a pre-determined scaling factor is similar to that of the arbitrator in *US – Washing Machines (Korea) (Article 22.6 – US)*.¹⁰³ As previously

⁹⁸ Canada’s Methodology Paper, para. 7; Reishus & Lemon Methodology Report, para. 16.

⁹⁹ See Reishus & Lemon Methodology Report, para. 31.

¹⁰⁰ DSU, Article 22.4.

¹⁰¹ *US – 1916 Act (EC) (Article 22.6 – US)*, paras. 5.54, 5.63.

¹⁰² Reishus & Lemon Methodology Report, p. 14, Figure 2 and Appendix 2.

¹⁰³ Canada’s Methodology Paper, para. 7.

discussed, Canada’s reliance on that decision is misplaced because that proceeding involved an “as such” measure and dealt with consideration of a measure that existed and would continue to exist.¹⁰⁴ Here, on the other hand, the dispute involves an “ongoing conduct” measure that does not continue to exist and be applied to exports from Canada.

95. More importantly, use of a scaling factor would not result in a level of suspension or nullification or impairment consistent with the DSU. In *US – Washing Machines (Korea) (Article 22.6 – US)*, neither Korea nor the United States supported the use of a formula with pre-determined scaling factors – referred to as a “coefficient-based approach” by the arbitrator in that dispute.¹⁰⁵ As the arbitrator in that proceeding summarized:

Korea questioned “whether a coefficient approach would meet the equivalence requirement under Article 22.4 of the DSU”, because certain elements of that formula “would have to be calculated when the value[s] . . . are not yet known, as it would not be possible to know in advance for which products the USDOC would apply the WTO-inconsistent method.”

The United States, largely agreeing with Korea’s analysis, also does not consider a coefficient-based approach to be “feasible because it cannot result in a level of suspension that is consistent with the DSU”. The United States specifies that “[i]t is not feasible” to determine whether a coefficient-based approach is appropriate “without first examining the characteristics of the different industries that produce those products, and the different markets in which those products are traded, to determine if the assumptions . . . hold for the different products.”¹⁰⁶

96. Furthermore, while the arbitrator in *US – Washing Machines (Korea) (Article 22.6 – US)* noted the similarities of its approach to that of the approach in *US – Offset Act (Byrd Amendment) (EC)*, Korea disagreed and highlighted that:

[T]he formula “in *US – Offset Act (Byrd Amendment) (EC)* is inapplicable to the current case” because the coefficient, in that arbitration, was intended “to quantify trade effect caused by the distribution of anti-dumping and countervailing duties, which did not in themselves reflect the trade effect of the measure”. Korea observes, “the problem” – that the measure at issue “only indirectly had a trade effect – is not present here.”¹⁰⁷

¹⁰⁴ See *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.13, 4.2.

¹⁰⁵ *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 4.55 (“Both Korea and the United States expressed reservations about the use of a coefficient in a formula.”).

¹⁰⁶ *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 4.55 (original citations omitted) (underline added).

¹⁰⁷ *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 4.54-4.55 (original citations omitted).

97. Therefore, the use of a pre-determined scaling factor, based on broad sector categories and fixed inputs, distorts any potential estimate of the level of nullification or impairment for a future product. Further, as discussed below, because the future product and market at issue are unknown, only the sources for data inputs should be pre-determined, not the values of the data inputs themselves. In the next section, the United States explains the appropriate data sources for the scaling factor to obtain an estimate of the level of nullification or impairment.

D. Correct Model Inputs That Would Be Used in Applying an Armington-Based Partial Equilibrium Model

98. Both parties agree that the starting point for the appropriate methodology is an Armington-based partial equilibrium model.¹⁰⁸ In its most basic form, an Armington partial equilibrium model requires three types of information: (1) United States' consumption (the value of imports and domestic shipments), (2) duty rates, and (3) parameter values (elasticity estimates and market share). As such, similar information is required to calculate nullification or impairment following either party's approach.

99. In this section, the United States explains the appropriate data inputs and sources that are needed for an Armington-based partial equilibrium model. For clarity in exposition, Table 1 in Appendix 2 lists the data inputs used in applying the Armington-based model proposed by the United States. In addition to describing the sources for model data inputs, we explain why the data inputs proposed by Canada using the formula approach should be rejected. Table 2 in Appendix 3 illustrates the problems in Canada's approach.

100. For the ease of the Arbitrator, the United States follows the order of presentation in Canada's methodology paper, and first discusses the inputs proposed for the "scaling factor" (*i.e.*, parameter values – demand elasticity, substitution elasticity, supply elasticity, and market share), and then discusses the other two components of the model – value of imports and change in duty.

1. The Appropriate Sources for the Parameter Values

101. The United States disagrees with Canada's approach of pre-determining the values of the data inputs by using sources that are based on broad sectors of the U.S. economy.¹⁰⁹ As the United States explained in section IV.C.2.d, a pre-determined scaling factor does not result in a reasoned estimate of the level of nullification or impairment because it fails to take into account the specifications and characteristics of the product and market that would be at issue. Further, deriving the values for the scaling factor from sources from a specific period of time ignores the likelihood that parameters may change in the future in conjunction with changes in U.S. market conditions. A far better approach would be to use the most recent data specific to the product, which is readily available in reports published by the Commission.

102. In the sections below, the United States contests the sources relied upon by Canada for the parameter values and market shares. Neither the elasticities nor the market shares advocated

¹⁰⁸ Reishus & Lemon Methodology Report, para. 17.

