UNITED STATES – CERTAIN COUNTRY OF ORIGIN LABELLING (COOL) REQUIREMENTS

RECOURSE TO ARTICLE 22.6 OF THE DSU BY THE UNITED STATES

DECISIONS BY THE ARBITRATOR

Addendum

This *addendum* contains Annexes A to C to the Decisions by the Arbitrator to be found in documents WT/DS384/ARB, and WT/DS386/ARB.

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WORKING PROCEDURES OF THE ARBITRATOR

ANNEX A-1

WORKING PROCEDURES OF THE ARBITRATOR (WT/DS384)

6 July 2015

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

General

2. The deliberations of the Arbitrator and the documents submitted to it shall be kept confidential. Nothing in the DSU or in these Working Procedures shall preclude a party to the dispute (hereafter "party") from disclosing statements of its own positions to the public. The Arbitrator may adopt special procedures concerning Business Confidential Information after consulting the parties.

3. The Arbitrator shall conduct its internal deliberations in closed session. The parties shall be present at meetings only when invited by the Arbitrator to appear before it. The Arbitrator may open its meetings with the parties to the public, subject to appropriate procedures to be adopted by the Arbitrator after consulting the parties.

4. Each party has the right to determine the composition of its own delegation when meeting with the Arbitrator. Each party shall have responsibility for all members of its own delegation and shall ensure that each member of such delegation acts in accordance with the DSU and these Working Procedures, particularly with regard to the confidentiality of the proceedings.

5. For the purposes of joining these proceedings with those in the parallel dispute DS386, Mexico will be included in all communications of the Arbitrator and of the parties, including their submissions. Mexico will also be allowed to be present throughout the joint substantive meeting in DS384 and DS386.

Submissions

6. Canada shall transmit to the Arbitrator and to the United States a communication explaining the basis for its request, including the methodology and data supporting it, in accordance with the timetable adopted by the Arbitrator.

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

8. A party shall submit any request for a preliminary ruling at the earliest possible opportunity and in any event no later than in its written submission to the Arbitrator. If the United States requests such a ruling in its written submission to the Arbitrator, Canada shall submit its response to the request in its written submission. If Canada requests such a ruling in its written submission to the Arbitrator, the United States shall submit its response to the request prior to the substantive meeting, at a time to be determined by the Arbitrator in light of the request. Exceptions to this procedure shall be granted upon a showing of good cause.

9. Each party shall submit all factual evidence to the Arbitrator no later than in its written submission, except with respect to evidence necessary for purposes of rebuttal, answers to questions or comments on answers provided by the other party. Exceptions to this procedure shall be granted upon a showing of good cause. Where such exception has been granted, the Arbitrator shall accord the other party a period of time for comment, as appropriate, on any new factual evidence submitted after the substantive meeting.

10. Where the original language of exhibits is not a WTO working language, the submitting party shall submit a translation into the WTO working language of the submission at the same time. The Arbitrator may grant reasonable extensions of time for the translation of such exhibits upon a showing of good cause. Any objection as to the accuracy of a translation should be raised promptly in writing, no later than the next filing or meeting (whichever occurs earlier) following the submission which contains the translation in question. The Arbitrator may grant reasonable extensions of time for the filing of such objection upon a showing of good cause. Any objection shall be accompanied by a detailed explanation of the grounds of objection and an alternative translation.

11. In order to facilitate the work of the Arbitrator, each party is invited to make its submissions in accordance with the WTO Editorial Guide for Submissions attached as Annex 1, as relevant and to the extent that it is practical to do so.

12. To facilitate the maintenance of the record of the dispute and maximize the clarity of submissions, each party shall sequentially number its exhibits throughout the course of the proceedings. For example, exhibits submitted by the United States could be numbered US-1, US-2, etc. If the last exhibit in connection with the first submission was numbered US-5, the first exhibit of the next submission thus would be numbered US-6.

Questions

13. The Arbitrator may at any time pose questions to the parties, orally or in writing, including prior to the substantive meeting.

Substantive meeting

14. Each party shall provide to the Arbitrator the list of members of its delegation in advance of each meeting with the Arbitrator and no later than 5.00 p.m. the previous working day.

