United States – Certain Country of Origin Labelling (COOL) Requirements:

Recourse by the United States to Article 22.6 of the DSU (Mexico)

(DS386)

Written Submission
of the United States of America

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I. INTRODUCTION

1.   On July 10, 2015, Canada and Mexico put forth Methodology Papers[1] ("Canada Methodology Paper" and "Mexico Methodology Paper," respectively) each reflecting a flawed economic methodology that severely overestimates the level of nullification or impairment attributable to the country-of-origin labeling ("COOL") measure, as amended (the "amended COOL measure").[2] Without clear analysis or appropriate estimations of the level of nullification or impairment, these Methodology Papers request authorization for extremely high levels of suspension of concessions and related obligations. Canada alone argues that the level of suspension should equal CDN $3.068 billion (U.S. $2.41 billion[3]) per year, while Mexico argues that the level of nullification or impairment is equal to $713 million per year.[4]   In this submission, the United States explains in detail fundamental legal errors in Canada and Mexico's approach, why the methodologies of Canada and Mexico are erroneous, as well as numerous flaws and erroneous assumptions provided in their Methodology Papers. [5]

2.   Pursuant to Article 22.7 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU"), the task of an arbitrator is to determine whether the level of suspension of concessions or other obligations sought is equivalent to the level of nullification or impairment of benefits accruing to the complaining Member under the relevant covered agreement(s). The starting point in any analysis of a request for authorization to suspend concessions is to determine the extent to which the Member's WTO-inconsistent measure that is the subject of the Dispute Settlement Body's ("DSB") recommendations and rulings nullifies or impairs benefits accruing to the complaining party. Thus, an analysis of the level of nullification or impairment must focus on the benefit allegedly nullified or impaired as a result of the breach found by the DSB. Due to several conceptual flaws and methodological errors, however, neither Canada nor Mexico has provided a calculation that accurately reflects the level of nullification or impairment.

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[1] Canada submitted its Methodology Paper of Canada on July 10, 2015, and supplemented its filing on July 13, 2015 with Canada's Corrected Methodology Paper and significant additional data provided in revised Exhibits CDA-35 and CDA-36.

[2] *Mandatory Country of Origin Labeling of Beef, Pork, Lamb, Chicken, Goat Meat, Wild and Farm-Raised Fish and Shellfish, Perishable Agricultural Commodities, Peanuts, Pecans, Ginseng, and Macadamia Nuts*, 74 Fed. Reg. 2,658 (Jan. 15, 2009) (Exhibit US-1) (hereinafter "2009 Final Rule"); *Mandatory Country of Origin Labeling of Beef, Pork, Lamb, Chicken, Goat Meat, Wild and Farm-Raised Fish Shellfish, Perishable Agricultural Commodities, Peanuts, Pecans, Ginseng, and Macadamia Nuts*, 78 Fed. Reg. 31,367, 31,367 (May 24, 2013) (Exhibit US-2) (hereinafter "2013 Final Rule") (collectively, "the amended COOL measure").

[3] All present day exchange rate calculations are based on an exchange rate of CDN$ 1.27 to US$ 1.00.

[4] WT/DS384/35, WT/DS386/35.

[5] Pursuant to the schedule decided by the Arbitrator, the United States will be submitting its written submission in the dispute with Canada on July 30, 2015. However, for convenience and to reflect that the proceedings with Mexico have been joined with the proceedings with Canada (see Working Procedures of the Arbitrator, para. 5), this submission in the arbitration proceedings with Mexico will also refer to Canada in appropriate places.

3.   Both Canada and Mexico calculate the level of nullification or impairment as the sum of "export revenue losses" and domestic "price suppression losses."[6] In the first instance, these estimates are unsupportably high, dwarfing the current export value of livestock and in no way reflecting the "benefit" impaired by the amended COOL measure. In the second, the claimed "price suppression losses" are not part of the level of nullification or impairment of benefits under the *Agreement on Technical Barriers to Trade* ("TBT Agreement") or the *General Agreement on Tariffs and Trade 1994* ("GATT 1994") resulting from the amended COOL measure.

4.   First, with respect to the calculated trade effect, Canada calculates "export revenue losses" to be CDN $2.045 billion (U.S. $1.61 billion) annually.[7] Canada's total export value for affected livestock in 2014 was U.S. $1.744 billion (which was the second highest level after the level in 2007, which was before the economic recession) and Canada claims the value of its exports would increase by 92 percent, if the United States came into compliance with the DSB's recommendations and rulings.[8] Similarly, Mexico's Methodology Paper claims its export revenue losses equal $514.8 million annually, which would suggest its export value would increase by almost 70 percent.[9] On its face, neither Canada nor Mexico's estimated trade effects appear to be based on the market realities of trade in the North American livestock and meat markets. They each claim the potential for massive growth which, taken together, would expand U.S. livestock imports by 74 percent.

5.   Second, both Canada and Mexico evaluate and include a calculation of domestic "price suppression losses" in their requested level of nullification or impairment. Canada describes this as the losses "resulting from the reduction in the price received in Canada for cattle or pigs that were not shipped to the United States,"[10] and calculates a loss of CDN $1.023 billion (U.S. $806 million).[11] Mexico argues that "there was a decline in the domestic price of Mexican feeder cattle coincidental to when the COOL measure was adopted in 2008," and the economic impact of this price suppression is U.S. $199 million.[12] However, as will be described in detail below, the level of nullification or impairment that results from the amended COOL measure should be calculated in terms of the effect on cross-border trade, that is the volume and value of livestock that would have been traded, "but for" the amended measure. The level of nullification or impairment does not include alleged economic effects in Canada or Mexico's

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[6] Canada's Methodology Paper, para. 144 and Table 10; Mexico's Methodology Paper, Exhibit MEX-2, pages 24-25.

[7] Canada indicates that, but for the amended COOL measure, Canadian producers would have exported an additional 639,756 head of cattle, and 5,044,312 hogs annually. Canada's Methodology Paper, paras. 120-21 and Tables 1 and 2 (multiplying total effects of amended COOL measure in number of animals per week by 52 weeks).

[8] Trade Data 2000-2014 (Exhibit US-5). *See also* U.S. Imports Chart, (Exhibit US-36).

[9] Trade Data 2000-2014 (Exhibit US-5). *See also* U.S. Imports Chart, Exhibit US-36). Mexico anticipates shipping an additional 342,476 heads per year if the COOL measure was eliminated (an increase of 31% over 2014 levels). Mexico's Methodology Paper, Exhibit MEX-2, page 21.

[10] Canada's Methodology Paper, para. 31.

[11] Canada's Methodology Paper, para. 144, and Table 10.

[12] Mexico's Methodology Paper, paras. 24, 28.

domestic market – these are not "trade effects" and would depart from the interpretation of the DSU of past arbitrators.

6.   In response to the flawed methodologies proffered by Canada and Mexico, the United States puts forward a type of partial equilibrium model, which more accurately estimates the trade effects of the COOL measure, as amended, in the context of the complex North American market.   Specifically, the United States uses an equilibrium displacement model ("EDM") as the most suitable tool for estimating the trade effects of the amended COOL measure. EDMs are recognized in the agricultural economics literature as particularly well-suited for assessing the impact of policy changes on complex and interconnected markets Moreover, EDMs are a type of partial equilibrium model. Prior arbitrators have used partial equilibrium models to determine the level of nullification or impairment.[13]

II.   PROCEDURAL BACKGROUND

7.   On May 29, 2015, the DSB adopted its reports resulting from the compliance proceedings under Article 21.5 of the DSU in *United States – Certain Country of Origin Labelling (COOL) Requirements*.[14] The DSB found that the U.S. measure taken to comply, the amended COOL measure, was inconsistent with Article 2.1 of the TBT Agreement, and Article III:4 of the GATT 1994.[15]

8.   On June 4, 2015 and June 17, 2015, Canada and Mexico, respectively, requested authorization from the DSB to suspend the application of concessions or other obligations under the covered agreements pursuant to Article 22.2 of the DSU in these disputes.[16] On June 16, 2015, the United States objected to the level of suspension proposed by Canada, and on June 22, 2014, the United States objected to the level of suspension proposed by Mexico.[17] Pursuant to Article 22.6 of the DSU, the U.S. objections referred the matters to arbitration.

III.   APPROPRIATE CALCULATION OF THE LEVEL OF NULLIFICATION OR IMPAIRMENT

9.   Pursuant to Article 22.6 of the DSU, the United States objected to Canada and Mexico's proposed levels of suspension of concessions or other obligations because each party has

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[13] *See e.g*, Decision by the Arbitrators, *European Communities – Measures Concerning Meat and Meat Products (Hormones). Original Complainant by Canada – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU*, WT/DS48/ARB, 12 July 1999, para. 41 ("*EC – Hormones (Canada) (Article 22.6 – EC)*").

[14] Dispute Settlement Body – Minutes of Meeting - 23 July 2012, WT/DSB/M320, 28 Sept. 2012, para. 81 (adopting compliance Panel reports, *United States – Certain Country of Origin Labelling (COOL) Requirements*, WT/DS384/RW/ WT/DS386/RW, as upheld by Appellate Body Reports, WT/DS384/AB/RW/ WT/DS386/AB/RW). On May 29, 2015, the DSB adopted the Article 21.5 compliance panels' report, as amended by the Appellate Body Report. WT/DS384/34, WT/DS386/33.

[15] *US – COOL (Art. 21.5)(AB)*, paras. 6.2, 6.4.

[16] WT/DS384/35, WT/DS386/35.

[17] WT/DS384/36, WT/DS386/36.

submitted a proposed level of suspension that is far in excess of the level of nullification or impairment attributable to the measures at issue.

10.   Article 22.4 of the DSU is explicit and requires that the "level of suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of nullification or impairment." Complainants' calculations suffer from conceptual flaws and methodological errors that result in grossly inflated estimates of the level of nullification or impairment. We discuss the specific conceptual flaws and methodological errors in each party's calculations in Section IV of this submission.

11.   To further demonstrate that neither Canada nor Mexico have provided an appropriate level of suspension, in this submission the United States provides the appropriate calculation of the level of nullification or impairment. This submission first discusses the requirement of Article 22 of the DSU that the proposed level of suspension be equivalent to the level of nullification or impairment. The submission then discusses the proper methodological approach to calculating the level of nullification or impairment in these disputes.

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

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

> [T]he ordinary meaning of the word "*equivalence*" is "equal in value, significance or meaning", "having the same effect", "having the same relative position or function", "corresponding to", "something equal in value or worth", also "something tantamount or virtually identical."[18]

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

14.   Thus, an analysis of the level of nullification or impairment must focus on the "benefit" accruing to that Member under a covered agreement that is allegedly nullified or impaired as a result of the breach found by the DSB.[19] Arbitrators in past proceedings have uniformly based

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[18] Decision by the Arbitrators, *European Communities – Regime for the Importation, Sale and Distribution of Bananas – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU*, WT/DS27/ARB, 9 April 1999*,* para. 4.1 ("*EC – Bananas III (US) (Article 22.6 – EC)*").

[19] 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

their determinations on hard evidence and have refused to "accept claims that are 'too remote,' 'too speculative,' or 'not meaningfully quantified.'"[20] As the arbitrator found in *EC – Hormones*, "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."[21]

15.   In this proceeding, Canada and Mexico have gone far beyond an "equivalent" level of nullification offering a two-part analysis of the level of nullification or impairment, which in the first instance exceeds all possible trade effects, and which in the second is not attributable to the nullified or impaired benefit. First, Canada and Mexico quantify the "export revenue losses" attributable to the amended COOL measures, *i.e.,* the volume and value of livestock that would have been exported, "but for" the amended COOL measure. The methodologies employed to estimate the quantity and value effects of the amended COOL measure are fundamentally flawed and result in requests for an unsupportably high level of suspension of concessions. In particular, Canada and Mexico rely on econometric modeling procedures which are unable to distinguish between the impact of the amended COOL measure and other circumstances which may affect the volume and value of exports to the United States.[22]

16.   Additionally, Canada and Mexico further argue that domestic "price suppression losses" should also be included in the total level of nullification or impairment. Even if this injury level was determined through a clear and rational methodology, which it is not, alleged effects on

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obligations under this Agreement ... the matter may be referred to the CONTRACTING PARTIES." This concept is then reflected in the DSU, including Articles 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."), 3.5, 10.4, and 23. For example in *US – Section 110(5)*, the arbitrators found that the "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* Award of the Arbitrators, *United States – Section 110(5) of the US Copyright Act – Recourse to Arbitration under Article 25 of the DSU*, WT/DS160/ARB25/1, 9 November 2001, paras. 3.20-3.35 ("*US – Section 110(5) Copyright Act (Article 25)*").