¹⁰⁹ Reishus & Lemon Methodology Report, para. 16.

by Canada are tailored to the product that would be at issue. Specifically, for the parameter values, Canada selects elasticity estimates that are not based on any specified product and are from different sources.¹¹⁰ Each of these elasticities is estimated for a broader product grouping than the product that would be at issue in a CVD proceeding, and therefore will not be sufficiently precise. Further, for each elasticity, Canada also uses different sources – each of which is based on different years and a different number of broad sectors – thereby generating imprecise input values.

103. Likewise, Canada’s proposal to pre-determine market share inputs is flawed because Canada’s input fixes a broader product segment to a year other than the base year for the calculation.¹¹¹ As discussed in detail below, the market share should be calculated by dividing imports of the relevant product by the total value of the market for the relevant product in the same year. Canada’s approach to selecting these sources will result in an unreasoned estimate, particularly because such an approach is unnecessary given that the Commission publishes estimates for the relevant parameters and market share that are specific to the product under investigation.

104. As discussed below, the United States considers it would be more appropriate for the selected elasticities and market share inputs to be based on data reported by the Commission in the future CVD proceeding at issue. The Commission qualitatively estimates demand, substitution, and domestic supply elasticities for every product under a CVD (or AD) investigation in its investigation report. Therefore, the elasticity estimates should be the median of the range of the estimated elasticities determined by the Commission. The United States also considers it appropriate that the Commission report in the future CVD proceeding at issue be used as the source for the data necessary to calculate market shares.

105. The parameter estimates made and market share data used by the Commission during the course of its investigations are particularly well suited for use in a model to estimate the level of nullification or impairment because the Commission’s estimates are for the specific products at issue. Further, the estimates are made after analyzing responses from domestic producers and importers, and foreign producers and exporters concerning the market of the product under investigation, as well as arguments made by interested parties. The use of estimates from the Commission in this proceeding would also be consistent with decisions in past arbitrations, including *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* and *US – Washing Machines (Korea) (Article 22.6 – US)*.¹¹²

106. In the sections that follow, the United States explains the appropriate source for the demand elasticity, substitution elasticity, supply elasticity, and market share.

¹¹⁰ Reishus & Lemon Methodology Report, paras. 22-27.

¹¹¹ Reishus & Lemon Methodology Report, paras. 28-30.

¹¹² *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.36; *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.97-3.101.

a. Demand Elasticity

107. The price elasticity of demand describes the magnitude of the increase in U.S. demand for a given product in response to a price change, such as one that would accompany a change in the duty rate on imports from Canada. Because the demand elasticity depends on specific qualities of the market for a product, the United States considers it would be more appropriate to use the demand elasticity estimate reported by the Commission in the CVD investigation of the specified future product.

108. In contrast, Canada proposes to use U.S. demand elasticities from version 11 of the Global Trade Analysis Project database (“GTAP 11”), which characterizes markets in 2017.¹¹³ However, the demand elasticities in the GTAP 11 database are estimated on very broad sectors. Specifically, they are based on 45 broad sectors of the U.S. economy – industrial products based on 31 sectors and food and agricultural products based on 14 sectors.¹¹⁴ Such an aggregation assumes that the demand elasticity for many types of products are identical (for instance, there is no separate elasticity for autos versus auto parts or even a specific type of auto part). The number of individual six-digit Harmonized Tariff Schedule (“HTS”) categories within each of these GTAP sectors range between 1 (for paddy rice) and 525 (for textiles).¹¹⁵ Moreover, some products subject to CVD or AD orders may fall in multiple GTAP sectors,¹¹⁶ and Canada fails to explain which elasticity will be used in the event of such a scenario.

109. GTAP parameter estimates are derived specifically for use in large, multi-sector general equilibrium models in which the unit of analysis is broad, aggregate sectors. These elasticities are not developed for use in product-specific, partial equilibrium analysis. Indeed, the product under investigation may have further subcategories or distinctions that must be considered in determining elasticity.

110. The problem with the GTAP parameter estimates is evident upon review.¹¹⁷ Out of the 45 tradeable sectors listed in GTAP 11, 21 of the sectors (47 percent) are relatively inelastic, ranging from -0.901 to -0.913.¹¹⁸ Each sector covers a variety of different products within each broad category, making it unlikely that the true demand elasticity for all of the products that comprise these aggregated sectors would be nearly identical.

¹¹³ Reishus & Lemon Methodology Report, para. 25 and Appendix 2, para. 6 (explaining the use of HS 2017 6-digit levels from GTAP).

¹¹⁴ Reishus & Lemon Methodology Report, p. 26, Table A4.

¹¹⁵ See Table of GTAP Sectors with Number of HTS Categories (Exhibit USA-5).

¹¹⁶ For instance, in the *Utility Scale Wind Towers from Canada* CVD investigation, the scope of the investigation covered merchandise under HTS subheading 7308.20.0020 or 8502.31.0000. However, under Canada’s approach, HTS 7308.20 falls under the GTAP category, “Metal products,” while HTS 8502.31 falls under the GTAP category, “Electrical Equipment”. See *Utility Scale Wind Towers from Canada, Indonesia, and the Socialist Republic of Vietnam: Amended Final Affirmative Countervailing Duty Determination and Countervailing Duty Orders*, 85 Fed. Reg. 52543, 52545 (Aug. 26, 2020) (Exhibit USA-10); Source Data 2 (listing which GTAP 11 sector each 6-digit HTS category falls in) (Exhibit CAN-08).