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

   a. The Arbitrator shall invite the United States to make an opening statement to present its case first. Subsequently, the Arbitrator shall invite Canada to present its point of view. Before each party takes the floor, it shall provide the Arbitrator and other participants at the meeting with a provisional written version of its statement. In the event that interpretation is needed, each party shall provide additional copies for the interpreters, through the Arbitrator's Secretary. Each party shall make available to the Arbitrator and the other party the final version of its statement, preferably at the end of the meeting, and in any event no later than 5.00 p.m. on the first working day following the meeting.

   b. After the conclusion of the statements, the Arbitrator shall give each party the opportunity to ask each other questions or make comments, through the Arbitrator. Each party shall then have an opportunity to answer these questions orally. Each party shall send in writing, within a timeframe to be determined by the Arbitrator, any questions to the other party to which it wishes to receive a response in writing. Each party shall be invited to respond in writing to the other party's written questions within a deadline to be determined by the Arbitrator.

   c. The Arbitrator may subsequently pose questions to the parties. Each party shall then have an opportunity to answer these questions orally. The Arbitrator shall send in writing, within a timeframe to be determined by it, any questions to the parties to which it wishes to receive a response in writing. Each party shall be invited to respond in writing to such questions within a deadline to be determined by the Arbitrator.

   d. Once the questioning has concluded, the Arbitrator shall afford each party an opportunity to present a brief closing statement, with the United States presenting its statement first.

Executive summaries

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

17. Each party shall submit an executive summary of the facts and arguments as presented to the Arbitrator in its written submissions and oral statements, in accordance with the timetable adopted by the Arbitrator. Each such executive summary shall not exceed 15 pages. The Arbitrator will not summarize in a descriptive part, or annex to its decision, the parties' responses to questions.

Service of documents

18. The following procedures regarding service of documents shall apply:

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

b. Each party shall file three (3) paper copies of all documents it submits to the Arbitrator. However, when exhibits are provided on CD-ROMS/DVDs, three (3) CD-ROMS/DVDs and two (2) paper copies of those exhibits shall be filed. The DS Registrar shall stamp the documents with the date and time of the filing. The paper version shall constitute the official version for the purposes of the record of the dispute.

c. Each party shall also provide an electronic copy of all documents it submits to the Arbitrator at the same time as the paper versions, preferably in Microsoft Word format, either on a CD-ROM, a DVD or as an e-mail attachment. If the electronic copy is provided by e-mail, it should be addressed to DSRegistry@wto.org, with a copy to ***.***@wto.org and ***.***@wto.org. If a CD-ROM or DVD is provided, it shall be filed with the DS Registry.

d. Each party shall serve any document submitted to the Arbitrator directly on the other party. Each party shall confirm, in writing, that copies have been served as required at the time it provides each document to the Arbitrator.

e. Each party shall file its documents with the DS Registry and serve copies on the other party by 5.00 p.m. (Geneva time) on the due dates established by the Arbitrator. A party may submit its documents to another party in electronic format only, subject to the recipient party's prior written approval and provided that the Arbitrator's Secretary is notified.

f. The Arbitrator shall provide the parties with an electronic version of its decision, as well as of other documents as appropriate. When the Arbitrator transmits to the parties both paper and electronic versions of a document, the paper version shall constitute the official version for the purposes of the record of the dispute.

Modification of Working Procedures

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

ANNEX A-2

WORKING PROCEDURES OF THE ARBITRATOR (WT/DS386)

6 July 2015

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

General

2. The deliberations of the Arbitrator and the documents submitted to it shall be kept confidential. Nothing in the DSU or in these Working Procedures shall preclude a party to the dispute (hereafter "party") from disclosing statements of its own positions to the public. The Arbitrator may adopt special procedures concerning Business Confidential Information after consulting the parties.

3. The Arbitrator shall conduct its internal deliberations in closed session. The parties shall be present at meetings only when invited by the Arbitrator to appear before it. The Arbitrator may open its meetings with the parties to the public, subject to appropriate procedures to be adopted by the Arbitrator after consulting the parties.

4. Each party has the right to determine the composition of its own delegation when meeting with the Arbitrator. Each party shall have responsibility for all members of its own delegation and shall ensure that each member of such delegation acts in accordance with the DSU and these Working Procedures, particularly with regard to the confidentiality of the proceedings.

5. For the purposes of joining these proceedings with those in the parallel dispute DS384, Canada will be included in all communications of the Arbitrator and of the parties, including their submissions. Canada will also be allowed to be present throughout the joint substantive meeting in DS384 and DS386.

Submissions

6. Mexico shall transmit to the Arbitrator and to the United States a communication explaining the basis for its request, including the methodology and data supporting it, in accordance with the timetable adopted by the Arbitrator.

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

8. A party shall submit any request for a preliminary ruling at the earliest possible opportunity and in any event no later than in its written submission to the Arbitrator. If the United States requests such a ruling in its written submission to the Arbitrator, Mexico shall submit its response to the request in its written submission. If Mexico requests such a ruling in its written submission to the Arbitrator, the United States shall submit its response to the request prior to the substantive meeting, at a time to be determined by the Arbitrator in light of the request. Exceptions to this procedure shall be granted upon a showing of good cause.

9. Each party shall submit all factual evidence to the Arbitrator no later than in its written submission, except with respect to evidence necessary for purposes of rebuttal, answers to questions or comments on answers provided by the other party. Exceptions to this procedure shall be granted upon a showing of good cause. Where such exception has been granted, the Arbitrator shall accord the other party a period of time for comment, as appropriate, on any new factual evidence submitted after the substantive meeting.