[20] Decision by the Arbitrators, *United States – Anti-Dumping Act of 1916, Original Complainant by the European Communities – Recourse to Arbitration by the United States under Article 22.6 of the DSU*, WT/DS136/ARB, 24 February 2004, para. 6.10 (hereinafter *US – 1916 Act (EC)* (Article 22.6 – US)); *see also id.,* paras. 5.54 and 5.69 ("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. ... 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.").

[21] Decision by the Arbitrators, *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*, WT/DS26/ARB, 12 July 1999, para. 41 ("*EC – Hormones (US) (Article 22.6 – EC)*"); *see also id.*, para. 77 (refusing to consider, as "too speculative," lost exports that would have resulted from foregone marketing campaigns).

[22] As will be described in Section IV below, Canada and Mexico use econometric modeling to derive their estimated trade effects. However, econometric modeling, in the context of the complex North American livestock market, is a fundamentally inappropriate tool, because it is unable to effectively isolate the effect of the amended COOL measure.

domestic price are not trade effects, which relates to the "benefit" under the relevant covered agreements (the TBT Agreement and GATT 1994) that are being nullified or impaired.[23] Canada and Mexico provide no support or rationale for expanding the arbitrator's analysis beyond the trade benefits impaired by the amended COOL measure. This is likely because arbitrators in the past responding to such requests have focused on the nullification or impairment of benefits accruing under the covered agreements, rather than alleged secondary and tertiary effects reverberating in the domestic or third party economies.

17.   In sum, both elements of the complainants' analyses are fundamentally flawed estimates of the level of nullification or impairment of benefits accruing to Mexico or Canada under the TBT Agreement and the GATT 1994.

18.   In previous proceedings, the arbitrator has compared the level of trade for the complaining party under the WTO-inconsistent measure to what the complaining party's level of trade would be expected to be where the Member has brought the WTO-inconsistent measure into conformity. The situation in which the Member concerned has removed the WTO inconsistency is referred to as the "counterfactual." The difference in the level of trade under these two situations typically represents the level of nullification or impairment. Other Article 22.6 arbitrators have recognized that a counterfactual is the appropriate method in those proceedings to calculate a level of nullification or impairment.[24]

19.   The analysis using this counterfactual is appropriate to determine the level of nullification or impairment caused by the amended COOL measure. That is, the appropriate analysis requires consideration of the present trading relationship between the complainant and respondent (as represented by the 2014 baseline), as well as what that relationship would be if the amended COOL measure were withdrawn (the counterfactual). As described below, the trade differential will be the level of nullification or impairment attributable to the amended COOL measure.

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[23] Canada and Mexico provide no support or rationale for expanding the arbitrator's analysis beyond the trade benefits impaired by the amended COOL measure. This is likely because arbitrators in the past responding to such requests have narrowly focused on the nullification or impairment of benefits accruing under the covered agreements, rather than alleged secondary and tertiary effects reverberating in the domestic or third party economies. *See e.g.*, *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 41; Decision by the Arbitrators, *European Communities – Regime for the Importation, Sale and Distribution of Bananas – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU*, WT/DS27/ARB/ECU, 24 March 2000 ("*EC – Bananas III (Ecuador) (Article 22.6 – EC)*"), paras. 168-169; *EC – Bananas III (US)* (Article 22.6 – EC), paras. 6.6-6.12.

[24] *See, e.g.,* Decision by the Arbitrator, *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*, WT/DS285/ARB, 21 December 2007 ("*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 . . . ."); Decision by the Arbitrator, *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*, WT/DS234/ARB/CAN, 31 August 2004 ("*US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US)*"), para. 4.22; *EC – Hormones (Article 22.6) (Canada)*, para. 37, and *EC – Bananas III (Article 22.6) (US)*, para. 7.1.

B. Appropriate Counterfactual Situation Eliminates All Mandatory COOL Compliance Costs

20.   At its most basic level the calculation of the trade effects of the disputed measure requires a comparison between the current value of livestock exports from Mexico and from Canada to the United States, and the value of exports from each that could be expected if the United States had complied with the DSB's recommendations and rulings. Throughout the dispute resolution proceedings, the Panels and Appellate Body have affirmed the U.S. objective of providing country-of-origin information to U.S. consumers.[25]

21.   The United States does not consider "full repeal," as advocated by Mexico and Canada, to be the only available option for compliance with the DSB recommendations and rulings. Canada and Mexico would apparently agree. In the context of their arguments under Article 2.2 of the TBT Agreement, Canada and Mexico had themselves indicated that there were other labeling alternatives that would be WTO consistent.[26] The United States continues to consider the various alternatives available to come into compliance with the DSB recommendations and rulings.

22.   However, despite the fact that a variety of potential measures could be taken to comply, for the purposes of the analysis in this submission of a counterfactual the United States uses a counterfactual where the amended COOL measure is withdrawn. The analysis thus includes the effect of removing any incentives or "discounts" resulting from the amended COOL measure.

C. Applied Economic Analysis Is Necessary to Accurately State the Level of Nullification or Impairment in the North American Livestock Industry

23.   To calculate the amount of nullification or impairment, one must compare on a prospective basis the imports of the relevant livestock from Canada and Mexico under the amended COOL measure to the imports that would occur were the amended COOL measure withdrawn. And to make that comparison, one would look at the actual relevant U.S. livestock imports during the most recent period (actual situation), and then estimate the relevant imports of livestock that would exist during the same period if the amended COOL measure was withdrawn and all other factors were held constant (the counterfactual). [27] Thus, in this proceeding, the "counterfactual" is the estimated volume and price of relevant livestock imports from Canada and Mexico that would exist if the amended COOL measure was withdrawn, holding all other factors constant, and the "level of nullification or impairment" is the difference between the value of Canada and Mexico's exports to the United States, as reflected in the trade data, and the estimated export value under the counterfactual scenario.

24.   As has been discussed throughout this dispute, the supply chain for cattle and hogs, and beef and pork products in the United States, as well as the variables affecting these industries, is

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[25] *US – COOL (AB)*, para. 433.

[26] *See, e.g., US – COOL (Art. 21.5) (Panel)*, para. 7.468 and 7.492.

[27] *See e.g., US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, para. 4.22; *EC – Hormones (Canada) (Article 22.6 – EC),* para. 37, and *EC – Bananas III (US) (Article 22.6 – EC)*, para. 7.1.

complex and covers inputs from Canada, Mexico, and the United States. Thus estimating the trade flows in a counterfactual scenario is a challenge.[28] The North American livestock and meat markets are characterized by several distinct sectors or levels of production, which are vertically linked and subject to shifting demand and supply, which directly influences the relevant market prices and quantities purchased and sold. The levels of production include cow/calf or farrowing where animals are bred before being sold as feeder animals to finishing operations. After reaching the appropriate slaughter weight, animals are sold as finished animals to packers/wholesalers who slaughter, cut, and package the meat.[29] This meat is then sent to distributors and/or retailers.

25.   U.S. farms and feedlots produce domestic livestock. Imports of livestock at the "feeder" and "fed" stage also enter the stream of commerce. Domestically raised and imported livestock are processed in the United States. The U.S. market also imports and exports meat at the wholesale level. Livestock, and its downstream beef and pork products, in the North American market may change hands at each production level before ultimately reaching the supermarket shelf and consumers.

26.   Further, at each level of production and in each supplying country there are a wide variety of exogenous factors that may affect supply and demand, and the resulting volume or value of the livestock or retail meat. These factors include, but are not limited to, weather shocks such as the drought in the American southwest and Northern Mexico from 2011 to 2014, outbreaks of animal disease such as the 2003 bovine spongiform encephalopathy (BSE) event in Canada and the outbreak of Porcine Epidemic Diarrhea Virus (PEDv) in the United States, and economic downturns such as the significant recession that occurred in North America between December 2007 and June 2009.

27.   Independent economic events may also affect fuel or transportation costs, exchange rates, unemployment rates, disposable income, and labor costs, which in turn affect demand and supply and equilibrium prices and quantities. Changes in economic variables may also result in changes in ownership structure within the affected industry. Additional factors may also influence cross-border trade in agricultural products. For example, increases in grain costs due to increased demand for and production of bio-fuels may raise costs for finishing operations and affect livestock prices in North America. Furthermore, domestic policies on bio-fuel may differ by state, province or country. Other variables including seasonality or domestic holidays may affect the availability of livestock and change the pattern and timing of cross-border trade from month to month.

28.   Canada and Mexico's Methodology Papers suggest using econometric modeling analyzing the price basis (the difference between U.S. and imported livestock prices) and import quantity impacts (the reduction in export quantities) by comparing actual trade data from 2005 to 2015.   That form of modeling is, however, unable to effectively control for the impact of shifting independent variables – such as economic downturns, high feed prices, or reduced demand – over this extended period of time. In particular, econometric estimates may be biased

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[28] *See e.g., US – COOL (Art. 21.5) (Panel)*, paras. 7.184, 7.190.

[29] *U.S. – COOL (Panel)*, paras. 7.129-7.142.

or insufficiently specific due to the challenge of isolating the effect of a single variable, as well as the reliance on a range of imprecise or incomplete data. As a result, in the methodology proposed by Canada and Mexico, the bias inherent in the econometric analysis will result in a severely overestimated calculation of the trade effects of the amended COOL measure.

29.   For these reasons, such an economic analysis methodology simply fails to accurately determine the level of nullification or impairment in such a complex and interrelated market.[30] Recognizing these challenges and the complexity of the North American livestock markets, the United States uses an EDM to estimate the prospective trade effects of coming into compliance with the DSB recommendations and rulings through withdrawal of the amended COOL measure. This model compares a baseline of 2014 trade data to what would happen to supply and demand across all three countries if the amended COOL measure were withdrawn. Rather than attempting to control for independent variables over the course of a decade, the EDM holds all events, economic conditions, input prices, and other variables constant at 2014 levels.

1. Overview of U.S. Equilibrium Displacement Model

30.   EDMs are a well-accepted and widely used type of partial equilibrium model used for applied economic analysis, particularly in the agricultural sector.[31] The general hallmarks of an EDM are "(a) a particular market situation is characterised by a set of supply and demand (and maybe other) functions that are general in the sense that no particular functional forms are assumed; (b) the market is disturbed by a change in the value of some exogenous variable; and (c) the impacts of the disturbance are *approximated* by functions which are linear in elasticities."[32] In general, EDMs provide a flexible platform for modeling diverse economic phenomena.[33] EDMs are better able to isolate particular policy changes or other economic

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[30] Throughout the COOL dispute, the United States has discussed at length the failures of econometric modeling to accurately account for the numerous variables and factors affecting the U.S. livestock and meat production industries. *See e.g., US – COOL (Art. 21.5) (Panel)* (noting that the "United States questioned the use of a reduced form model to determine whether the COOL measure had price and export effects given the complexity of the North American livestock market. In particular, the United States argued that the Study yields misleading results because it fails to account for important factors unrelated to the COOL measure, such as exchange rate fluctuations, changes in livestock inventories, transport costs and fuel prices").

[31] *See e.g.*, Glynn Tonsor, Ted Schroeder, and Joe Parcell, *Economic Impacts of 2009 and 2013 U.S. Country-of-Origin Labeling Rules on U.S. Beef and Pork Market,* Kansas State University Project Number AG-3142-P-14-0054 R0 (2015), at 35 (MEX–Appendix 15) (hereinafter Tonsor, et al. (2015)) (noting that "[a] well-accepted and widely used approach in the agricultural economics literature is to estimate market effects of policy changes and/or technology adoption by developing and applying an equilibrium displacement model (e.g., Balagtas and Kim, 2007; Brester, Marsh, and Atwood, 2004b; Lemieux and Wohlgenant, 1989; Lusk and Anderson, 2004; Pendell et al., 2010; Schroeder and Tonsor, 2011; Wohlgenant, 1993). Accordingly equilibrium displacement models (EDMs) were developed to identify aggregate economic impacts of policies)").

[32] R. R. Piggott, *Some Old Truths Revisited*, Address before 36th Annual Conference of Australian Agricultural Economics Society, Canberra, 10-12 Feb. 1992, at 1 (Exhibit US-7). More specifically, EDMs utilize logarithmic differential equations to describe and estimate movement from one equilibrium to another in a complex market. Michael K. Wohlgenant, Chapter 11: *Consumer Demand and Welfare Equilibrium Displacement Models,* THE OXFORD HANDBOOK OF THE ECONOMICS OF FOOD CONSUMPTION AND POLICY, Jayson Lusk and Jutta Roosen, ed., (2011), 293 (hereinafter Wolhgenant (2011)) (Exhibit US-8).

[33] For instance, EDMs have been developed by numerous economists to analyze "cross-commodity generic advertising between beef, lamb and pork in Australia" (Wolhgenant (2011), at 294), policy implications of subsidies

drivers and estimate the effect of these shifts by focusing on altering a single variable.[34] This is useful in situations where numerous independent variables may be relevant.