¹¹⁷ Reishus & Lemon Methodology Report, p. 26, Table A4.

¹¹⁸ Reishus & Lemon Methodology Report, p. 26, Table A4.

111. Canada then takes the broad GTAP parameter estimates and further collapses them into 20 tradeable sectors to correspond to the structure of the Caliendo and Parro substitution elasticity estimates.¹¹⁹ This further aggregates many different products that may have different elasticity estimates. For example, the 22 food and agricultural sectors listed in GTAP are combined into two sectors for Caliendo and Parro.¹²⁰ Further, by collapsing the GTAP estimates into the Caliendo and Parro sectors, 17 of the 20 sector demand elasticities have a modestly inelastic demand elasticity of either -0.90 or -0.91.¹²¹ This is highly unlikely and exacerbates the problem that originated from using the GTAP 11 database (from over 47 percent of products being price inelastic to 85 percent of all products being price inelastic).

112. Further illustration of this problem can be found in Appendix 3 to this submission, where Table 2 compares the demand elasticity selected by the arbitrators in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* and *US – Washing Machines (Korea) (Article 22.6 – US)*, as well as the Commission’s estimates in the *Supercalendered Paper* investigation, with Canada’s proposed collapsed GTAP approach. The table illustrates that Canada’s suggestion to apply GTAP elasticities would imply nearly identical demand elasticities for each of the products that were at issue in those arbitrations. In contrast to the parameters in the GTAP 11 database, the parameter estimates in the Commission’s reports from the CVD proceedings at issue would take these issues into account.

113. These examples demonstrate that using the GTAP 11 database – a source that describes only broad sectors and characterizes markets in 2017 – will create an unreasoned estimate of any future nullification or impairment, and further illustrate the importance of using the demand elasticity estimate reported by the Commission that concerns the specific product at issue. Predictability will be assured by definitively determining the source of the data input, while also ensuring better accuracy and precision.

b. Substitution Elasticity within the Industry

114. As explained in Canada’s methodology paper, an Armington model assumes that buyers perceive products imported from different sources as imperfect substitutes.¹²² The substitution elasticity describes the degree to which buyers are willing to substitute one source for another. A large magnitude substitution elasticity implies that buyers perceive little difference between sources. A small magnitude elasticity implies that buyers are less willing to substitute across sources.

¹¹⁹ Canada explains that it determined the values of the scaling factor by using the methodology described in Appendix 2. Reishus & Lemon Methodology Report, para. 33. However, Canada’s submission did not include the underlying work that was described in its Appendix 2. For full clarity, it would be beneficial for the Arbitrator and the United States to see the underlying work that is described, including the relevant concordance tables.

¹²⁰ Compare Table A1 with Table A4. Reishus & Lemon Methodology Report, pp. 22, 26.

¹²¹ Reishus & Lemon Methodology Report, p. 14, Figure 2.

¹²² Reishus & Lemon Methodology Report, para. 17.

115. Canada proposes to use substitution elasticities estimated in Caliendo and Parro (2015), which uses tariffs and trade data from 1993.¹²³ As an initial matter, the Caliendo and Parro elasticities are estimated in the context of a multi-country, multi-sector general equilibrium Ricardian model,¹²⁴ in which elasticity of trade with respect to trade costs represents the degree to which productivity varies across suppliers, as opposed to an Armington model, in which substitution elasticity represents the degree to which buyers are willing to substitute across varieties differentiated only by their source.¹²⁵ Furthermore, the substitution elasticities reported by Caliendo and Parro are again estimated based on broad sectors, using production, trade, and tariffs data aggregated to 20 International Standard Industrial Classification (“ISIC”) Revision 3 industries.¹²⁶ The substitution elasticities for these broad sectors do not represent what the substitution elasticity may be for the actual specified product. Like the demand elasticities in the GTAP database, these elasticities are not intended for use in product-specific, partial equilibrium analysis.

116. In contrast, the United States considers it would be more appropriate to use the substitution elasticity estimate determined by the Commission as part of its investigation of the specified future product. These estimates are based on the specified product and will take into account any changes in demand or supply conditions at the time the product is under investigation, as well as considering responses from interested parties.

117. The problem with Canada’s approach is illustrated in Table 2 of Appendix 3 to this submission, which demonstrates a wide divergence between the substitution elasticity selected by the arbitrators in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* and *US – Washing Machines (Korea) (Article 22.6 – US)*, as well as the Commission’s estimates in the *Supercalendered Paper* investigation, and the substitution elasticities from Caliendo and Parro that Canada proposes to use.¹²⁷

118. Accordingly, the United States considers that it would be more appropriate that the Arbitrator rely on the Commission report in the investigation of the specific future product as the source for the substitution elasticity.

¹²³ Reishus & Lemon Methodology Report, para. 22; Lorenzo Caliendo & Fernando Parro, “Estimates of the Trade and Welfare Effects of NAFTA,” *Review of Economic Studies*, Vol. 82 (2015) (“Caliendo & Parro (2015)”), p. 3 (“We estimate the parameters of the model at a sectoral level using data from 1993”) (Exhibit CAN-06).

¹²⁴ Caliendo & Parro (2015), p. 2 (Exhibit CAN-06).

¹²⁵ Caliendo & Parro (2015), p. 16 n. 35 (“In our model, the elasticity of trade with respect to trade costs is the dispersion of productivity, and is not the elasticity of substitution as in Armington models.”) (Exhibit CAN-06).