10. Where the original language of exhibits is not a WTO working language, the submitting party shall submit a translation into the WTO working language of the submission at the same time. The Arbitrator may grant reasonable extensions of time for the translation of such exhibits upon a showing of good cause. Any objection as to the accuracy of a translation should be raised promptly in writing, no later than the next filing or meeting (whichever occurs earlier) following the submission which contains the translation in question. The Arbitrator may grant reasonable extensions of time for the filing of such objection upon a showing of good cause. Any objection shall be accompanied by a detailed explanation of the grounds of objection and an alternative translation.

11. In order to facilitate the work of the Arbitrator, each party is invited to make its submissions in accordance with the WTO Editorial Guide for Submissions attached as Annex 1, as relevant and to the extent that it is practical to do so.

12. To facilitate the maintenance of the record of the dispute and maximize the clarity of submissions, each party shall sequentially number its exhibits throughout the course of the proceedings. For example, exhibits submitted by the United States could be numbered US-1, US-2, etc. If the last exhibit in connection with the first submission was numbered US-5, the first exhibit of the next submission thus would be numbered US-6.

Questions

13. The Arbitrator may at any time pose questions to the parties, orally or in writing, including prior to the substantive meeting.

Substantive meeting

14. Each party shall provide to the Arbitrator the list of members of its delegation in advance of each meeting with the Arbitrator and no later than 5.00 p.m. the previous working day.

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

   a.   The Arbitrator shall invite the United States to make an opening statement to present its case first. Subsequently, the Arbitrator shall invite Mexico to present its point of view. Before each party takes the floor, it shall provide the Arbitrator and other participants at the meeting with a provisional written version of its statement. In the event that interpretation is needed, each party shall provide additional copies for the interpreters, through the Arbitrator's Secretary. Each party shall make available to the Arbitrator and the other party the final version of its statement, preferably at the end of the meeting, and in any event no later than 5.00 p.m. on the first working day following the meeting.

   b.   After the conclusion of the statements, the Arbitrator shall give each party the opportunity to ask each other questions or make comments, through the Arbitrator. Each party shall then have an opportunity to answer these questions orally. Each party shall send in writing, within a timeframe to be determined by the Arbitrator, any questions to the other party to which it wishes to receive a response in writing. Each party shall be invited to respond in writing to the other party's written questions within a deadline to be determined by the Arbitrator.

   c.   The Arbitrator may subsequently pose questions to the parties. Each party shall then have an opportunity to answer these questions orally. The Arbitrator shall send in writing, within a timeframe to be determined by it, any questions to the parties to which it wishes to receive a response in writing. Each party shall be invited to respond in writing to such questions within a deadline to be determined by the Arbitrator.

   d.   Once the questioning has concluded, the Arbitrator shall afford each party an opportunity to present a brief closing statement, with the United States presenting its statement first.

Executive summaries

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

17. Each party shall submit an executive summary of the facts and arguments as presented to the Arbitrator in its written submissions and oral statements, in accordance with the timetable adopted by the Arbitrator. Each such executive summary shall not exceed 15 pages. The Arbitrator will not summarize in a descriptive part, or annex to its decision, the parties' responses to questions.

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   c. Each party shall also provide an electronic copy of all documents it submits to the Arbitrator at the same time as the paper versions, preferably in Microsoft Word format, either on a CD-ROM, a DVD or as an e-mail attachment. If the electronic copy is provided by e-mail, it should be addressed to DSRegistry@wto.org, with a copy to ***.***@wto.org and ***.***@wto.org. If a CD-ROM or DVD is provided, it shall be filed with the DS Registry.

   d. Each party shall serve any document submitted to the Arbitrator directly on the other party. Each party shall confirm, in writing, that copies have been served as required at the time it provides each document to the Arbitrator.

   e. Each party shall file its documents with the DS Registry and serve copies on the other party by 5.00 p.m. (Geneva time) on the due dates established by the Arbitrator. A party may submit its documents to another party in electronic format only, subject to the recipient party's prior written approval and provided that the Arbitrator's Secretary is notified.

   f. The Arbitrator shall provide the parties with an electronic version of its decision, as well as of other documents as appropriate. When the Arbitrator transmits to the parties both paper and electronic versions of a document, the paper version shall constitute the official version for the purposes of the record of the dispute.

Modification of Working Procedures

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

ANNEX A-3

PROCEDURES FOR AN OPEN SUBSTANTIVE MEETING OF THE ARBITRATOR[1] (WT/DS384)

Adopted on 6 July 2015

1.   The Arbitrator shall hold a joint substantive meeting in DS384 and DS386.

2.   Subject to the availability of suitable WTO meeting rooms, the Arbitrator will start its substantive meeting, on 15-16 September 2015, with a session with the parties open to the public. At that session, each party will be asked to make an opening statement. After the parties have made their statements, they will be given the opportunity to pose questions to the other party or make comments on the other party's statement. The Arbitrator may pose any questions or make any comments during such session. The parties will also have an opportunity to make their closing statement during the session open to the public.