31.   As noted, EDMs are well accepted by economists, and have been widely used in the economic literature to model and measure the impact of policy changes in the agricultural sector.[35] In the context of COOL, we note there have been at least three significant studies of the U.S. livestock market using EDMs.[36] In particular, these studies use the EDM methodology to evaluate the effect of the amended COOL measure at various market levels (*e.g.,* U.S. consumers, producers and packers), on prices and quantities of meat and livestock in the beef, pork and poultry sectors, and on the welfare of participants (*i.e.*, consumers and producers) in the livestock market demonstrating the complexity of properly capturing the trade effects of the amended COOL measure. These COOL-related studies are based on the established practice of utilizing an EDM analysis in the agricultural sector, in particular livestock.[37] And other studies continue this work by using EDMs to analyze a wide-range of livestock sector policy changes.[38] The EDM also figures prominently in other peer-reviewed analytical work on other agricultural

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(*id*., at 301), import substitution (*id*., at 307), and the impact of federal excise taxes on underlying agricultural sectors (*id*., 309). Wohlgenent (2011) also notes that significant extensions of the model have included methods to link multiple markets across the supply chain for a commodity and trade across interrelated markets. *Id*. (Exhibit US-8).

[34] *See* Wolhgenant (2011), 292 (Exhibit US-8) (describing history and development of EDMs). *See also* Tonsor, et al. (2015), at 35 (MEX–Appendix 15).

[35] *See e.g.,* J.V. Balagtas, F.M. Hutchinson, J.M. Krochta, and D.A. Sumner, *Anticipating market effects of new uses for whey and evaluating returns to research and development*, 86 J. DAIRY SCI. 1662-1672 (2003) (Exhibit US-9); Bradley J. Rickard & Daniel A. Sumner, *Domestic support and border measures for processed horticultural products*, AM. J. OF AGRIC. ECON. 90(1), 55-68 (Feb. 2008) (Exhibit US-10); Daniel A. Sumner & Michael K. Wohlgenant, *Effects of an increase in the federal excise tax on cigarettes*, AM. J. OF AGRIC. ECON. 67(2), 235-242 (May 1985) (Exhibit US-11).

[36] Tonsor, et al. (2015) (MEX-Appendix 15); Gary W. Brester, John M. Marsh, & Joseph A. Atwood, *Distributional impacts of country-of-origin labeling in the U.S. meat industry*, J. OF AGRIC. & RES. ECON. 29(2), 206-227 (2004) (hereinafter Brestor, Marsh & Atwood (2004)) (MEX-Appendix 4); Jayson L. Lusk & John D. Anderson, *Effects of country-of-origin labeling on meat producers and consumers*, J. OF AGRIC. & RES. ECON. 29(2), 185-205 (2004) (hereinafter Lusk & Anderson (2004)) (Exhibit US-12).

[37] *See e.g.,* Catharine M. Lemieux & Michael K. Wohlgenant, *"Ex Ante" evaluation of the economic impact of agricultural biotechnology: the case of porcine somatotropin*, AM. J. OF AGRIC. ECON. 71(4), 903-914 (Nov. 1989) (Exhibit US-13); Michael K. Wohlgenant, *Distribution of gains from research and promotion in multi-stage production systems: the case of the U.S. beef and pork industries*, AM. J. OF AGRIC. ECON. 75(3), 642-651 (Aug. 1993) (Exhibit US-14)

[38] Joseph V. Balagtas & Sounghun Kim, *Measuring the effects of generic dairy advertising in a multi-market equilibrium*, AM. J. OF AGRIC. ECON. 89(4), 932-946 (Nov. 2007) (Exhibit US-15); Chanjin Chung, Tong Zhang & Derrell S. Peel, *Effects of country of origin labeling in the U.S. meat industry with imperfectly competitive processors*, AGRIC. & RES. ECON. REV. 38(3), 406-417 (Dec. 2009), 406-417 (utilizing an EDM to evaluate the effects of COOL on the meat industry) (Exhibit US-16); Ted C. Schroeder & Glynn T. Tonsor, *Economic impact of Zilmax adoption in cattle feeding*, J. OF AGRIC. & RESOURCE ECON. 36(3), 521-535 (Dec. 2011) (Exhibit US-17); Roley R. Piggott, Nicholas E. Piggott & Vic E. Wright, *Approximating farm-level returns to incremental advertising expenditure: methods and an application to the Australian meat industry*, 77 AM. J. OF AGRIC. ECON. 77(3), 497-511 (Aug. 1995) (Exhibit US-18); and, Dustin L. Pendell et al.*, AJAE Appendix: Animal identification and tracing in the United States,* AM. J. OF AGRIC. ECON. 92:4, 927-940 (July 2010) (MEX-Appendix 12).

markets (particularly those with a vertical marketing chain) and how changes in policy impact trade and economic welfare.[39] In contrast, the academic literature lacks a robust use of econometrics to analyze similarly complex questions due to the data restrains associated with econometric modeling.

32.   Finally, prior arbitrators in Article 22.6 proceedings have considered at length the use of economic modeling in those proceedings.[40] In particular, the arbitrators in *US–CDSOA (Article 22.6 – US)* noted that where "evaluating the trade effects of the scheme cannot be accomplished with mathematical precision," "economic science allows for the consideration of a range of possible trade effects with a certain degree of confidence."[41] That is, the use of well supported and reasoned economic models that recognize the varying effects of a measure has been an important tool for arbitrators. Arbitrators have in the past relied on partial equilibrium or stimulations models similar to the one proposed here.[42] Moreover, while econometric arguments have been reviewed by panels and compliance panels when qualitatively considering price differences and cross-price elasticities, arbitrators have yet to utilize econometric modeling during Article 22.6 proceedings.[43]

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[39] *See e.g*., Mahdi M. Al-Sultan & Stephen Davies, *The Impacts of WTO and Water Policy Changes on Saudi Arabian Agriculture: Results from an Equilibrium Displacement Model*, Am. Agric. Econ. Ass'n Annual Meeting, Providence, Rhode Island (July 2005) (Exhibit US-19); William Deese & John Reeder, *Export taxes on agricultural products: recent history and economic modeling of soybean export taxes in Argentina*, J. OF INT'L COM. & ECON. (Sept. 2007) (Exhibit US-20); Doris Yan Xia, *Impacts of Multi-Fiber Arrangement Removal on Global Textile Cotton Trade*, Am. Agric. Econ. Ass'n Annual Meeting, Providence, Rhode Island (July 2005) (Exhibit US-21).

[40] *See generally,* Decision by the Arbitrator, *United States – Tax Treatment for "Foreign Sales Corporations" – Recourse to Arbitration by the United States under Article 22.6 of the DSU and Article 4.11 of the SCM Agreement*, WT/DS108/ARB, 30 August 2002 ("*US – FSC (Article 22.6 – US*"); *US – Offset Act (Byrd Amendment) (Canada)(Article 22.6 – US)*.

[41] *US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US),* para. 3.125 (*citing US – FSC (Article 22.6 – US),* at para. 6.49).

[42] *See* 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 7.10 of the* SCM Agreement, WT/DS267/ARB/I and Corr.1, 31 August 2009 (WT/DS267/ARB/1), para. 4.2 (noting that "[t]o quantify these effects, Brazil relies on a partial equilibrium model already referred to in the compliance proceedings, the Sumner model."): *see also US– CDSOA (Article 22.6 – US)*, Annex B, paras 2-21 (noting a preference for the partial equilibrium model, but rejecting the parties' models and adopting their own).

[43] Econometric analysis has been presented in three cases related to the taxation of alcohol in the context of cross-elasticity, substitution, and price difference. See *Japan – Alcoholic Beverages II (Panel)*, para. 6.31 (discussing econometric analysis, but citing issues with control for serial and autocorrelation and multicollinearity as reasons for rejecting it), *Korea – Alcoholic Beverages (Panel)*, WT/DS75, DS84 17 Sept 1998, para. 10.92 (noting that quantitative analysis was helpful but not dispositive), and *Chile – Alcoholic Beverages (Panel)*, para. 7.69-7.78 (utilizing econometric evidence as one factor). *See also* WTO Thematic Essay, *Quantitative Economics in WTO Disputes* (2005), 192 (Exhibit US-22).

2. Explanation of Equilibrium Displacement Model of the U.S. Cattle/Beef and Hog/Pork Sectors

33.   In order to estimate the difference between the value of trade flows in 2014, and a counterfactual situation where compliance with the DSB recommendations and rulings is achieved, the United States uses a type of partial equilibrium model known as an EDM. The EDM, provided in Exhibit US-3,[44] is a series of linearized equations that provide economic estimates of the trade shifts that would occur if the amended COOL measure, as amended, were withdrawn. In particular, the EDM calculation includes the expected increase in the total value of Canadian and Mexican livestock exports that would result if the amended COOL measure was withdrawn.

34.   The EDM utilizes a multi-animal (covering cattle/beef and hogs/pork), and multi-sector (representing five levels of the beef and pork marketing chain) structure. For each species and at each level, the model establishes baseline quantities and prices, and then estimates the price and quantity changes due to an external "shock." In this case, the shock is the immediate elimination of the amended COOL measure and its associated compliance costs, which appear in the first four marketing levels. All other independent variables are held constant at their 2014 levels. In this context, the resulting quantities and prices are endogenous variables, meaning they are determined within the COOL EDM by a set of exogenous and computed components. Exogenous components include the baseline quantity and prices,[45] demand and supply elasticities,[46] and COOL compliance costs.[47] In general, the demand and supply elasticities measure the magnitude of quantity changes in response to decreased costs throughout the supply chain. Thus, the impacts of the COOL costs on equilibrium prices and quantities at each market level are determined by the size of cost decreases and the respective supply and demand elasticities.

35.   Given this framework, the COOL EDM presented in Exhibit US-3 measures the effect of withdrawing the amended COOL measure against 2014 baseline quantities and prices for livestock at each market level. Provided below is a description of the COOL EDM's baseline and structure, as well as the relevant exogenous parameters.

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[44] Exhibit US-3, provides workbook containing the data, parameters and equations that make up the "COOL EDM." The United States uses this partial equilibrium model to assess the trade impacts of the COOL measures on Canada and Mexico. Additionally, provided at Exhibit US-4 is a "Guide to the COOL EDM," providing an explanation of each worksheet provided in Exhibit US-3.

[45] Baseline quantities and values are sourced directly from import data maintained and certified by the U.S. Census Bureau. Further, baseline quantities and values are derived through calculations from these verified inputs. *See* EDM Guide (Exhibit US-4).

[46] As described below, the supply and demand elasticities utilized in the EDM are drawn from a significant body of peer-reviewed academic literature. *See* also EDM Guide (Exhibit US-4).

[47] As described below, the COOL compliance cost estimates are based on the 2009 and 2014 Regulatory Impact Analysis (RIAs) published by the U.S. Department of Agriculture after a significant period of study, public comment, and review. *See* also EDM Guide (Exhibit US-4).

a. 2014 Baseline Quantities and Prices

36. As described above, the United States utilizes 2014, the most recent full year data, as a baseline to construct the model.[48] The most recent full year data reflects all current market conditions such as transport costs, feed costs, exchange rates, ownership structures, Canadian and Mexican domestic policies, and environmental factors as they exist in 2014.[49] It thus provides the most appropriate baseline for the purposes of determining the nullification or impairments of benefits accruing to Mexico and Canada under the TBT Agreement and the GATT 1994 on a prospective basis.

37. The COOL EDM's baseline utilizes 2014 market quantities[50] and prices[51] sourced from the U.S. Census Bureau trade data. The EDM assumes that all marketing levels are in perfect competition. Thus, these data points are used to calculate U.S. supply and demand for each of the sectors described in the system of equations below. For example, U.S. demand for finished (slaughter-ready) cattle will always equal U.S. supply of finished cattle, plus imports of finished cattle from Canada and Mexico.[52] Additionally, the value of Canadian and Mexican livestock exports is calculated by multiplying the reported imported "heads" by the value of the livestock utilizing the average weight.[53]

38. Construction of the 2014 baseline, as well as the COOL EDM, depends on certain additional assumptions.[54] First, the COOL EDM utilizes "fixed proportions" between inputs and outputs through the marketing channel. Recent studies have found that there is a fixed

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[48] This baseline approach is consistent with the date range suggested by Mexico. *See* Mexico's Methodology Paper, para. 12. Canada utilizes November 23, 2013 to November 22, 2014 as the baseline period. *See* Canada's Methodology Paper, para. 9.

[49] The United States notes that 2014 also represents the highest level of livestock imports since the imposition of COOL. Higher volumes of livestock imports in the baseline will make the model relatively more responsive to exogenous shocks. That is, the larger the base year imports, the more the imports will change in response to the withdrawal of the COOL measure. *See* Trade Data 2000-2014 (Exhibit US-5).