¹²⁶ See Caliendo & Parro (2015), p. 34, Table A1 (Exhibit CAN-06).

¹²⁷ Canada’s approach also diverges from the approach taken by the arbitrator in *US – Washing Machines (Korea) (Article 22.6 – US)* with respect to the “as such” measure in that dispute, in which the arbitrator determined to use estimates for the elasticity of substitution from A. Soderbery, “Estimating Import Supply and Demand Elasticities: Analysis and Implications,” *Journal of International Economics*, Vol. 96(1) (2015). See *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 4.72. Canada does not explain its choice to rely on a different source.

c. Supply Elasticity

119. The elasticity of supply describes the magnitude of the change in supply from a given source in response to a change in the duty rate applied to the source of supply or to competing sources. Canada proposes using an assumed supply elasticity of 10 for all sources of supply to the United States – domestic supply, import supply from third countries, and import supply from Canada.¹²⁸

120. First, the United States considers it appropriate to use an assumption of 10 separately for the United States' import supply elasticity from Canada and from the rest of the world. The United States previously suggested such an assumption in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, and the arbitrator there adopted the value of 10 for different sources of U.S. imports.¹²⁹

121. However, the United States disagrees that the United States' domestic supply should be combined with imports from third countries. As previously explained, domestic supply will react differently than imports from the subject country or other countries and should be estimated separately. Domestic supply elasticities are typically assumed to be lower than import supply elasticities to account for the greater ability of foreign suppliers to shift supply from other markets. As discussed in sections IV.C.1 and IV.C.2.a, this is also the reason why a model needs to consider domestic supply as a source separate from imports from other countries in order to capture the different supply elasticity of each source.

122. Canada's proposal to use the value of 10 for United States' domestic supply is also devoid of any evidentiary support. Canada asserts that there is limited information on import supply elasticities as a basis for explaining that the value of 10 should be used for *both* the import supply elasticity *and* the domestic supply elasticity.¹³⁰ Such a rationale should be rejected, especially when the Commission report in a CVD investigation will report the domestic supply elasticity for the specific product. Therefore, the United States again considers it would be more appropriate to use the domestic supply elasticity estimate reported by the Commission in its investigation of the specified future product.

123. Further illustration may again be found at Table 2 of Appendix 3 to this submission, which demonstrates a wide divergence between the United States' domestic supply elasticity selected by the arbitrators in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)* and *US – Washing Machines (Korea) (Article 22.6 – US)*, as well as the Commission's estimates in the *Supercalendered Paper* investigation, and Canada's proposed value of 10. In each instance, the table demonstrates that domestic supply elasticity estimates were lower than Canada's proposal of 10.

124. For these reasons, the selection of the value of 10 for the United States' domestic supply elasticity will not result in an estimate of the level of nullification or impairment that is consistent with Article 22.4 of the DSU. Accordingly, the United States considers it would be

¹²⁸ Reishus & Lemon Methodology Report, para. 27.

¹²⁹ *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.37.

¹³⁰ Reishus & Lemon Methodology Report, para. 27.

more appropriate that the United States’ domestic supply elasticity be based on the product-specific value reported by the Commission in the CVD proceeding at issue.

d. Market Share

125. Relative market shares are necessary for both Canada’s formula and the United States’ model approach. Canada’s approach, in effect, compares imports from Canada with all other sources of supply – both domestic supply and imports from other countries. This ignores differences between the various participants in the United States’ market and is less precise than the United States’ approach in section IV.C.1 to divide the market into domestic supply, imports from other countries, imports from Canada affected by the challenged measure, and imports from Canada not affected by the challenged measure. Imports from Canada affected by the challenged measure can be further broken down by company and those subject to the All Others rate.

126. Canada calculates the U.S. consumption share of imports from Canada by using 2018 Input-Output (“I-O”) data from the U.S. Bureau of Economic Analysis.¹³¹ The consumption is measured by subtracting out 2018 exports from total supply,¹³² and Canada’s share of imports is based on HTS categories that align to Caliendo and Parro classifications. However, again, this data does not measure the true market share for U.S. imports of a future specified product from Canada since it is based on broad categories and not the product itself.

127. Moreover, the formula as applied by Canada is not consistent with the model from which the formula is derived. That is, by using market shares calculated for a broad sector of the economy using data variously from 2018-2019 as a parameter in the “scaling factor”, Canada’s formula can no longer be considered an implementation – approximate or otherwise – of an Armington model. Were Canada to correctly implement this formula in a future setting where the discovered subsidy “ongoing conduct” measure was applied, the market share would be calculated from the value of the affected Canadian imports – “*vimp*” in Canada’s notation in its methodology paper¹³³ – relative to the size of the market for the specific affected product in the same period.

128. The year for which the market share is calculated should be the same year as the value of imports, again to ensure accuracy and consistency. Therefore, the value of total U.S. imports should be based on the U.S. Census Bureau data from the relevant time period. The value of Canadian imports should be obtained from U.S. Customs and Border Protection (“Customs”) for the same time period, as discussed below. Imports from the rest of the world should be obtained by subtracting the total value of U.S. imports from Canada from total imports from the world of the specified product obtained from Census. For the purposes of obtaining total imports value, the product should be defined in terms of the HTS reference codes identified in scope of the CVD proceeding.