3.   To the extent that the Arbitrator or any party considers it necessary, the Arbitrator will also hold a session with the parties not open to public observation during which the parties will be allowed to make additional statements or comments, and pose questions, that involve business confidential information. The Arbitrator may also pose questions during such a session.

4.   The following persons will be admitted into the meeting room during all sessions of the Arbitrator's substantive meeting, whether open or closed to the public:

–   the members of the Arbitrator;
–   all members of the delegations of the parties to DS384 and DS386; and
–   WTO Secretariat staff assisting the Arbitrator.

5.   No person shall disclose any business confidential information at any session open to the public.

6.   WTO Members and Observers and the public may observe the Arbitrator's sessions that are open to public viewing with observers in the gallery of the hearing room. The public viewing will be open to officials of WTO Members and Observers upon presentation of their official badges. Accredited journalists and representatives of relevant non-governmental organizations may indicate to the Secretariat their interest in attending the public viewing (Information and External Relations Division). Members of the general public will be invited to register their interest in attending the public viewing via the WTO website, by close of business on 4 September 2015.

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[1] These procedures are adopted according to, and are an integral part of, the Arbitrator's Working Procedures of 6 July 2015.

ANNEX A-4

PROCEDURES FOR AN OPEN SUBSTANTIVE MEETING OF THE ARBITRATOR[2] (WT/DS386)

Adopted on 6 July 2015

1.   The Arbitrator shall hold a joint substantive meeting in DS384 and DS386.

2.   Subject to the availability of suitable WTO meeting rooms, the Arbitrator will start its substantive meeting, on 15-16 September 2015, with a session with the parties open to the public. At that session, each party will be asked to make an opening statement. After the parties have made their statements, they will be given the opportunity to pose questions to the other party or make comments on the other party's statement. The Arbitrator may pose any questions or make any comments during such session. The parties will also have an opportunity to make their closing statement during the session open to the public.

3.   To the extent that the Arbitrator or any party considers it necessary, the Arbitrator will also hold a session with the parties not open to public observation during which the parties will be allowed to make additional statements or comments, and pose questions, that involve business confidential information. The Arbitrator may also pose questions during such a session.

4.   The following persons will be admitted into the meeting room during all sessions of the Arbitrator's substantive meeting, whether open or closed to the public:

    –   the members of the Arbitrator;
    –   all members of the delegations of the parties to DS384 and DS386; and
    –   WTO Secretariat staff assisting the Arbitrator.

5.   No person shall disclose any business confidential information at any session open to the public.

6.   WTO Members and Observers and the public may observe the Arbitrator's sessions that are open to public viewing with observers in the gallery of the hearing room. The public viewing will be open to officials of WTO Members and Observers upon presentation of their official badges. Accredited journalists and representatives of relevant non-governmental organizations may indicate to the Secretariat their interest in attending the public viewing (Information and External Relations Division). Members of the general public will be invited to register their interest in attending the public viewing via the WTO website, by close of business on 4 September 2015.

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[2] These procedures are adopted according to, and are an integral part of, the Arbitrator's Working Procedures of 6 July 2015.

ANNEX A-5

PROCEDURES OF THE ARBITRATOR CONCERNING BUSINESS CONFIDENTIAL INFORMATION[3] (WT/DS384)

Adopted on 6 July 2015

1.   These procedures apply to any business confidential information (BCI) that a party submits to the Arbitrator. For the purposes of these procedures, and in line with paragraph 5 of the Arbitrator's Working Procedures, the term "party" in these procedures refers to the parties in DS384 and DS386.

2.   For the purposes of these procedures, BCI is defined as any information that has been designated as such by the party submitting the information, that is not available in the public domain and the release of which could reasonably be considered to cause or threaten to cause harm to an interest of the person or entity that supplied the business information to the party.

3.   No person may have access to BCI except a member of the Secretariat or the Arbitrator, a party's employee participating in the dispute, and a party's outside advisor for purposes of this dispute. However, an outside advisor is not permitted access to BCI if that advisor is an officer or employee of an enterprise engaged in the production, export, or import of cattle, swine, beef, or pork. When a party provides BCI to an outside advisor who is an employee or officer of an industry association of such enterprises, that party shall obtain written assurances from such advisor that he or she has read and understands these procedures and will not disclose any BCI in contravention of these procedures.

4.   A party obtaining access to BCI as a result of the BCI being submitted in this dispute shall treat it as confidential, i.e. shall not disclose that information other than to those persons authorized to receive it pursuant to these procedures. Each party shall have responsibility in this regard for its employees as well as any outside advisors for the purposes of this dispute. BCI obtained under these procedures may be used only for the purpose of providing information and argumentation in this dispute.