[50] Exhibit 3, worksheet "BaselineQ" providing total year quantities of U.S. feeder pigs, feeder cows, slaughter cattle, and slaughter hogs in "million head," and wholesale pork and wholesale beef in "million pounds retail." These quantities are drawn from USDA ERS annual trade data or calculations based on the ERS annual data.

[51] Exhibit 3, worksheet "BaselineP" providing prices for U.S and Canadian feeder pigs, and hogs, and U.S. and Canadian feeder and fed cattle prices on a per head basis. It also provides wholesale and retail pork and beef prices. These prices are drawn from a variety of USDA data sources.

[52] Note that the EDM first ignores the possibility of death, attrition, and shrink that would naturally occur. This means that the export of certain animals is attributed to Canada and Mexico, even though these sales would not have occurred.

[53] This derived value overestimates the baseline value for certain animals such as Canadian feeder cattle significantly.

[54] Note that the COOL EDM does not address poultry sector. Poultry has only an indirect effect on beef and pork through the effect of poultry prices on consumer demand for other meat products. This effect is however attenuated and in the interest of simplicity this EDM does not include it.

proportion relationship between animal inputs and wholesale meat outputs.[55] Second, the EDM also assumes that technologies used in the "value-added" sectors provide a constant return to scale. Third, the EDM also uses certain "conversion factors" to translate animal standard-sized livestock from the number of head of livestock into the retail weight in pounds. These conversion factors and their descriptions are presented in Table 1 below. Finally, the conversion factors and the EDM, more generally, are based on an assumption that fed cattle are 1,400 lbs and fed hogs are 300 lbs.[56]

Table 1: Conversion Factors

	Conversion	*Units*	*Pork*	*Beef*
Converting Livestock Weight to Retail Weight				
(1)	Farm weight to retail weight conversion factor (CF)[57]	pounds (live weight)/pounds (retail weight)	1.869	2.400
(2)	Retail meat pounds, per head, conversion factor (CF)[58]	pounds (retail weight) per head	160.51	583.33
Converting Carcass Weight into Retail Weight				
(3)	Carcass yield[59]	pounds (carcass weight)/ pounds (live weight)	74%	63%
(4)	Wholesale to retail conversion[60]	pounds (carcass weight)/ pounds (live weight)	1.383	1.512

b. Multi-Animal, Multi-Marketing Sector Model Structure

39. To accurately estimate the trade effect of COOL at each level of the marketing chain from farm to consumer, the EDM explicitly models the five distinct levels of the livestock market: (1) cow-calf and farrowing, (2) finishing, (3) packing/wholesale, (4) retail, and (5) consumers. To model the complete and integrated livestock to retail meat market, this model also incorporates imported livestock from Mexico and Canada, as well as imports and exports

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[55] *See e.g.,* James M. MacDonald & Michael E. Ollinger, *Scale economies and consolidation in hog slaughter*, AM. J. OF AGRIC. ECON. 82(2), 334-346 (May 2000) (Exhibit US-23); William F. Hahn & Richard D. Green, *Joint costs in meat retailing*, J. OF AGRIC. & RESOURCE ECON. 25(1), 109-127 (July 2000) (Exhibit US-24).

[56] We note that livestock in North America livestock weights are typically described in live weight pounds, carcass weight pounds, and retail weight pounds. If the Arbitrator would prefer to review this information in kilograms, we can provide it.

[57] *See* William Hahn, *Beef and pork values and price spreads explained*, U.S. Dep't of Agric., Econ. Research Serv. LDP-M-118-01, 5 (May 2004) (Exhibit US-25).

[58] Defined as "R" below. This is determined by dividing the standard animal size by farm to retail conversion factor.

[59] *See* Beef Cutout Calculator, National Cattleman's Association, *available at* www.beefresearch.org (Exhibit US-26); Yields and Dressing Percentages, Cornell University: Small Farms Program, *available at* http://smallfarms.cornell.edu/2012/07/10/yields-and-dressing-percentages/ (last visited July 17, 2015) (Exhibit US-27).

[60] The wholesale retail conversion is achieved by multiplying the conversion factor by the carcass yield.

of pork and beef. The model therefore captures the elements of supply and demand relevant to the livestock/meat market in North America.

40.   The COOL EDM uses four sets of equations, "identity," "price," "value-added," and "structural," to define the market and analyze shifts resulting from withdrawal of the amended COOL measure.[61] These equations are based on the assumption that equilibrium conditions exist at each stage of production.[62] In other words, the model's baseline is established so that supply always equals demand until a shock (such as elimination of the amended COOL measure) is introduced into the system.

41.   The first set of equations establish "identity." The identity equations illustrate how the quantities or volumes of livestock and finished product relate to each other throughout the model. Second, the EDM relies on "price equations" to evaluate the relationship among prices at different points in the marketing system. Third, the finishing, packer, and retail production levels are "value-added" sectors, where a mark-up is applied over the price at the previous level. That is, the price of a finished (slaughter-ready) animal is the price of the feeder animal plus mark-up. Thus, the third set provides the "value-added equations" for livestock at the feeder, finished, wholesale, and retail levels. Finally, the linearized "structural equations" combine the price and quantity identities with relevant elasticities to form the supply and demand architecture of the vertically integrated meat livestock and meat markets.

3. Explanation of Elasticities and COOL Compliance Cost

42.   This section discusses the input parameter values utilized by the EDM. As described in detail below, the inputs into the EDM are intended to accurately reflect the impact of withdrawing the amended COOL measure. Additionally, the United States uses data and exogenous variables that were well-reviewed, open to public comment, sourced from peer-reviewed academic literature, or from official U.S. statistical databases regarding the U.S. livestock market.

a. Elasticities

43.   In the context of the EDM, the structural supply and demand equations are linearized and use the elasticities, consistent with previous COOL EDM studies, to determine the responsiveness of prices and quantities in the model to exogenous shocks.[63] That is the elasticities, essentially the "slope" of the supply or demand curve, are a measure of how response quantity changes are to prices changes.

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[61] These equations are drawn directly from the prior academic and peer-reviewed models. *See e.g.,* Tonsor, et al. (2015), 35-42 (MEX-Appendix 15); Brester, Atwood & March (2004), 211-217 (MEX-Appendix 4); Lusk & Anderson (2004), 188-191 (Exhibit US-12).

[62] Complete equations are provided in the EDM Guide (Exhibit US-4). These equations operate as part of the EDM Model in the "Matrix Inversion" tab of the EDM Model (Exhibit US-3).

[63] Lusk & Anderson (2004) (Exhibit US-12); Brester, Marsh & Atwood (2004) (MEX-Appendix 4); and Tonsor, et al. (2015) (MEX-Appendix 15).

44.   As discussed in Tonsler, et al. (2015) and Brestor, Marsh & Atwood (2004), and noted in Mexico's Methodology Paper,[64] data and time constraints render econometrically estimating all supply and demand elasticities impractical. Therefore, this analysis follows the same approach as other EDM studies and uses supply and demand elasticity estimates established in and vetted by peer-reviewed academic literature.[65]

45.   The EDM utilizes supply elasticities for the supply of U.S. feeder animals and the supply of imports of feeder animals, slaughter animals, and wholesale meat drawn from academic sources. It also utilizes demand elasticities for U.S. retail meat (own-price and cross-price elasticities) and U.S. wholesale meat exports. Previous academic studies on COOL do not provide supply elasticities for U.S. imports of feeder or slaughter animals. We have thus set these elasticities to equal the supply elasticity for U.S. imports of wholesale meat imports.[66] This is consistent with the expectation that the import supply elasticities for these animals would be higher than those for domestic supplies, and is supported by other studies that developed lower estimates for these parameters.[67]

Table 2: EDM Supply and Demand Elasticities Sourced from Academic Literature

Supply and Demand Elasticities[68]		
Retail price elasticities		
	Pork	**Beef**
Pork Demand	-0.69	0.18
Beef Demand	0.10	-0.86

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[64] Mexico's Methodology Paper, Exhibit MEX-2, page 18, fn 4 (noting the difficulty separating "confounding" factors).

[65] Tonsor, et al. (2015) at 38-39 (Appendix MEX-15); Brester, Marsh & Atwood (2004), 216-217 (Appendix-MEX 4).

[66] The United States understands that Mexico calculates an import supply elasticity of 4. See Mexico's Methodology Paper, Exhibit MEX-2, 21. This is appears significantly inflated.

[67] For instance, with respect to U.S. import elasticity of slaughter hogs academics have used 1.3 based on the assumption that import supply is twice as elastic as domestic supply. Muth et al., *Pork Slaughter and Processing Sector Facility-Level Model*, Final Report for USDA/FSIS (June 2007), at 2-12 (Exhibit US-29). Other economists have used similar elasticities such as 1.04 for slaughter hogs from Canada (Michael K. Wohlegnant, Market Modeling of the Effects of Adoption of New Swine Waste Management Technologies in North Carolina, Report for Smithfield Foods and North Carolina Attorney General (July 2005), at 56 (Exhibit US-30)), and 1.39 for imports of slaughter cattle (Gary W. Brester & Michael K. Wohlgenant, *Impacts of the GATT/Uruguay Round trade negotiations on U.S. beef and cattle prices*, J. OF AGRIC. & RESOURCE ECON. 22(1), 145-156, 151 (July 1997), (Exhibit US-28). The import supply elasticities utilized by the EDM are thus likely an over-estimation of import supply elasticity.

[68] Unless otherwise noted, the elasticities in the EDM are drawn from the most recent academic review of the livestock market. Tonsor, et al. (2015) (Appendix MEX-15). This study in turn relied on existing academic and peer reviewed materials. *See* Tonsor, et al. (2015) (Appendix MEX-15), at 43 (*citing* T.C. Schroeder, and G.T. Tonsor, Economic Impacts of Zilmax Adoption in Cattle Feeding, Journal of Agricultural and Resource Economics (2011) 36:521-535 (Exhibit US-17)).

U.S. Slaughter animal elasticities		
	Hogs	**Cattle**
Supply	0.410	0.260
Wholesale meat elasticities		
	Pork	**Beef**
Meat Import Supply	1.41	1.83
Meat Export Demand	-0.89	-0.42
Feeder animal import supply elasticities*		
	Pigs	**Calves**
Canada	1.41	1.83
Mexico		1.83
Slaughter animal import elasticities*		
	Hogs	**Cattle**
Canada	1.41	1.83
* As noted above, no elasticity for import supply exists in the literature, the EDM therefore uses the supply elasticity of meat.		

46.   Other studies, including Lusk and Anderson (2004), Brester, Marsh and Atwood (2004), and the 2009 Benefit-Cost Analysis of the National Animal Identification System utilize elasticities that are consistent with these parameters.[69]

b. Cost Estimates

47.   To estimate the trade effects of withdrawing the amended COOL measure, the costs of COOL compliance are estimated and removed from the EDM at each level of the beef and pork production chain. The COOL cost estimates in the EDM are based on the 2009 and 2013 Regulatory Impact Analyses[70] (RIA) conducted by the United States Department of Agriculture ("USDA") with respect to the COOL measures.[71]

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[69] *See* Lusk & Anderson (2004), at 193 (Exhibit US-12), Brester, Atwood & Marsh (2004), at 216-217 (MEX-Appendix 4), NAIS Benefit-Cost Research Team, Benefits Cost Analysis of the National Animal Identification System, (Jan. 14, 2009), 204-206, available: http://www.aphis.usda.gov/traceability/downloads/Benefit_Cost_Analysis.pdf.

[70] Regulatory Impact Analyses ("RIAs") are used to inform agency decisions in advance of regulatory action to ensure that regulators are able to properly evaluate the potential consequences of their actions. Agencies are directed to conduct quantitative analysis of costs and benefits based on the best available scientific, technical, and economic information.