129. As for the market share of the United States’ domestic products, the United States considers it would be more appropriate that the relevant market share should be of the specified

¹³¹ Reishus & Lemon Methodology Report, para. 29 and Appendix 2, para. 5.

¹³² Reishus & Lemon Methodology Report, para. 29.

¹³³ Reishus & Lemon Methodology Report, Appendix 1, p. 19.

product to ensure accuracy and precision. This information is critical and, in cases where the data is public, can be found in the Commission report in the investigation or sunset review for the specified product. If the Commission's report does not disclose the information publicly, industry estimates through trade associations or private sector suppliers should be used. Only as the last resort should Canada's broader-based approach be used. Throughout this process, the United States and Canada should consult to use the best information available.

130. Lastly, in addition to the subsidies that are the subject of this dispute, Canada's market share in the year-prior to the imposition of the countervailing duties may be distorted by the fact that Canadian exporters were also selling merchandise in the United States' market at prices that were less than fair value, *i.e.*, dumping. As discussed below, the calculation of change in duty rates will need to account for dumping to generate a counterfactual that does not overstate Canada's underlying competitiveness.

131. Having established the appropriate sources for the parameter values, the United States next turns to address the other two necessary components of the Armington partial equilibrium model – change in duty and value of imports.

2. Change in Duty

132. Both Canada and the United States agree that to determine the level of nullification or impairment, the change in duties due to the elimination of the challenged measure should be the difference between the duty with the challenged measure and the duty excluding the challenged measure.¹³⁴ However, the parties diverge on the correct calculation for the change in the All Others rate, as well as the calculation of the change in duties when the challenged measure is applied to multiple companies. The United States has addressed these issues above. Specifically, as discussed in detail in section IV.B, the United States explained that the All Others rate should be determined in accordance with the methodology used by Commerce in the future CVD proceeding. For the company-specific CVD rate, the United States explained that in instances where the information does not otherwise exist on the record of the future CVD proceeding to use for the discovered subsidy program, a reduction of the total CVD rate for the affected company would be appropriate. In section IV.C, we explained that the duty rates of the affected companies should be calculated on a company-by-company basis, simultaneously.

133. Additionally, the calculation of the change in duties will need to take into account the associated AD rates. That is, if there are corresponding dumping rates applied to the product in the proceeding, they should be taken into account in the overall duty calculation since both the AD and CVD rates will affect the relative competitiveness of the Canadian product that is representative of the realities of the market. A simulated market that fails to take into account relevant antidumping duties will inevitably reflect an inappropriately high level of nullification or impairment for Canada. Therefore, if a Canadian company affected by the challenged measure was subject to both AD and CVD duties, the correct calculation for that company's change in duty should be the difference between all duties (CVD and AD) applied to the specific

¹³⁴ Canada's Methodology Paper, para. 10.

company with the challenged measure in effect, compared to all duties excluding the challenged measure applied to the specific company.

3. Value of Imports

134. At the outset, the United States concurs with Canada’s approach to use confidential data to ensure a reasoned estimate of the level of nullification or impairment. The use of actual product-specific data is consistent with the overall approach advocated by the United States to use data inputs that will reflect a reasoned estimate of the level of nullification or impairment. However, several clarifications are needed.

135. First, Canada proposes to apply the procedure for obtaining business confidential information authorization only to the Canadian exports that are subject to the challenged measure.¹³⁵ Canada states, “[i]f Canada is not able to secure the necessary data and authorizations from all relevant exporters, Canada shall be entitled to follow the above procedures to calculate the value of imports based exclusively on the data for which Canada is able to obtain and secure the necessary authorizations.”¹³⁶ Canada also proposes a consultation process for the United States and Canada to discuss the obtained data, but Canada will be the sole decision maker if the parties cannot reach an agreement.¹³⁷ The United States objects to these proposals as they ultimately allow for Canada to be the sole decision maker of the model input. That is, Canada solely controls the collection of authorization from Canadian companies to obtain the value of imports, and where there is disagreement on that data, Canada may still use the disputed data.

136. Furthermore, the singular focus on affected exporters fails to recognize the mechanics behind the calculation of the level of nullification or impairment. Specifically, with the removal of the challenged measure, an affected company’s rate may be reduced. This reduction theoretically would increase the affected company’s level of imports to the United States. However, the level of nullification or impairment is not just a function of the increase in U.S. imports by the affected companies when their rates are reduced, but rather is a sum of the increase of imports by the affected companies and the decline of imports by non-affected companies. Similarly, an increase in an affected company’s rate will impact the sum of the imports from both affected and non-affected companies. Therefore, a change in an affected company’s rate will come at the expense of the supply from others – the United States’ domestic supply, imports from third countries, imports from other affected Canadian companies, and imports from Canadian companies that are not affected by the “ongoing conduct” measure.

137. Furthermore, under Canada’s approach, if a company chooses to not provide authorization for the use of its data, Canada seeks to exclude that company’s value of imports. It remains unclear whether Canada would also exclude that company’s duty rate from the calculation given the interaction between the change in duty on the value of imports. Further, the exclusion of a company’s value of imports if it has not provided authorization does not address

¹³⁵ Canada’s Methodology Paper, para. 14.

¹³⁶ Canada’s Methodology Paper, para. 16.

¹³⁷ Canada’s Methodology Paper, paras. 14-15.

the issue of how the imports of the other exporters will be impacted. Indeed, Canada’s fails to explain how the value of imports for companies under the All Others rate will be obtained.