5.   A party submitting or referring to BCI in a document shall mark the cover and each page of the document to indicate the presence of BCI in the document as follows: BCI shall be placed between double brackets (for example, [[xx,xxx.xx]]). The cover and the top of each page of the document shall contain the notice "Contains Business Confidential Information". Any BCI that is submitted in electronic form shall be clearly marked with the phrase "Contains BCI" on a label on the storage medium, and clearly marked with the phrase "Contains BCI" in the electronic file name.

6.   In the case of an oral statement containing BCI to be delivered in the session not open to public observation as foreseen in paragraph 3 of the "Procedures for an open substantive meeting of the Arbitrator," the Arbitrator should ensure that only persons authorized to have access to BCI pursuant to these procedures are permitted to hear the statement.

7.   The parties and the Arbitrator shall store all documents containing BCI so as to prevent unauthorized access to such information.

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

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[3] These procedures are adopted according to, and are an integral part of, the Arbitrator's Working Procedures of 6 July 2015.

ANNEX A-6

PROCEDURES OF THE ARBITRATOR CONCERNING BUSINESS CONFIDENTIAL INFORMATION[4]
(WT/DS386)

Adopted on 6 July 2015

1.   These procedures apply to any business confidential information (BCI) that a party submits to the Arbitrator. For the purposes of these procedures, and in line with paragraph 5 of the Arbitrator's Working Procedures, the term "party" in these procedures refers to the parties in DS384 and DS386.

2.   For the purposes of these procedures, BCI is defined as any information that has been designated as such by the party submitting the information, that is not available in the public domain and the release of which could reasonably be considered to cause or threaten to cause harm to an interest of the person or entity that supplied the business information to the party.

3.   No person may have access to BCI except a member of the Secretariat or the Arbitrator, a party's employee participating in the dispute, and a party's outside advisor for purposes of this dispute. However, an outside advisor is not permitted access to BCI if that advisor is an officer or employee of an enterprise engaged in the production, export, or import of cattle, swine, beef, or pork. When a party provides BCI to an outside advisor who is an employee or officer of an industry association of such enterprises, that party shall obtain written assurances from such advisor that he or she has read and understands these procedures and will not disclose any BCI in contravention of these procedures.

4.   A party obtaining access to BCI as a result of the BCI being submitted in this dispute shall treat it as confidential, i.e. shall not disclose that information other than to those persons authorized to receive it pursuant to these procedures. Each party shall have responsibility in this regard for its employees as well as any outside advisors for the purposes of this dispute. BCI obtained under these procedures may be used only for the purpose of providing information and argumentation in this dispute.

5.   A party submitting or referring to BCI in a document shall mark the cover and each page of the document to indicate the presence of BCI in the document as follows: BCI shall be placed between double brackets (for example, [[xx,xxx.xx]]). The cover and the top of each page of the document shall contain the notice "Contains Business Confidential Information". Any BCI that is submitted in electronic form shall be clearly marked with the phrase "Contains BCI" on a label on the storage medium, and clearly marked with the phrase "Contains BCI" in the electronic file name.

6.   In the case of an oral statement containing BCI to be delivered in the session not open to public observation as foreseen in paragraph 3 of the "Procedures for an open substantive meeting of the Arbitrator," the Arbitrator should ensure that only persons authorized to have access to BCI pursuant to these procedures are permitted to hear the statement.

7.   The parties and the Arbitrator shall store all documents containing BCI so as to prevent unauthorized access to such information.

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

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[4] These procedures are adopted according to, and are an integral part of, the Arbitrator's Working Procedures of 6 July 2015.

ANNEX B

ARGUMENTS OF THE PARTIES

ANNEX B-1

EXECUTIVE SUMMARY OF THE ARGUMENTS OF CANADA

I.   INTRODUCTION

1.   This arbitration is the culmination of six years of WTO litigation, beginning with Canada's request for the establishment of the Original Panel in the WTO proceedings concerning the United States' country-of-origin labelling requirements. Canada prevailed at all previous stages in this dispute. In this proceeding, Canada is before the Arbitrator to defend its request for authorization to suspend concessions to the United States in the amount of CDN $ 3.068 billion per annum, which reflects the devastating losses that continue to be inflicted on the Canadian cattle and hog industries. The United States chose to request this arbitration instead of bringing itself into compliance with the recommendations and rulings of the DSB.

2.   In accordance with the DSU, and as demonstrated by previous arbitrations under DSU Article 22.6, the United States must successfully challenge the accuracy of the level of nullification or impairment proposed by Canada, rather than just proposing alternative scenarios of its own. Previous cases have also been clear that it is only after the United States has met this burden, that the Arbitrator can assess alternatives to determine the level of nullification or impairment. The United States has failed to make its *prima facie* case in discrediting Canada's methodology.