[71] 2009 RIA, 74 Fed. Reg. at 2,682 (Exhibit US-1); 2013 Final Rule, 78 Fed. Reg. at 31367 (Exhibit US-2).

i.   Development of COOL Compliance Costs

48.   With respect to the COOL cost estimates, USDA refined its understanding of the likely costs of COOL to producers, intermediaries, and retailers over the course of a number of years.[72] USDA's analysis drew upon and discussed at length available studies, including those put forward by the Sparks Company (later known as Informa), and various academics.[73] USDA considered the sources and methodology used to develop these studies, as well as the assumptions underlying their estimated costs. USDA also invited, considered, and incorporated comment on its assumptions and estimations at multiple points during the RIA development process.[74] This comment period also considered the individual experiences of producers, intermediaries, and retailers in the affected industry in the United States and abroad. Each iteration of cost analysis reflected updated data and more recent analysis.[75]

49.   USDA's analysis recognized the disparity of comments and analysis of COOL costs, indicating that "the range of implementation costs for the proposed rule span from virtually nothing to many billions of dollars."[76] For this reason, USDA "developed a range of cost estimates that reflects its assessment of costs that are reasonably likely to be incurred during the first year of implementation."[77] The cost estimates ultimately put forward in the 2009 and 2013 RIAs reflect the upper range of costs that were "reasonably likely to be incurred during the first year of implementation."[78] It is recognized that over time, however, the economy will adjust to

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[72] *See Notice of Request for Emergency Approval of New Information Collections*, 67 Fed. Reg. 70,205 (Nov. 21, 2002) (Exhibit US-31) (hereinafter "2002 Request for Information") (discussing the estimated costs designing and maintaining a recordkeeping system under a voluntary COOL measure); *Mandatory Country of Origin Labeling of Beef, Lamb, Pork, Fish, Perishable Agricultural Commodities, and Peanuts*, 68 Fed. Reg. 61,944 (Oct. 30, 2003) (Exhibit US-32) (hereinafter "2003 PRIA"); *Mandatory Country of Origin Labeling of Beef, Pork, Lamb, Chicken, Goat Meat, Perishable Agricultural Commodities, Peanuts, Pecans, Ginseng, and Macadamia Nuts*, 73, Fed. Reg. 45,106 (Aug. 1, 2008) (Exhibit US-33) (hereinafter "2008 IRIA") (providing an Interim Regulatory Impact Analysis); 2009 RIA*,* 74 Fed. Reg. at 2,682 (providing the RIA for the final mandatory COOL rule); and 2013 Final Rule (providing an updated RIA regarding the amended COOL measure).

[73] The 2003 PRIA discusses available literature estimating the potential costs associated with mandatory COOL at length. In particular, the 2003 PRIA considered: Sparks Companies Inc., *Cool Cost Assessment*, Prepared for the Sparks/CBW COOL Consortium (April 2003); D.J. Hayes and S.R. Meyer, *Impact of Mandatory Country of Origin Labeling on U.S. Pork Exports*; Davis, E.E.*, Estimate of Start-up Costs for Country of Origin Labeling Requirements to the Texas Beef Cattle and Beef Sectors*; and, J. VanSickle, R. McEowen, C.R. Taylor, N. Harl, and J. Connor, *Country of Origin Labeling: A Legal and Economic Analysis*, International Agricultural Trade and Policy Center, University of Florida, PBTC 03-05 (May 2003).

[74] USDA "held 12 public listening and information sessions across the country." It also "met with many industry groups and individuals to discuss this rulemaking and visited facilities at all levels of the supply chain to lean about current industry practices and changes that would be required to implement mandatory COOL." 2003 PRIA, 68 Fed. Reg. at 61959.

[75] 2008 IRIA, 73 Fed. Reg. at 45,129.

[76] 2003 PRIA, 68 Fed. Reg. at 61,968.

[77] 2003 PRIA, 68 Fed. Reg. at 61,968.

[78] 2003 PRIA, 68 Fed. Reg. at 61,968 (discussing lower and upper range cost estimates); 2008 IRIA, 73 Fed. Reg. at 45128, 45132 (noting that in the PRIA USDA concluded that costs likely would fall in the middle to

the requirements of the rule, and the burden on suppliers, including the costs, will be reduced.[79] That said, for the purposes of the EDM, the implementation RIA costs are used as the cost of COOL because they represent the maximum likely costs at each level of production on both sides of the border. This ignores the expected reduction of costs over time and other improvements in livestock production or processing technologies, which reduce compliance costs over time.

ii.   RIA Costs Utilized by EDM

50.   For cattle/beef, the 2009 RIA estimates a $9 per head cost at the "producer" level record keeping and transmitting information.[80] The 2009 RIA estimates $1.00 per head for hogs at the producer level. These estimations reflect the expectation of relatively low costs at the cow-calf or farrowing level, but increasing costs as the animal changes hands. In particular, sale of the feeder animal to the feedlot will on average increase the costs related to tracking, identification, segregation and recordkeeping. For the purposes of the EDM, which breaks the supply chain into four cost-incurring sectors (cow-calf or farrowing, finishing, packer, and retail), we have broken the $9 per head for cattle into $2.25 at the cow-calf production level, and $6.75 at the finishing level. For hogs, this appears as $0.25 at the farrowing production level, and $0.75 at the finishing production level in the EDM.[81]

51.   At the intermediary or packer level, the 2009 RIA estimates that slaughter houses will face increased costs related to tracking and segregating covered commodities. For beef this cost is estimated to be $0.015 per pound, and for pork it is also estimated to be $0.015 per pound.[82] For the purposes of the EDM, this is translated to a cost on a retail weight basis per the conversion chart at Table 1 above. On a retail weight basis the cost for beef is $0.02, and for pork is $0.007.

52.   At the retail level, the 2009 RIA considers potential costs related to individual packaging labels, meat case segregation, recordkeeping and information technology changes, labor, training and auditing. It estimates the implementation costs are $0.07 per pound for beef, and $0.04 per pound for pork.[83] For the purposes of the EDM, this is translated to a cost on a retail weight basis per the conversion chart at Table 1 above for beef of $0.03 and for pork of $0.006.

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upper range of estimated costs, and noting that the subsequent costs analysis were revised to reflect a single set of estimated costs in this upper range).

[79] 2009 Final Rule, 74. Fed. Reg. at 2,689. That is the RIA, in line with other concurrently analyses, measured both fixed and variable costs. The majority of these costs are fixed costs are already incurred, while the more limited variable costs are incurred on a yearly basis. For the purposes of the EDM, we remove all RIA costs, thus overestimating the average annual costs.

[80] 2009 Final Rule, 74 Fed. Reg. at 2,687.

[81] *See* EDM Exhibit, Tab "RIA."

[82] 2009 Final Rule, 74 Fed. Reg. at 2,687.

[83] 2009 Final Rule, 74 Fed. Reg. at 2,687.

53.   At both the packer and retail level, the 2013 amended COOL rule also estimated additional costs related to the elimination of comingling. This regulatory change resulted in increased costs related to more stringent livestock and meat segregation and tracking requirements. As described in detail in the 2013 RIA, this raised costs for beef $7.16 per head and for pork $1.79 per head at the packer level, and raised costs for beef $0.05 per pound and for pork $0.04 per pound at the retail level. The EDM thus used a final cost of $0.022 per pound retail weight at the packer level, and $0.032 per pound retail weight at the retail level for beef. The EDM used a final cost of $0.007 per pound retail weight at the retail level, and $0.007 per pound retail weight at the retail level for pork.[84]

54.   In summary, the 2009 and 2013 RIA costs are as follows:

Table 3: RIA – COOL Compliance Costs

RIA Costs	Pork	Beef	Unit
Birth/Farm	$0.25	$2.25	Per Head
Finishing	$0.75	$6.75	Per Head
Packer	$0.0075	$0.0218	Per lbs retail weight
Retail	$0.0072	$0.0323	Per lbs retail weight

55.   As noted by the Appellate Body and original and compliance panels, exemptions are "an integral part of 'the overall architecture' of the amended COOL measure, . . . because between 57.7% and 66.7% of beef consumed in the United States, and between 83.5% and 84.1% of pork muscle cuts, will convey no consumer information on origin despite imposing an upstream recordkeeping burden on producers and processors."[85] The EDM does not model efficiencies in the sale of livestock and distribution of meat that have developed to take advantage of exemptions resulting in lower labeling costs. That said, with respect to inputted COOL costs, the EDM follows the methodology of the RIAs and prior COOL studies.[86] It assumes that the costs at the cow-calf and finishing, or farrowing and finishing stages remain the same regardless of the ultimate channel of distribution.[87] At the packer level, the EDM excludes meat that is intended to become a processed food item[88] – such as marinated beef tenderloins, cured ham,

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[84] *See* EDM Exhibit, Tab "RIA" (Exhibit US-3).

[85] *U.S. – COOL (21.5 AB)*, para. 5.106.

[86] *See* 2013 Final Rule, 78 Fed. Reg. at 2,686; 2008 IRIA, 73 Fed. Reg. at 45,131; 2003 PRIA, 68 Fed. Reg. at 61,964. *See also* 2015 KSU Study, at 47-48, 76.

[87] We note that this may not be accurate as some feeder operations are aware of the channels of distribution of their livestock whether due to vertical integration or persistent business practices.

[88] As noted in the Appellate Body report, a "processed food item" is defined as "a retail item derived from a covered commodity that has undergone specific processing resulting in a change in the character of the covered commodity, or that has been combined with at least one other covered commodity or other substantive food

and bacon – by multiplying the percentage of covered product by the cost per pound. In line with the original RIA analysis, which assumes a smaller exemption than the panel and compliance panel, the RIA assumes that 15.9 percent of pork and 42.3 percent of beef must be labeled.[89] The EDM controls for these exempt sales channels through weighted averages. These rates of exemption are reflected in the costs in Table 3 above.

iii.   Application of RIA Costs and "COOL Discount"

56.   The RIA costs were developed with the understanding that all entities, whether in the United States or elsewhere, would face similar tasks and direct costs regardless of their location (*e.g.*, the cost of recordkeeping in the United States is similar to the cost of recordkeeping in Canada). That is, regardless of whether solely U.S.-sourced livestock or livestock of mixed origin is utilized, the appropriate COOL information must be maintained and passed downstream to enable retailers to provide customers with accurate COOL information.

57.   Although we assume that exclusively U.S.-origin meat and mixed origin meat are subject to the same incremental direct costs at the farm, finishing, packer and retail levels, differential impacts arise due to differing elasticities for import supply and domestic supply. The EDM captures and measures these differences by imposing appropriate import and domestic supply elasticities.[90] That is, imported products are more sensitive to incremental cost increases and reflect these changes more severely in price and quantity changes. The differing transmission of COOL costs is illustrated by the EDM results. Withdrawal of the COOL measure results in only a $12.64 per head price change for U.S. feeder cattle, but a $14.89 per head change for Canadian and Mexican feeder cattle. U.S. slaughter cattle prices increased $5.89 per head, while Canadian prices increased $14.89 per head.[91] In contrast to the econometric evaluation described below that attributes all of the widening price basis to COOL (from the omitted variables that are correlated with the COOL implementation period, such as drought), the EDM is only considering the amended COOL measure and is also reviewing the price change on the basis of the higher U.S. prices.

58.   The EDM also captures this difference by imposing compliance costs on imported livestock that arguably may not occur. For instance, Canadian cow-calf producers or cattle feeders would face no incremental costs from COOL compared to what they would face in exporting to the United States prior to COOL. All of the necessary identification, health certificates, inspections, etc. required for export are the same with or without COOL and meet COOL data requirements; whereas U.S. producers are facing many of those data requirements for the first time. Thus, based on the elasticities used in the EDM and the approach of adding

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component." U.S. – COOL (21.5 AB), fn 308 (*citing* (U.S. – COOL (Panel), para. 7.29 (quoting 2009 Final Rule (AMS), Section 65.220)). Processing includes activities such as "cooking," "curing," "smoking," and "restructuring."

[89] *See* COOL EDM (Exhibit US-3), Tab "RIA." *See also* 2009 Finale Rule, 74 Fed. Reg. at 2,686; 2008 IRIA, 73 Fed. Reg. at 45,132.

[90] As described above, domestic supply elasticities for cattle and hogs are set to 0.26 and 0.41, respectively. The elasticity for import supply is much higher at 1.83 for cattle, and 1.41 for hogs.

[91] COOL EDM (Exhibit US-3), Tab 14 "Complete Results."

data costs for COOL on all imported livestock even if those may already be for the most part identical to pre-COOL requirements, the United States takes a conservative approach which over-estimates any "COOL discount."

4. Model Results

59.　Based on the calculation summarized in Tab 1 (Trade Shifts) of Exhibit US-3, but for the compliance costs related to the 2009 and 2013 COOL measures, the value of Canadian and Mexican livestock exports to the United States would have exceeded the 2014 baseline level of exports. Specifically, Canadian feeder pig exports would be $4.95 million higher than 2014 levels, and Canadian slaughter hogs would have been $0.46 million higher. Canadian feeder calf exports would have been $20.75 million higher and slaughter cattle would have been $16.94 million higher. Mexican feeder calf exports would have been $47.55 million higher than 2014 export levels. In summary:

Table 4: Estimated Trade Effect

Product	Estimated Increase in Exports over 2014 (export value, millions of dollars)
Canada's feeder pig export values	$4.95
Canada's slaughter hog exports value	$0.46
Canada's feeder calf export values	$20.75
Canada's slaughter/fed cattle exports values	$17.06
Mexico's feeder calf exports values	$47.55

5. Conclusion with Respect to Level of Nullification or Impairment

60.　Given the explanation provided above, it is clear that authorization to suspend concessions should not exceed **$43.22 million** annually for Canada, and **$47.55 million** annually for Mexico. The United States thus requests that the Arbitrator reject the amounts requested by Mexico and Canada and set the amount at no more than **$43.22 million** annually for Canada, and **$47.55 million** annually for Mexico.