138. Thus, to ensure a reasoned estimate of the level of nullification or impairment, confidential data is needed from all known Canadian exporters, whether impacted by the “ongoing conduct” measure or not. Canada has similarly recognized the need for the actual value of imports.

139. Therefore, the United States considers it would be more appropriate for all company-specific import data to be obtained directly from Customs.¹³⁸ This data is the most accurate data on a company-specific basis for the purposes of determining the level of nullification or impairment. For clarity, the United States notes that for CVD investigations (as opposed to administrative reviews), because Customs does not track the value of shipments of merchandise subject to AD or CVD duties before those duties are imposed, data from Customs based on the reference HTS codes should instead be used. The use of HTS data will likely overstate the value of imports that would be subject to AD or CVD duties under each order since some of the values under the reference HTS code are not subject to duties, but it remains the best available information under those circumstances. For administrative reviews, the data from Customs will be the value of shipments of merchandise subject to AD or CVD duties. Further, using data obtained directly from Customs is consistent with the decisions in past arbitrations.¹³⁹

140. Accordingly, the value of subject imports should be based on companies affected by the challenged measure and this could be reflected in the number of varieties in the economic model. However, Canada has not shown how its formula would account for companies not affected by the challenged measure. In contrast, in section IV.C.1, the United States describes an economic model that is able to take into account the impact of the change in duty on each source of supply – other Canadian companies affected by the challenged measure, companies importing under the All Others rate (which may or may not be impacted by the challenged measure), and companies not affected by the challenged measure. Further, the United States’ approach to obtain data directly from Customs will eliminate the complexity of the situation where a company chooses to not provide its authorization. The United States’ approach is flexible and precise, and will take into account each of these critical issues.

4. Relevant Time Period

141. As previously discussed, the value of imports should be based on the full calendar year prior to the issuance of a final determination by Commerce where there are duties resulting from the application of the discovered subsidy “ongoing conduct” measure in a CVD proceeding

¹³⁸ The United States notes that the Arbitrator may need to establish business confidential information procedures for the parties that would apply to the hypothetical, future CVD proceedings.

¹³⁹ See *US – Washing Machines (Korea) (Article 22.6 – US)*, para. 3.110 (“Given that the United States’ authorities are responsible for applying anti-dumping and countervailing duties, and for collecting data on the value of imports, the Arbitrator requested the United States to provide the data on the value of imports”); *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, para. 7.22.

involving Canadian goods.¹⁴⁰ As discussed above, the United States also maintains that market shares should also be based on the prior calendar year for consistency with the underlying model framework.

142. However, Canada appears to seek to use in its proposed formula the value of imports “inflated from the reference period to the period subject to the inconsistent measure”.¹⁴¹ To the extent Canada seeks to apply an inflation rate, the United States strongly disagrees with such an application to the value of imports. All inputs should be based on the same calendar year and Canada has not suggested to inflate any of the other inputs. Therefore, to avoid unnecessarily overstating the estimate of the trade effect, the value of imports should be based solely on the calendar year prior to the imposition by Commerce of duties resulting from the application of the challenged measure in a future CVD proceeding, without any adjustment for inflation.

V. CONCLUSION

143. For the reasons set forth above, the United States respectfully requests that the Arbitrator determine that Canada’s proposed suspension of concessions is not allowed or is not equivalent to the correct level of nullification or impairment, which is zero. In Canada’s words, it is not entitled to suspend concessions because the “ongoing conduct” measure does not “continue to exist” and be “applie[d] to exports from Canada”.¹⁴²

144. If the Arbitrator were nonetheless to proceed to estimate a future, hypothetical level of nullification or impairment, the Arbitrator should reject Canada’s proposed formula because it will not result in a reasoned estimate of nullification or impairment consistent with Article 22.4 of the DSU. Rather, to the extent the Arbitrator selects a singular analytical framework, the United States has demonstrated that the Armington-based partial equilibrium model with multiple varieties, applied in its non-linear form, is the appropriate methodology to calculate any future level of nullification or impairment.

¹⁴⁰ Canada’s Methodology Paper, para. 12.

¹⁴¹ Reishus & Lemon Methodology Report, para. 35.

¹⁴² WT/DS505/13.

APPENDIX 1: A TECHNICAL ILLUSTRATION OF THE U.S. ARMINGTON MODEL WITH MULTIPLE VARIETIES

2. As explained in the United States’ submission in section IV.C.1, the United States’ model is correctly specified to include at least five varieties to accurately reflect the counterfactual scenario wherein the United States would simultaneously remove the challenged measure from all affected Canadian companies. In the United States’ model, domestic production and imports from countries other than Canada are included as individual varieties, as are imports from Canada that are subject to different changes in duty rates.

3. To illustrate, the United States presents an Armington partial equilibrium model that features five varieties, which is likely to be the minimum required to represent a CVD proceeding with one affected company and an affected All Others rate. That is, because the challenged measure is a company-specific measure, for the purposes of demonstration, we assume a proceeding in which one individually-investigated company is subject to a rate change and this results in a change in the All Others rate. It is straightforward to extend this model to incorporate additional Canadian varieties as necessary (*i.e.*, if there are multiple individually-investigated companies that are subject to rate changes due to the removal of the challenged measure).