3.   Canada and the United States agree that the level of nullification or impairment should be calculated based on the benefits that would accrue to Canada "but for" the amended COOL measure: a comparison between the actual situation that existed following the expiration of the reasonable period of time (RPT) to comply, and the situation that would have prevailed in the period that follows the expiration of the RPT if no WTO-inconsistent COOL requirements had ever been applied by the United States. Critically, in measuring the level of nullification or impairment, Canada's methodology takes into account any lingering effects of the COOL labelling requirements.

4.   Canada drew attention at the meeting of the Parties to the real and devastating losses experienced by Canada due to the introduction of the COOL requirements, by highlighting the evidence in the marketplace that illustrates the damage. In particular, Canada focused on the fed-hog industry, which suffered dramatic losses in export quantities. Fed hog exports dropped from 48,778 per week to 10,051 per week after the introduction of the COOL requirements. After the amendments to the initial COOL measure came into effect in November 2013, exports fell further to 7,833 per week through the end of 2014.

5.   The decline in fed-hog exports following the two-stage adoption of the COOL requirements is so striking that restoring the volumes lost since September 2008 would require an increase of 500% from 2014 Canadian fed-hog export levels. In addition to the huge decline in export quantity, the fed-hog industry also suffered a loss of price. Comparing the pre-COOL period to the period after the amended COOL measure, the fed- hog price basis fell by about $0.09 per pound or about 11% based on 2013/14 prices.

6.   These remarkable losses that occurred in the real hog market should be compared to the simulated world imagined by the United States, which suggests a negligible drop in imports and price compared to reality. The drop in exports following the introduction of the COOL requirements was large for each of the four livestock categories. In contrast, in every case the U.S. model suggests that the impacts of the COOL requirements were tiny.

7.   Canada's approach remains superior because it is a methodology that accurately captures the impact of the amended COOL measure on the Canadian cattle and hog industries. It does so by using real-world data, and by accurately capturing the differential impact of the amended COOL measure on the Canadian cattle and hog industries. The model proposed by the United States fails to do this as it relies on simulations without any connection to reality, and does not use real data to measure the impact of the amended COOL measure.

II. CANADA'S METHODOLOGY IS THE ONLY APPROPRIATE METHODOLOGY TO MEASURE CANADA'S LOSSES

8.   Canada's methodology is the only appropriate method of assessing losses in this case because it accurately and directly measures the level of nullification or impairment suffered by Canada. Canada uses an econometric analysis to assess the losses, which employs real-world and appropriate data that capture the differential impacts of the COOL requirements on Canada's cattle and hog industries.

9.   Econometric modeling is appropriate in this case because such models are routinely used to estimate the market impact of a regulatory event. The assertion by the United States that an econometric approach should not be used in a DSU Article 22.6 arbitration is unreasonable and contradicts the basic economic principle that real-world data should be used if they are available. Moreover, the United States argument that it should not be used in this context is untenable, given that the U.S. model relies on elasticities generated by econometrics.

10.   The econometric model submitted by Canada is also the most direct way to assess the impact of the COOL requirements on Canada's cattle and hog industries. The purpose of such a model is not to capture all the complexities in the market, and reflects the current practice among leading economists to reduce complexity and focus carefully and parsimoniously on the specific policy question at hand.

11.   At the heart of Canada's analysis is the differential impact of the amended COOL measure on the price of Canadian livestock and the quantities exported. Canada's Methodology Paper captures this differential impact, which is reflected in a widening of the price basis between fed and feeder cattle and hogs in the United States compared to those exported from Canada, as well as a reduction in import quantities of Canadian livestock. Canada's model is the appropriate model to use in this proceeding because the U.S. model, as explained below, fails to incorporate the differential impact of the amended COOL measure and therefore does not accurately capture the losses suffered by Canada.

12.   Further, Canada's model focuses solely on the impacts of the labelling requirements and avoids including extraneous variables that would introduce bias to the measured impacts of the amended COOL measure. More specifically, Canada only included variables that have a differential impact on either the price basis or quantity. The inclusion of any others is not needed for Canada's approach of isolating the impact of the amended COOL measure.

A.   Price Basis Captures the Differential Impact of the COOL Requirements

13.   Canada's methodology uses the price basis as the dependent variable as it allows for the isolation of the differential effect of the COOL requirements on the export price of Canadian cattle and hogs destined for the U.S. market. It does this by automatically capturing the impacts of a host of variables that affect livestock prices in both countries in a similar way. With these factors controlled for in the price basis, the methodology need only include those variables that represent factors with differential impacts on Canadian and U.S. livestock prices. Canada has done so, by including variables for the exchange rate, seasonality, two BSE events (for cattle), and the closing of the Maple Leaf Foods plant (for fed hogs). These differential variables cause fluctuations in the price basis, and they have been included on the right hand side of the equations to ensure that they are controlled for in Canada's methodology.