IV.　THE LEVEL OF SUSPENSION OF CONCESSIONS OR OTHER OBLIGATIONS PROPOSED BY CANADA AND MEXICO FAR EXCEEDS THE LEVEL OF NULLIFICATION OR IMPAIRMENT

61.　Complainants' analyses regarding the "equivalent" level of nullification or impairment is fundamentally disconnected from the U.S. livestock market, and, as such, dramatically inflates the "equivalent" level of nullification or impairment. As one example, complainants do not even limit their analyses to their cross-border trade with the United States but seek, improperly, to have alleged domestic "price suppression losses" count towards the total level of nullification or impairment.[92]

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[92] Canada's Methodology Paper, para. 144 and Table 10; Mexico's Methodology Paper, Exhibit MEX-2, pages 24-25.

62.   As a preliminary matter, the United States agrees with Canada and Mexico that the "export revenue loss" is equivalent to the difference between trade in the baseline year and estimated trade in a counterfactual year (*e.g.,* where the amended COOL measure has been withdrawn).[93] However, Canada calculates this difference to be CDA $2.045 billion (U.S. $1.605) annually, and Mexico's evaluation indicates its export revenue losses equal $514.8 million annually.[94] These estimates are unsupportable and are fundamentally inconsistent with market realities. That is, the proposed level of nullification or impairment suggested by Canada and Mexico so far exceed the current level of trade as to be unsupportable.

63.   As described in Section IV.A (Mexico) and Section IV.B (Canada),[95] complainants utilize an econometric method that is fundamentally incapable of estimating the impact of the amended COOL measure in the complex North American livestock and meat market. In particular, their "export revenue loss" calculations depend on unrealistic assumptions and suffer from serious methodological deficiencies that render their estimates incorrect. As noted consistently by previous arbitrators, the proposed level of nullification or impairment must reflect the "benefit" under the relevant covered agreement allegedly nullified or impaired "as a result of" the breach found by the DSB.[96] That is, it must be an accurate reflection of the trade that would have occurred, "but for" the inconsistent amended COOL measure, and not a reflection of unrelated market drivers or circumstances.[97]

64.   In addition to the erroneous export revenue loss claims, Canada estimates the impact of depressed domestic prices for livestock sold in Canada to be CDN $1.023 billion (U.S. $802 million),[98] while Mexico states that the economic impact of this domestic price suppression is U.S. $198 million.[99] As described in Section IV.C below, it is contrary to the text of the DSU – and there is no support in any prior arbitral award under Article 22.6 – to consider "price suppression losses" or other alleged follow-on or consequential economic effects in the calculation of the level of nullification and impairment attributable to the amended COOL measure.[100] Rather, in proceedings under Article 22.6, the arbitrator considers the "trade effects" of the impermissible measure under the covered agreements as the measure of the level of nullification or impairment, and as past arbitrators have explained, the trade effects are

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[93] Canada's Methodology Paper, para. 12; Mexico's Methodology Paper, Exhibit MEX-2, pages 3-4.

[94] Canada's Methodology Paper, para. 144, and Table 10; Mexico's Methodology Paper, Exhibit MEX-2, pages 24-25.

[95] Pursuant to the revised timetable, this section will be submitted on July, 30, 2015.

[96] *See e.g.*, *Arbitration Award in US – Section 110(5) Copyright Act (Article 25),* paras. 3.20-3.35.

[97] *EC – Hormones (Canada) (Article 22.6 – EC),* para. 41.

[98] Canada's Methodology Paper, para. 144, and Table 10.

[99] Mexico's Methodology Paper, paras. 24, 28.

[100] Neither Canada, nor Mexico's Methodology Papers provide any legal support or justification for extending the scope of the level of nullification or impairment in this manner.

determined by examining the cross-border trade that would have occurred "but for" the inconsistent measure's effect on trade.[101]

A. Mexico's Proposed Export Losses Methodology is Fundamentally Flawed and Results in the Overstatement of the Level of Nullification and Impairment

65.   On July 10, 2015, Mexico presented its Methodology Paper.[102] Mexico's livestock exports are limited to feeder cattle and thus its analysis only covers those exports. Mexico calculates its expected export revenue loss to be $514 million.[103]

66.   As a practical matter, Mexico alleges a level of nullification or impairment that does not reflect the established patterns of supply and demand in North America or the realities of the livestock industry. Specifically, Mexico suggests a level of nullification or impairment that assumes nearly a doubling in trade "but for" the amended COOL measure.[104] This evaluation is, on its face, unrealistic and incorrect.

67.   Mexico's total feeder cattle export value for 2014 was $737 million. Mexico's suggested level of nullification or impairment suggests that marginal revenue will increase by as much as 70 percent by value. Mexico's calculations assert that Mexico will export an additional 342,476 head of cattle per year.[105] This would be a 30 percent increase in feeder cattle exports from Mexico to the United States. This suggested marginal increase ignores the realities of established supply and demand patterns, including declining red meat consumption in the United States,[106] static livestock lifecycles, and limited processing capacity. Mexico utilizes estimation techniques that ignore supply and demand constraints. Through this methodology, Mexico is able to generate extraordinarily high estimates for the level of nullification or impairment, but under no circumstances will such estimates be "equivalent" to the trade agreement benefits accruing to Canada and Mexico that are nullified or impaired by the amended COOL measure.

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[101] Arbitrators have primarily focused on evaluating the "trade effects," or "trade flows" foregone, when determining the appropriate level of nullification or impairment. *See* e.g., *EC – Bananas III (US) (Article 22.6 – EC)*, paras. 6.6-6.12 (indicating that the arbitrator was of the "view that the benchmark for the calculation of nullification or impairment of US trade flows should be losses in US exports of goods to the European Communities," but noting that indirect sales to third parties could not be included in the calculation of the level of nullification or impairment); *EC – Hormones (US) (Article 22.6 – EC), para. 42* (noting that "to estimate the nullification and impairment" "we have to focus on trade flows,"); *US – Gambling (Article 22.6 – US),* para. 3.25 (indicating that the counterfactual must reflect the benefits accurately, "so that the trade flows that will be assumed to occur under the counterfactual can, in turn, provide a reliable basis for an estimation of the level of nullification or impairment of such benefits."); *US – 1916 Act (EC) (Article 22.6 – US)*, paras. 5.23, 5.58-5.5.63 (considering it "necessary to determine the trade or economic effects on the European Communities of the 1916 Act").

[102] Mexico's Methodology Paper, Exhibit MEX-2.

[103] Mexico's Methodology Paper, Exhibit MEX-2, page 24.

[104] Mexico's Methodology Paper, Exhibit MEX-2, page 24.

[105] Mexico's Methodology Paper, Exhibit MEX-2, page 21.

[106] Rani Molla, *How Much Meat Do Americans Eat? Then and Now*, WALL STREET JOURNAL: THE NUMBERS BLOG (Oct. 2, 2014) (*citing* to USDA's Food Availability (Per Capita) Data System) (Exhibit US-34)

68.   Specifically, Mexico's Methodology Paper states that "[t]he role of the regression analysis and simulation used in this study is to estimate a counterfactual scenario based on data observed before and after the adoption of the COOL measure."[107] Mexico thus utilizes prices basis equations to determine the difference between U.S. and Mexican feeder-calf prices. Mexico attributes this difference to the amended COOL measure. Mexico subsequently uses a simple calculation using a derived export elasticity that has not been reviewed or published to determine the alleged quantity impact, *i.e.*, the loss of export volume. Both elements of Mexico's export revenue loss estimation are subject to significant methodological errors, rendering the estimate grossly exaggerated and ultimately incorrect.

1. Mexico's Price Basis Methodology Omits Numerous Necessary Explanatory Variables

69.   Econometric modeling estimates the statistical relationship between a variable of interest (the dependent variable) and other explanatory variables (the independent variables) as a tool for forecasting how changes to those independent variables would impact the dependent variable. However, econometric modeling, in this instance, is not an appropriate approach for determining the level of nullification or impairment. In particular, Mexico's reduced-form econometric methodology is not sufficient in detail with respect to discerning the operation of the policy in question, or the operations of the underlying markets. Consequently, use of this methodology is subject to significant limitations. In particular, it will attribute to the amended COOL measure all changes in price basis that occurred during the period of review, whether or not they are related to the amended COOL measure.

70.   In its Methodology Paper, Mexico explains that it uses "price data for exported Mexican feeder cattle measured in US dollars in the United States," as well as the "price of US feeder cattle . . . measured in US dollars in nearby US locations,"[108] to evaluate whether there is a widening basis that can be attributed to COOL. By using prices in U.S. dollars in U.S. cities, Mexico claims that it controls for transportation costs and exchange rate differences.[109] Mexico also claims that its analysis attempts to control for seasonality through monthly dummy variables, differential quality of Mexican exports, and drought, noting that dry conditions can affect feeder cattle weights.[110]

71.   In fact, however, Mexico has made no attempt to control for many of these factors. As the United States has noted on numerous prior occasions, many factors were roiling North American livestock markets during the period under consideration, 2005 to 2015.[111] Mexico's model fails to estimate and control for numerous independent variables. Complicating matters,

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[107] Mexico's Methodology Paper, Exhibit MEX-2, page 7.

[108] Mexico's Methodology Paper, Exhibit MEX-2, pages 8.

[109] Mexico's Methodology Paper, Exhibit MEX-2, page 16.

[110] Mexico's Methodology Paper, Exhibit MEX-2, page 16.

[111] *See e.g,* Imports by Value with Intervening Events (Exhibit US-36) (illustrating the timing of the economic downturn).

these omitted variables having shifting impacts during the time period used by Mexico in its analysis. The missing relevant independent variables include, but are not limited to:

- Economic Fluctuations and Recession: Significant economic fluctuations affecting the price and quantity of Mexican cattle exports to the United States have occurred during the period used by Mexico. The global economic crisis resulted in a worldwide slowing of trade and an overall contraction of agricultural markets between 2007 and 2009.[112] Long-term unemployment in the United States persisted beyond the end of the recession, only beginning to decline from a high of 10 percent in October 2009, and did not begin a sustained decline until November 2010.[113] Long-term unemployment in the United States impacted demand for all goods bought by consumers including beef and pork. Mexico provides no assessment of the recession's effect on the price basis. Rather, Mexico's analysis attributes the total effect of the economic recession on prices to the amended COOL measure.[114]

- Increased Input Costs: Feed costs, as the single largest input into livestock production,[115] play a significant role in determining price and trade flows. For instance, when the cost of feed is high, the profitability of feeding cattle declines, and this decline encourages increased slaughter or export of animals. Between 2009 and the present, feed costs have shifted for a number of reasons, including drought, biofuels policy,[116] and changing export demands. With respect to Mexico, feed costs are particularly important when drought conditions prevail. For instance, drought conditions increase feed costs while also ensuring that grazing is limited or impossible. This encourages a steep increase in exports because livestock owners cannot profitably keep the animals. Moreover, Mexico's own domestic feeding of cattle for domestic beef production renders it increasingly dependent on international feed costs.[117] Mexico's analysis does nothing to account for the impact of feed costs, feed cost differentials, and the interrelated impact of the drought on the price of Mexican cattle versus U.S. cattle.

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[112] Between 2007 and 2009, U.S. gross domestic product (GDP) declined precipitously. Unemployment rose, and stayed high until 2010. (Exhibit US-37). *See also* Imports by Value with Intervening Events (Exhibit US-36) (illustrating the timing of the economic downturn).

[113] *See* General Economic Indicators (Exhibit US-37).

[114] *Compare* Pouliot and Sumner (2014), 107-116 (Exhibit US-35); US-COOL (Panel), para. 7.522.

[115] Richman Stillman, Mildred Haley, and Kenneth Mathews, *Grain Prices Impact Entire Livestock Production Cycle*, USDA's AMBER WAVES (Mar. 1, 2009) (Exhibit US-39).

[116] "Clean energy" policies introduced in recent years have encouraged the blending of ethanol into gasoline and the production and use of biodiesel. These policies support an alternative use of grain, and have affected grain prices. In particular, corn is used to produce ethanol, and soybeans are used to produce biodiesel. *See* Feed Prices (Exhibit US-40).

[117] See Derrell S. Peel, Kenneth H. Mathews, Jr., Rachel J. Johnson, *Trade, the Expanding Mexican Beef Industry, and Feedlot and Stocker Cattle Production in Mexico*, USDA's ECONOMIC RESEARCH SERVICE (Aug. 2011), Figure 5 (describing increased grain imports from the United States) (MEX-Appendix 11).