4. Specifically, the five varieties in this demonstration model are:

- (1) The domestic product, denoted US
- (2) Imports from individually-investigated Canadian company subject to a rate change, denoted CA_I ¹⁴³
- (3) Imports from Canada under an All Others rate subject to a rate change, denoted CA_A
- (4) Imports from Canada that are not subject to a rate change, denoted CA_O
- (5) Imports from the rest of the world (ROW), denoted ROW

5. The United States model should be compared with equations (A1)-(A6) in Canada’s methodology paper. For ease of the Arbitrator, the United States has generally followed the notation used in equations (A1)-(A6).¹⁴⁴ However, we note one difference – the United States’ model is presented with prices (p_i) defined as market prices paid by buyers rather than prices received by sellers. This does not represent a substantive difference in the two models. Rather, the United States has changed this notation so that the model exposition below may be consistent with the computer program that is supplied for its solution.¹⁴⁵

6. In the U.S. model, total U.S. demand for a product takes the form:

¹⁴³ If there are multiple individually-investigated Canadian companies that are subject to a rate change, the model could easily expand to incorporate one variety for each individually-investigated affected company. That is, they would be denoted by CA_1 , CA_2 , CA_3 , etc.

¹⁴⁴ Reishus & Lemon Methodology Report, Appendix 1, p. 18.

¹⁴⁵ Note that this exposition is consistent with the model defined by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6-US)*, para. 6.41, and the model presented in Hallren & Riker (2017), pp. 7-8 (Exhibit CAN-04).

$$E = Y \times P^\epsilon \quad (1)$$

where the term E represents a CES composite of domestic and imported varieties of the product, P is the Armington Constant Elasticity of Substitution (CES) price index, Y represents total U.S. expenditure on the product if $P = 1$, and ϵ is the price elasticity of demand in the United States. The price index P is defined:

$$P = \left(\gamma_{US}^\sigma \times p_{US}^{(1-\sigma)} + \sum_i \gamma_{CA_i}^\sigma \times p_{CA_i}^{(1-\sigma)} + \gamma_{ROW}^\sigma \times p_{ROW}^{(1-\sigma)} \right)^{1/(1-\sigma)}, i = I, A, O \quad (2)$$

where γ_{US} , γ_{CA_i} and γ_{ROW} are demand shifters, p_{US} is the U.S. market price of the domestic variety, p_{CA_i} and p_{ROW} are the U.S. market prices (*i.e.*, gross of duty price) of imported varieties, and σ is the constant elasticity of substitution between all varieties.

Demand for domestic and imported varieties of the product are defined as:

$$d_{US} = \gamma_{US}^\sigma \times \left(\frac{P}{p_{US}} \right)^\sigma \times E \quad (3)$$

$$d_{CA_i} = \gamma_{CA_i}^\sigma \times \left(\frac{P}{p_{CA_i}} \right)^\sigma \times E, i = I, A, O \quad (4-6)$$

$$d_{ROW} = \gamma_{ROW}^\sigma \times \left(\frac{P}{p_{ROW}} \right)^\sigma \times E \quad (7)$$

where d_{US} , d_{CA_i} and d_{ROW} are the quantity demanded of domestic, Canadian and other imported varieties, respectively.

Supply functions for domestic and imported varieties are defined as:

$$s_{US} = \beta_{US} (p_{US})^{\eta_{US}} \quad (8)$$

$$s_{CA_i} = \beta_{CA_i} \left(\frac{p_{CA_i}}{(1+\tau_{CA_i})} \right)^{\eta_{CA_i}}, i = I, A, O; \quad (9-11)$$

$$s_{ROW} = \beta_{ROW} (p_{ROW})^{\eta_{ROW}} \quad (12)$$

where τ_{CA_i} is the total *ad valorem* duty rate, inclusive of antidumping and countervailing duties applied to variety CA_i ; $\eta_j > 0$ is the elasticity of supply of variety $j \in US, ROW, CA_I, CA_A, CA_O$; and β_j are supply shifters.

Setting supply equal to demand for each variety, equations (1)–(12) characterize equilibrium.

APPENDIX 2: SOLUTION AND CALCULATION OF NULLIFICATION OR IMPAIRMENT

7. The United States considers it would be more appropriate to solve the model directly in its non-linear form. In the accompanying exhibit, the United States provides the code and text version of the solution of the model using STATA statistical software.¹⁴⁶ The program is based on one developed by the arbitrator in *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*.¹⁴⁷ STATA is widely used by economists and statisticians,¹⁴⁸ and has been used to run Armington models in previous arbitrations.¹⁴⁹

8. The STATA program calls on a data file, which contains the relevant inputs for solving the model as described in section IV.D. These inputs, their correspondence to the model described in equations (1)-(12) above, and the appropriate source for their value are described in Table 1 below. An example data file in Excel format is included.¹⁵⁰ These data are for demonstration purposes only and do not represent any actual product.

TABLE 1

Input Name	Correspondence to Model	Data Source
epsilon	U.S. demand elasticity (ϵ)	Commission report
eta_us	U.S. supply elasticity (η_{us})	Commission report
eta_import	Supply elasticity for all imported varieties, ($\eta_{CAI}, \eta_{CAA}, \eta_{CAO}, \eta_{ROW}$)	Value set to 10
sigma	Elasticity of substitution (σ)	Commission report
Y	Total U.S. expenditure on the relevant product (E) in the base year	Sum of value of domestic shipments and imports data, sources detailed below
m_us	Market share of domestic products: the value of domestic shipments divided by total U.S. expenditure in the base year	Domestic shipments value from Commission report
m_cai, m_caa, m_cao	Market share of each Canadian variety: the value of imports of each variety divided by total U.S. expenditure in the base year	Import values obtained from Customs

¹⁴⁶ U.S. Solution and Computer Code for the Armington Partial Equilibrium Model (Exhibit USA-1).