14.   To use the absolute price in Canada's methodology, as the United States advocates, would mean that the effects of numerous other variables that affect U.S. and Canadian livestock demand and supply would not be effectively controlled for in the methodology. As a result, any rise in the Canadian price that is caused by other factors (including those that are inherently controlled for in the price basis), could be erroneously interpreted as being caused by the amended COOL measure. Further, to use the U.S. price as an explanatory variable would create bias in the regression model because it is endogenous. This means the U.S. price is correlated with the error term in the regression model and all estimated coefficients in such an equation are biased. Because many additional variables would need to be included to control for COOL, statistical issues would arise leading to the problem of spurious regressions. Despite these major problems, in response to a request by the Arbitrator, the United States attempts to use absolute price in Canada's

methodology. The result is an internally incoherent model with irrational results. In fact, the results actually favour Canada as the effect of the COOL requirements become cumulative in such a methodology.

15.   The United States asserts that price basis exaggerates the estimate of the level of nullification or impairment because it includes any increase in U.S. price that may be a result of the COOL requirements. The United States is incorrect because the non-discriminatory shared costs of COOL that increase the U.S. price also increase the Canadian price; likewise, any non-discriminatory influence of COOL that causes a decrease in the U.S. price would decrease the Canadian price by the same amount. These effects are not reflected in the price basis. Moreover, any impact of the COOL requirements on raising the U.S. price is minimal because Canadian imports of cattle and hogs only represent between 2% and 4% of the massive U.S. market. To suggest that the COOL requirements would raise the U.S. price when the Canadian share of the market is so tiny just does not make any sense. Indeed, this conclusion is reflected in the Tonsor et al. (2015) report commissioned by the USDA.

16.   The United States has incorrectly characterized the discussion in Pouliot and Sumner's *Food Policy* article (Exhibit US-35 (22.6)) as supporting its position that price basis should not be used in Canada's methodology. However, the authors of that paper *did* use price basis for their analysis because it was and is the most appropriate measure to determine the impact of the COOL requirements on price. Further, the United States has tried to argue that Canada's approach is at odds with the academic literature generally, but in its own submission it cites more articles that use the price basis rather than absolute price (see U.S. comments on Question 35).

B.   The Variables Proposed by the United States Do Not Meet the Criteria for Inclusion

17.   Canada has consistently argued that the explanatory variables proposed by the United States do not belong in Canada's methodology because they do not meet the criteria for inclusion.

18.   Canada has shown that the variables proposed either do not have a compelling economic rationale as to their differential impact, have not been supported by empirical evidence by the United States, or both. Canada specifically addressed variables proposed by the United States in respect of (i) economic fluctuations or recession; (ii) feed costs; (iii) transport costs; (iv) other competing imports; and (v) drought. Each of these is addressed summarily below.

1.   Economic Fluctuations or Recession

19.   There is no compelling economic reason for inclusion of this variable as although unemployment in the United States may have led to less meat consumption, this change did not differentially affect demand for livestock buyers for U.S. animals as compared to Canadian animals. The United States has not been able to provide any empirical evidence to suggest otherwise.

20.   Further, the United States made a serious specification error in using a variable that reflects only the recession in the United States, when it is the differential impact of the recession that would be relevant. Canada has also noted that any attempt to measure the differences in the two recessions would involve imprecision due to time lags in macro-economic conditions and the impact on export shipments or price basis. Even the best proxy data available would have at most a small and indirect influence on export quantities, and none at all on price basis.

2.   Feed Costs

21.   Potential feed cost variables that affect export quantity or price basis would need to reflect any movement in the difference of costs per unit of weight gain of cattle and hogs between Canada and the United States, as it is the relative cost of a pound of weight gain that affects the location of where an animal is raised in its lifecycle. Appropriate econometric specification would require developing some information and assessment of livestock producer expectations of future costs of feed and feed rations, and Canada knows of no such data. Further, the United States has not provided any empirical evidence that such a variable would have a differential impact on prices or quantities. In any event, even if there are fluctuations in feed costs, these would not cause a

U.S. livestock buyer to pay more or less for a U.S.-born animal as compared to a Canadian-born animal.

3.   Transport Costs

22.   In theory, transport costs could affect the price basis and export quantities. However, the United States has provided no empirical evidence that transport costs have affected price differences between Canada and the United States. In fact, the United States has provided evidence with respect to fuel costs in the United States only. Canada provided evidence on transportation costs with respect to feeder-pig transactions covered by the *Procedures of the Arbitrator on Business Confidential Information*, which cannot be summarized here.