- Increased Mexican Beef Processing and Beef Exports: Domestic consumption of beef in Mexico has steadily grown in recent years.[118] Concurrently, exports of beef from Mexico have increased significantly; for instance, the volume of boneless, fresh, or frozen meat cuts exported from Mexico to the United States increased by nearly 68 percent from 2010 to 2011.[119] The increase in exports of Mexican beef to the United States, its largest market, is partly due to an increase in the number of TIF (Tipo Inspeccion Federal) plants inspected by Mexico's Federal Government.[120] With a view to increasing domestic value added production and exports, Mexico has also increased its production of grain-fed beef, the quality and type of beef that is most preferred by U.S. consumers.[121] Mexico has failed to address the impact on the price basis of diverting domestic supplies of feeder cattle from the export market to domestic feedlots and domestic packers.

- Other Animal Diseases: During the period used by Mexico in its analysis, several animal diseases affected the livestock industry. In particular, BSE outbreaks in Canada closed the U.S.-Canadian border to cattle imports from Canada.[122] This initial cessation of Canadian cattle exports to the United States, and beef exports worldwide spurred on Mexican cattle exports and value added production. Mexico continues to benefit from its increased market share in a number of Canada's prime export markets and periodic continuing closure of these market due to BSE cases reported as recently as February 2015.[123] Mexico has not accounted for the effect on exports of Mexican cattle to the United States of this shut down on Canadian cattle.

- U.S. Holidays: Prior econometric analysis of the U.S. market have included a variable related to the timing of U.S. holidays.[124] Significant holidays are often preceded by an increase in demand for beef, which would increase demand by U.S. packers. Mexico has failed to address the influence of these holidays on quantity impacts or price basis.

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[118] Derrell S. Peel, Kenneth H. Mathews, Jr., Rachel J. Johnson, *Trade, the Expanding Mexican Beef Industry, and Feedlot and Stocker Cattle Production in Mexico*, USDA's ECONOMIC RESEARCH SERVICE (Aug. 2011) (indicating that in the last decade (2000-09), Mexico's per capita consumption grew by more than 10 percent in all major meat categories) (MEX-Appendix 11).

[119] Rachel Johnson & Amy Hagerman, *Mexico Emerges as an Exporter of Beef to the United States*, USDA's AMBER WAVES (Sept. 20, 2012) (Exhibit US-44). *See also* Imports of Beef Products from Mexico (Exhibit US-41).

[120] *Id.; see also* Derrell S. Peel, Kenneth H. Mathews, Jr., Rachel J. Johnson, *Trade, the Expanding Mexican Beef Industry, and Feedlot and Stocker Cattle Production in Mexico*, USDA's ECONOMIC RESEARCH SERVICE (Aug. 2011) (MEX-Appendix 11), fn 9 (describing TIF slaughter plants).

[121] Derrell S. Peel, Kenneth H. Mathews, Jr., Rachel J. Johnson, *Trade, the Expanding Mexican Beef Industry, and Feedlot and Stocker Cattle Production in Mexico*, USDA's ECONOMIC RESEARCH SERVICE (Aug. 2011), 12-14 (MEX-Appendix 11).

[122] Melodie Michel, *Mexico Doubles Beef Exports*, GLOBAL MEAT NEWS .COM, Feb. 6, 2014 (Exhibit US-45) (noting that "other factors, such as the 2004 Bovine Spongiform Encephalopathy outbreak in North America also helped the competitiveness of Mexican beef").

[123] CBC, *Canadian Beef Restricted by China over BSE Case*, CBC NEWS, Feb. 27, 2015 (Exhibit US-38)

[124] CDA-126 (original COOL panel).

72.   Failure to adequately consider and account for these, and other, omitted variables, render Mexico's price basis analysis inadequate. That is, it attributes price affects to the amended COOL measure, which are actually due to other concurrent circumstances.

2. Including Additional Variables is Insufficient to Increase the Accuracy of Mexico's Econometric Model

73.   Second, even if Mexico attempted to include additional explanatory independent variables, the econometric modeling would not provide accurate results. Mexico is unable to address a wide variety of independent variables affecting the Canadian, U.S. and Mexican livestock markets during the decade period of review because of the inability to provide appropriate estimates of each independent variable or use increasing numbers of concurrent dummy variables.

74.   During the period of review many of these variables fluctuated widely. Data related to independent variables that is not sufficiently accurate will result in an inaccurate estimate of the variables of interest – the impact on the quantity of livestock exports to the United States and the price basis. Failure to provide appropriate estimates for the omitted variables described above would make isolation of the amended COOL impacts uncertain and any calculations from that estimate suspect.

75.   Finally, econometric theory indicates that if Mexico's export equations had all the proper exogenous variables then it could have used those same exogenous variables to explain the effect on Mexican prices directly rather than just through a price basis analysis. Prices for imported Mexican feeder cattle have increased more or less steadily between 2009 and late 2014, and more sharply in 2015 for cattle.[125] If one were to use the same exogenous variables that Mexico used in its analysis of a price basis and applied those variables to the absolute price, the result would likely show higher prices for livestock throughout North America, rather than lower prices for Mexico. These higher prices are likely attributable to a number of factors, but Mexico fails to clarify whether the amended COOL measure would result in an increase or decrease. We note that the United States is not arguing that the amended COOL measure increased prices for livestock; rather this demonstrates the flaws in Mexico's regression model.

3. Mexico's Methodology Utilizes Truncated Equations with Little Explanatory Power

76.   Third, Mexico has used faulty a "reduced form equations" to estimate the price basis of the amended COOL measure. That equation did not adequately evaluate the complex cattle and beef industry or the relevant demand and supply shifters. Despite recognizing that the interaction of supply and demand for the beef sector is a series of linked marketing levels – farm, feeder, packer, and retailers – Mexico does not account, through its equations or model structure, for the impact of the vertically linked marketing chain, and instead uses discrete equations to evaluate the price basis related to the amended COOL measure.

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[125] *See* Unit Value Prices (Exhibit US-6)

77.   Specifically, Mexico's "reduced form equations" for price did not in any way account for changes in quantity when determining the price impact. That is, Mexico is not modeling the livestock and meat industry's supply and demand. Further, it does not include a complete set of supply and demand equations with vetted or peer-reviewed elasticities. Rather, Mexico provides a truncated or collapsed analysis, which attempts to identify static relationships between variables, instead of considering the vertical linkages between the farm and feeder, feeder and packer, and packer and retailer. This collapsed analysis provides an incorrect estimate that does not accurately reflect the impact of the amended COOL measure. Mexico's analysis has ignored the choice that the producer makes between sending cattle for domestic value added processing or sending them for export. That choice is driven by the costs associated with exogenous factors such as feed and diesel, as well as other issues related to demand, exchange rates, etc.

78.   Further, the equations that Mexico uses cannot, even if they are correctly specified, estimate the "but for COOL" price. Mexico's "price equation" is actually a price basis equation and reflects the difference between the U.S. price and the Canadian price. As Sumner and Pouliot have stated elsewhere, imposing COOL cost on imports would result in higher prices in the importing country and lower prices in the exporting country.[126] COOL costs would be expected to widen the difference between prices in the United States and Mexico. The equation cannot measure what part of the change in the price basis is the result of U.S. price increases and what part is due to exporting-country price decreases. Mexico, however, attributes all the price basis change to exporting country price decreases, resulting in an exaggerated price basis. Its model fails to account for the fact that without the amended COOL measure, prices in the United States would be lower, and thus there would be less of a difference in price between Mexican livestock exports and U.S. livestock.

4. Mexico Relies on Inappropriate Pricing Data

79.   <u>Fourth</u>, Mexico uses monthly U.S. Census Bureau data sourced from the U.S. Department of Agriculture's Economic Research Service ("ERS").[127]

80.   Mexico, however, utilizes weekly pricing data collected by USDA's Agricultural Marketing Service ("AMS").[128] This data reflects weekly Texas and New Mexico feeder cattle prices. The AMS price data provided is not necessarily consistently reflective of the types of feeder cattle that are imported from Mexico because it relies heavily on auction data. AMS data is collected from a variety of sources including auctions in the region. In contrast, feeder cattle from Mexico may not be sold at auction, but rather on the basis of forward contracts or other pricing devices. For these reasons, the weekly AMS data likely overestimates the baseline prices for cattle. This will result in an inaccurate and inflated price basis.

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[126] *See* Pouliot and Sumner (2014), (Exhibit US-35).

[127] Mexico's Methodology Paper, Exhibit MEX-2, page 10.

[128] Mexico's Methodology Paper, Exhibit MEX-2, pages 9-10.

5.   Mexico's Quantity Impact Analysis is Also Subject to Significant Flaws

81.   With respect to evaluating the impact of the amended COOL measure on the quantity of livestock exports from Mexico to the United States, Mexico does not conduct an econometric analysis.[129]

82.   Instead, Mexico uses a simple elasticity calculation to estimate the quantity impact.[130] As a preliminary matter, that quantity equation is insufficient to account for the complexity of the feeder cattle market in Mexico and the United States, much less to account for linkages to demand for fed cattle and beef or to substitute products such as pork. Even though Mexico's estimation only applies to one category of livestock and level of production, Mexico's calculation should account for all factors influencing quantity outcomes. In this case, the equation should consider the supply and demand effect in the United States, as well as in Mexico. It should also consider the impact of exports from Canada to the United States on exports from Mexico to the United States. We note that by not considering supply and demand, beyond its own producers' reaction to the elimination of an alleged price basis, Mexico fails to account for the fact that some of the demand in the United States would be met by exports from Canada instead of Mexico. Rather, Mexico's analysis of lost feeder cattle exports is presented as an absolute value and does not account for the availability of livestock from other sources.

83.   Mexico's simple calculation has two inputs. The first is 100 percent of the price basis attributed to the amended COOL measure as determined using the price basis econometric equation. The United States has explained above that attributing 100 percent of the change in the price basis estimated using this econometric technique to a change in prices received by Mexico (or Canada) for feeder cattle (or other animals) is incorrect and overstates the impact of the amended COOL measure.

84.   The second input is Mexico's elasticity of export supply for feeder cattle to the United States. Elasticity is a measure of how responsive the market will be, in terms of quantity, to the changes in price. It appears that Mexico recognizes that a specific supply elasticity has not been previously estimated "because of confounding effects from the drought and the COOL measure."[131] Mexico nevertheless attempts to develop its own elasticity. Mexico bases its estimated elasticity on a single year, 2012, a period of time most certainly affected by drought and other factors.[132] It also appears to make unsupported assumptions about the rate of export,[133] and ultimately with little explanation concludes that the export supply elasticity is 4. This elasticity exceeds the appropriate level. As described in the U.S. EDM, there is a lack of export supply elasticities provided in the academic literature. In the case of the EDM, the United States has set these elasticities on the basis of unbiased, peer-reviewed academic

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[129] Mexico's Methodology Paper, Exhibit MEX-2, pages 17-21.

[130] Mexico's Methodology Paper, Exhibit MEX-2, page 18.

[131] Mexico's Methodology Paper, Exhibit MEX-2, page 18, fn 4.

[132] Mexico's Methodology Paper, Exhibit MEX-2, page 19

[133] Mexico's Methodology Paper, Exhibit MEX-2, page 20.

literature. The supply elasticities are set to equal the supply elasticity for U.S. imports of wholesale meat. This is based on the assumption that demand pressures are similar. It is also consistent with the expectation that the import supply elasticities for these animals would be higher than those for domestic supplies and is supported by other studies that developed estimates for these parameters.[134]

85.   Mexico inputs the price basis estimates derived from the econometric modeling into the calculation of export supply to determine the quantity impact. Using a derived elasticity coupled with an estimated price basis calculation does nothing more than compound Mexico's methodological errors and further distance Mexico's proposed level of nullification or impairment from the actual level of benefits nullified or impaired by the amended COOL measure. Furthermore, using the entire price basis estimate to determine the impact of the amended COOL measure on Mexican feeder prices overstates the trade effect.

6.   Taken Together Mexico's Price and Quantity Estimates Result in an Unsupportable Level of Nullification or Impairment

86.   Finally, Mexico uses the inaccurately estimated quantity impact and price basis to derive an overall level of nullification or impairment for feeder cattle.[135] Pursuant to "equation (2)," Mexico essentially multiplies the price basis attributed to the amended COOL measure times the quantity impact attributed to the amended COOL measure. However, as described in detail above, the attribution of a wide number of factors impacting the North American market to the price basis and the use of unproven and unreviewed elasticities has resulted in price basis and quantity impact inputs with no basis in reality. Thus the trade effect figures provided by Mexico are unsupported and do not reflect the level of nullification and impairment resulting from the amended COOL measure.