¹⁴⁷ *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, Addendum, Annex E-9.

¹⁴⁸ WTO & UN (2012), *A Practical Guide to Trade Policy Analysis*, p. 9 (discussing the use of STATA software) (Exhibit CAN-03).

¹⁴⁹ See *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, Addendum, Annex E-9.

¹⁵⁰ Sample U.S. Model Data File (Exhibit USA-11).

m_row	Market share of ROW imports: the value of ROW imports divided by total U.S. expenditure in the base year	Total imports from Census minus Canadian imports
t_cai, t_caa, t_cao	Initial duties for each Canadian variety	Commerce determination
t1_cai, t1_caa, t1_cao	Revised duties for each Canadian variety	Calculated as described in section IV.D.2 of the U.S. submission

9. The STATA program implements the relevant changes in duty rates and calculates new equilibrium prices and quantities for each variety, and calculates nullification or impairment as the change in U.S. expenditure on all Canadian varieties net of duties. This is equivalent to the change in revenue to Canadian exporters. The STATA program generates a variable “NI”, which is the value of nullification or impairment.

APPENDIX 3: COMPARISON CHART OF ELASTICITY ESTIMATES

TABLE 2

WTO Dispute	Name of Investigation	DEMAND ELASTICITY		SUBSTITUTION ELASTICITY		DOMESTIC SUPPLY ELASTICITY	
		Commission Midpoint	Canada’s GTAP Approach ¹⁵¹	Commission Midpoint	Canada’s Caliendo & Parro Approach ¹⁵²	Commission Midpoint	Canada’s Assumption Approach
	Supercalendered Paper ¹⁵³	greater than -1.0	-0.91	5.5	9.07	3.0	10
DS471 ¹⁵⁴	Aluminum Extrusions	-0.375	-0.91	5.0	7.99	4.0	10
DS471	Bags	-0.450	-0.91	5.0	1.66	3.0	10
DS471	Coated Paper	-1.000	-0.91	3.0	9.07	4.0	10
DS471	Diamond Sawblades	-0.750	-0.91	3.0	4.30	5.0	10
DS471	Furniture	-0.750	-0.91	4.5	5.00	4.5	10
DS471	OCTG	-0.875	-0.91	4.0	7.99	3.0	10
DS471	OTR Tires	-0.250	-0.91	4.0	1.66	7.5	10
DS471	PET Film	-0.750	-0.91	4.5	1.66	3.5	10
DS471	Ribbons	-1.250	-0.84	4.0	5.56	5.0	10
DS471	Shrimp	-2.000	-0.80	4.0	2.55	3.5	10
DS471	Solar Panels	-0.875	-0.90 & -0.91	4.0	10.60	6.0	10
DS471	Steel Cylinders	-0.500	-0.91	4.0	4.30	7.5	10
DS471	Wood Flooring	-1.000	-0.91	4.0	10.83	5.5	10

¹⁵¹ Figures obtained from Table A4 of Reishus & Lemon Methodology Report, Appendix 2, p. 26.

¹⁵² Figures obtained from Figure 2 of Reishus & Lemon Methodology Report, p. 14.

¹⁵³ Figures obtained from *Supercalendered Paper from Canada*, USITC Publication 4583, Investigation No. 701-TA-530 (Final), December 2015, pp. II-24, II-25 (Exhibit USA-12).

¹⁵⁴ Figures obtained from *US – Anti-Dumping Methodologies (China) (Article 22.6 – US)*, Addendum, Annex E-5.

WTO Dispute	Name of Investigation	DEMAND ELASTICITY		SUBSTITUTION ELASTICITY		DOMESTIC SUPPLY ELASTICITY	
		USITC Midpoint	Canada's GTAP Approach	USITC Midpoint	Canada's Caliendo and Parro Approach	USITC Midpoint	Canada's Assumption Approach
DS471	Copper Pipe and Tube	-0.875	-0.91	4.0	7.99	2.0	10
DS471	Iron Pipe Fittings	-1.250	-0.91	4.5	7.99	4.5	10
DS471	Passenger Vehicle and Light Truck Tires	-0.375	-0.91	4.0	1.01	3.0	10
DS471	Residential Washers	-0.550	-0.91	4.0	1.52	7.0	10
DS471	Sheet and Strip	-0.750	-0.91	4.0	7.99	5.0	10
DS471	Steel Flat Products	-0.500	-0.91	4.0	7.99	6.0	10
DS471	Steel Line Pipe	-0.375	-0.91	3.0	7.99	4.0	10
DS471	Steel Nails	-0.375	-0.91	4.0	4.30	4.0	10
DS471	Steel Pipe	-0.625	-0.91	5.0	7.99	4.0	10
DS471	Steel Products	-0.750	-0.91	4.0	7.99	6.0	10
DS471	Steel Standard, Line, and Pressure Pipe	-0.750	-0.91	3.0	7.99	7.5	10
DS471	Steel Wire Rod	-0.625	-0.91	4.0	7.99	2.0	10
DS464 ¹⁵⁵	Washers	-0.550	-0.91	4.0	1.52	6.0	10

¹⁵⁵ Figures obtained from *US – Washing Machines (Korea) (Article 22.6 – US)*, paras. 3.98, 3.100, 3.101.