87.   The estimate of US$531 million in additional margin trade, in a market currently experiencing its highest export revenue in a decade at US$737 million, further demonstrates that the econometric modeling used to arrive at this estimate is flawed. On its face, it is absurd to assume that Mexico would increase its export revenue by 72 percent in the absence of the amended COOL measure. Rather, the econometric modeling used to arrive at this estimate inadequately distinguished between the price basis of the amended COOL measure and the effects of the concurrent economic downturn, decreased demand for beef, fluctuating grain and energy prices, diversion of Mexican livestock to processing in Mexico, drought conditions, and

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[134] *See, e.g.,* Muth et al., *Pork Slaughter and Processing Sector Facility-Level Model*, Final Report for USDA/FSIS (June 2007), at 2-12 (Exhibit US-29). Other economists have used similar elasticities such as 1.04 for slaughter hogs from Canada (Michael K. Wohlegnant, *Market Modeling of the Effects of Adoption of New Swine Waste Management Technologies in North Carolin*a, Report for Smithfield Foods and North Carolina Attorney General (July 2005), at 56 (Exhibit US-30)), and 1.39 for imports of slaughter cattle (Gary W. Brester & Michael K. Wohlgenant*, Impacts of the GATT/Uruguay Round trade negotiations on U.S. beef and cattle prices*, J. OF AGRIC. & RESOURCE ECON**.** 22(1), 145-156, 151 (July 1997),(Exhibit US-28). The import supply elasticities utilized by the EDM are thus likely an over estimation of import supply elasticity, and 4 cited by Mexico is a gross overestimation.

[135] Mexico's Methodology Paper, Exhibit MEX-2, page 24.

a myriad other issues – a fact recognized by Mexico.[136] To adequately distinguish the effects of the amended COOL measure from other concurrent factors, Mexico would have to estimate the impact of each of the factors, an almost impossible task and certainly even more difficult in a complex, vertically integrated market. This tool is fundamentally unsuited to determining the impact of the amended COOL measure in a market influenced by a wide variety of competing factors. The EDM described in Section III is the appropriate tool for completing this analysis.

B. [RESERVED]

C. The Level of Nullification and Impairment Should Reflect Only the Trade Effect of the Amended COOL Measure

118.   Both Canada and Mexico's Methodology Papers add to the alleged trade effects of the amended COOL measure a novel, separate element. Both Methodology Papers argue to include in the level of nullification or impairment of benefits accruing under a trade agreement estimated economic effects in Canada or Mexico's domestic market, referred to in the Papers as "price suppression losses."[137] With respect to the "price suppression losses," complainants allege that the amended COOL measure resulted in a surplus of animals in their respective domestic markets, which ultimately "suppress[ed] the domestic price of feeder cattle in Mexico,"[138] and "suppressed prices for livestock in Canada."[139] Canada attributes CDA $1.023 billion (U.S. $802 million) of nullification or impairment to this "price suppression," while Mexico attributes $198 million of its total nullification or impairment estimate to domestic "price suppression."[140] There is, however, no basis under the DSU for considering domestic price suppression as a part of the level of nullification or impairment of benefits under the TBT Agreement or the GATT 1994.

119.   First, the DSU establishes that nullification or impairment relates to the benefits accruing to a Member under the provisions of the covered agreements. For example, DSU Article 3.3 states that prompt settlement of situations in which "any benefits accruing to [a Member] … under the covered agreements are being impaired" is essential. Similarly, Article 10.4 speaks of whether a measure already the subject of a panel proceeding "nullifies or impairs benefits accruing to" a Member "under any covered agreement."

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[136] Mexico's Methodology Paper, Exhibit MEX-2, page 18, fn 4.

[137] Canada's Methodology Paper, paras. 31-42,140-143; Mexico's Methodology Paper, Exhibit MEX-2, pages 21-24.

[138] Mexico's Methodology Paper, para. 24.

[139] Canada's Methodology Paper, para 2.

[140] Canada's Methodology Paper, Table 10; Mexico's Methodology Paper (Exhibit MEX-2), page 25.

120.   Consistent with these and other provisions, prior Article 22.6 arbitrators have concluded that the figure calculated must represent the nullification and impairment of benefits "under the covered agreement," not some broader, subjective measure of the overall economic impacts supposedly related to non-compliance. As the TBT Agreement and the GATT 1994 are part of the Multilateral Agreements on Trade in Goods, benefits deriving from these agreements necessarily concern the cross-border trade in goods.[141] Prior arbitrations to determine equivalence under Article 22.7 of the DSU and involving the Multilateral Agreements on Trade in Goods have focused on the "trade effect" of the WTO-inconsistent measure.[142] For example, as the arbitrator in *EC – Hormones (Canada)* stated, "What we have to do is to estimate the nullification or impairment caused by [the WTO-inconsistent measure]. To do so in the present case, we have to focus on trade flows. We must estimate trade foregone due to the ban's continuing existence beyond" the expiration of the reasonable period of time.[143] Similarly, the arbitrator in *EC – Bananas* calculated what the level of Ecuadorian imports would be but for the EC's discriminatory regime,[144] finding that the United States could not claim losses related to the sale of agricultural inputs to certain Latin American countries that would have occurred, "but for" the blocked exports of bananas as those losses are not directly tied to lost exports between the complainant and respondent.[145] Similarly, in *US – Gambling*, the arbitrator rejected Antigua's argument that the level should reflect a multiplier effect, suggesting that including a multiplier effect would be inconsistent with the approach taken in prior arbitrations, which focused on the trade effects of a given measure, and not on alleged "shock" effects on the broader economy.[146]

121.   In this dispute, Canada and Mexico's request to include in the level of the suspension of concessions authorized an amount equivalent to alleged price suppression losses is inconsistent with the DSU and goes beyond any possible nullification or impairment of Canada and Mexico's benefits under the TBT Agreement and the GATT 1994. Canada and Mexico both make claims with respect to internal transactions *within* their domestic economies.[147] As such,

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[141] *See* WTO Agreement, List of Annexes (listing as Annex 1A, the "Multilateral Agreements on Trade in Goods" which includes the GATT 1994, the *Antidumping Agreement* and the *SCM Agreement*).

[142] The arbitrators in *US – Offset Act (Byrd Amendment)* noted that "the "trade effect" approach has been regularly applied in other Article 22.6 arbitrations and seems to be generally accepted by Members as *a* correct application of Article 22 of the DSU." (emphasis in original). *US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US)*, para. 3.69. Thus, the arbitrator signaled that trade effect is the typical approval, but in cases where no trade occurred other approaches could be considered. *See id*. para. 3.38 (*citing US – Section 110(5) Copyright Act (Article 25)*).

[143] *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 41.

[144] *EC – Bananas III (Ecuador) (Article 22.6 – EC)*, paras. 168-169.

[145] *EC – Bananas III (US) (Article 22.6 – EC)*, paras. 6.6-6.12.

[146] *See*, *e.g.*, *US – Gambling (Article 22.6 – US),* para. 3.123; *EC – Hormones (US) (Article 22.6 – EC)*, para. 41; *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); *US – 1916 Act (EC) (Article 22.6 – US)*, para. 6.10; *see also US – 1916 Act (EC) (Article 22.6 – US),* paras. 5.54 and 5.69 ("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.").

[147] Canada's Methodology Paper, para. 2; Mexico's Methodology Paper, para. 24.

the transactions which would serve as the basis for Canada and Mexico's suggested price suppression losses are not lost exports to the United States, and thus are not properly included in a measurement of either Canada or Mexico's nullification or impairment of trade benefits under the covered agreements.

122.   The request to include alleged domestic price suppression losses cannot be reconciled with the DSU. An analysis of the level of nullification or impairment must focus on the "benefit" under the *trade agreement* allegedly nullified or impaired "as a result of" the failure of the Member to fulfill its obligation – *i.e*., as a result of the inconsistency found by the DSB.[148] Here, a trade benefit under these agreements relates to international trade in livestock, not to domestic markets.

123.   Canada and Mexico are well aware that the DSU does not provide for the approach they advocate. Some participants in the negotiations to clarify or improve the DSU have proposed to amend the DSU to provide for the approach that Canada and Mexico now ask the Arbitrators to accept as already contained in the DSU. That proposal was to add to Article 22.4 a new sentence to state: "If the case is one brought by a developing country Member, the level of nullification and impairment shall also include an estimate of the impact of the inconsistent measure on the economy of such Member."[149] That amendment has not been agreed to by Members.

124.   Even in that proposed amendment, the approach being advocated by Canada and Mexico would be limited to disputes in which the complaining party was a developing country Member; it would not be the universal approach Canada and Mexico now urge upon the Arbitrators. There would have been no need for this proposal if the DSU already accommodated Canada's and Mexico's approach.

125.   Indeed, Canada and Mexico appear, for their own benefit, to now urge the Arbitrators to effectively amend the DSU by fiat rather than by following the procedures agreed by Members. But the task assigned to an arbitrator under Article 22.6 is not to amend the DSU or to follow the approach advocated by complaining parties. Rather, the task is to "determine whether the level of [requested] suspension is equivalent to the level of nullification or impairment."[150]

126.   Second, the specific DSU requirement is that the "level of suspension of concessions . . . shall be equivalent to the level of nullification and impairment." Even aside from the fact that

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[148] The concept of nullification or impairment derives from Article XXIII of the *General Agreement on Tariffs and Trade 1994* ("GATT 1994"). Article XXIII provides: "If any contracting party should consider that *any benefit* accruing to it directly or indirectly under this Agreement *is being nullified or impaired ... as a result of ... the failure of another contracting party to carry out its obligations* under this Agreement ... the matter may be referred to the CONTRACTING PARTIES." For example in *US – Section 110(5),* the arbitrators agreed with the U.S. position that the "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),* U.S. Oral Statement to the Arbitrators (September 5, 2001), para. 22; *US – Section 110(5) Copyright Act (Article 25)*, para. III.34.

[149] TN/DS/26, para. 819.

[150] Article 22.7 of the DSU.

the DSU does not provide for the alleged "price suppression losses" approach advocated by Canada and Mexico, any analysis of whether the level of suspension of concessions is equivalent to the level of nullification or impairment would need to account the economic effects of the suspension of concessions in the United States. In other words, to the extent that the level of nullification or impairment is increased by alleged price suppression losses to reflect broader economic effects in Canada and Mexico of the amended COOL measure, then it would be necessary to include broader economic effects on both sides of the equation.

127.   The corresponding level of suspension would need to be decreased by an appropriate calculation of the broader economic effects on the U.S. economy of the suspended trade. Otherwise, the arbitration would not be an apples-to-apples determination of equivalency, as required under the DSU.[151] Canada and Mexico's analysis make no reference to this and ignore this aspect of equivalence. And an analysis of the broader economic effects on the U.S. economy would require specification of precisely which concessions were being suspended and in what manner. This would require specifying, for example, on which tariff lines Canada or Mexico would suspend concessions and how any resulting increased tariffs would affect the U.S. economy. But the Arbitrators do not have that information and could not ensure equivalence. Following Canada and Mexico's proposed approach would prevent the Arbitrators from carrying out their task under Article 22 of the DSU.

128.   Finally, and again aside from the fact that Canada's and Mexico's alleged price suppression losses are not part of the level of nullification or impairment, Canada's and Mexico's estimates of those alleged losses are unsupported and incorrect. Both Canada and Mexico have provided estimates that are vague, at best, and do little to accurately assess or attribute the economic impact of the amended COOL measure on domestic livestock transactions.

129.   Mexico does not account for other factors impacting its domestic sale of livestock that are completely unrelated to the impact of the amended COOL measure on export volumes. For instance, Mexico does not account for the drought's impact on the quality or life span of Mexican cattle.

130.   Arbitrators in past proceedings have uniformly based their determinations on ascertainable facts and have refused to "accept claims that are 'too remote', 'too speculative', or 'not meaningfully quantified.'"[152] As the arbitrator found in *EC – Hormones,* "we need to guard against claims of lost opportunities where the causal link with the inconsistent [measure]

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[151] *See*, *e.g.*, *EC – Bananas III (US) (Article 22.6 – EC)*, para. 7.1 (In deciding to take account of the impact of the WTO-inconsistent measure on the value of U.S. imports, rather than on the U.S. firms' costs and profits, the Arbitrator explained that to "estimate the level of nullification or impairment, the same basis needs to be used for measuring the level of suspension of concessions.")

[152] *US – 1916 Act (EC) (Article 22.6 – US)*, para. 6.10; *see also US – 1916 Act (EC) (Article 22.6 – US)*, paras. 5.54 and 5.69 ("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. ... 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.").

is less than apparent, i.e. where exports are allegedly foregone not because of the [inconsistent measure] but due to other circumstances."[153]

V.   CONCLUSION

131.   For the reasons set forth above, the United States requests that the Arbitrator find that the level of suspension of concessions requested by Mexico is in excess of the appropriate level of nullification or impairment. As described in great detail above, the more appropriate level of nullification or impairment is approximately $47.55 million per year for Mexico.

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