4.   Other Competing Imports

23.   Imports from Mexico could in theory affect the quantity of imports from Canada, but there is no empirical evidence that they have done so. Indeed, such an impact is highly unlikely given the geographical separation of Canadian and Mexican imports, and the size differences in the feeder cattle imported from the two countries. With respect to price, any influence of imports in the market would affect prices of comparable U.S. and Canadian animals to the same degree, and would be very small in any case because Mexican feeder cattle comprise a trivial share of the huge U.S. feeder-cattle market. Further, because this variable is endogenous, controlling for Mexican imports by including the variable in a price basis estimating equation would yield biased estimates.

5.   Drought

24.   The empirical evidence suggests that the theory put forward by the United States, that the impact of the drought in the United States (and Mexico) would have led to an increase in supply from Mexico and a decrease in demand for Canadian feeder animals, is incorrect: feeder-cattle exports from Canada increased due to the drought by well over 100,000 head from 2013 to 2014. Regardless, the feeder cattle in Canada are not substitutable for those in Mexico. Further, the United States has not provided any evidence to suggest that the drought affected the price of Canadian feeder animals compared to U.S.- origin feeder cattle. Designing a variable to take into account the drought would be difficult because of the complex timing of events, the cattle cycle and producer expectations.

C.   The Econometric Estimations with the United States Proposed Variables

25.   At the request of the Arbitrator, Canada has produced estimations with all of the above variables included in its estimations, both individually and cumulatively, to determine their effect on the price basis. The regressions for all of the above variables are included in Exhibit CAN-68 (22.6) through Exhibit CAN-76 (22.6). Overall substantive and statistical results changed little with the addition of these variables. Some of the DCOOL1 and DCOOL2 effects are higher, and some are lower. As the United States has admitted, there is no systematic pattern of changes compared with the results in Canada's Methodology Paper. Therefore, there is no error in Canada's approach. Further, these outcomes align with the results of the estimations done at the request of the Original Panel.

26.   As when included separately, most estimated coefficients of these variables included all together are not statistically significant. Nevertheless, the inclusion of all the variables would increase Canada's export losses by $210 million, to a total of $2.254 billion. Adjusting for the errors the Arbitrator found in its Table related to Question 42, Canada's total losses increase even more, from $2.981 billion to $3.234 billion. Even when the addition of these variables results in higher losses to Canada, Canada's position continues to be that the losses calculated in its Methodology Paper remain more appropriate and accurate.

27.   Contrary to the requests of the Arbitrator, the United States did not produce estimations with all of the above variables in all of its price calculations individually, and cumulatively. Instead, the United States limited its analysis to 850-pound feeder cattle only, forgoing any estimations on the other weight classes of feeder cattle, and the other three categories of livestock entirely. Not only has the United States failed to provide any empirical evidence for its position

that these variables should be included, it has also cherry-picked one category, which is the weight class for which the price basis effects of COOL are the smallest.

28.   Regardless, even when the United States uses its mis-specified variables, the estimations that result favour Canada or are neutral to Canada. More specifically, when the United States includes the recession variable the effect of COOL on the price basis is significantly larger than in Canada's Methodology Paper. However, despite this result that favours Canada, Canada continues to take the position that this variable should not be included. For both feed costs and transportation costs, the inclusion of these variables by the United States changes the results very little. When Canada corrects for the error the United States makes in its estimations for monthly feeder-cattle exports, the results are similar to those in Canada's Methodology Paper. Canada was unable to replicate the data the United States used for the drought because the United States failed to provide interpretive information. In any case, the U.S. estimates only have a slight impact on the price basis.

29.   When these variables are added by both the United States and Canada, the results change little. This proves that Canada's model is robust and its specifications are accurate.

D.   Canada uses Real-World and Accurate Data to Assess its Losses while the United States does not

30.   An econometric approach requires real-world marketplace data on the situation that prevailed before and after the measure at issue. In the current case, detailed, official government and industry data do exist before and after the amended COOL measure. In these circumstances, it makes no economic or empirical sense to ignore the wealth of data available. This is especially true when the alternative U.S. model is based solely on theory, and simulations built on faulty assumptions. It is not only possible, but highly preferable to use the available marketplace data in any calculation of Canada's losses.

31.   Canada's Methodology Paper outlines the data sources it uses in its econometric assessment of its losses in Appendices I and II. The weekly data go back twelve years in the case of hogs, and ten years for cattle. They are drawn from both U.S. and Canadian government sources (with the exception of feeder pigs where no such data are available), as well as industry, and are the most detailed, accurate, relevant and specific data for the task at hand. The United States takes issue with Canada's choice of the U.S. government data set, as if this were a major flaw with Canada's methodology. This is simply not a valid argument. U.S. Department of Agriculture APHIS data are derived from actual border inspections of livestock shipments, as opposed to the values of shipments and associated quantities. The USDA APHIS data are valid, accurate and detailed. Further, the Original Panel considered the use of USDA APHIS data as being acceptable and reliable.

32.   In contrast, the United States uses no real-world data to determine the impact of the amended COOL measure or to determine how the markets have responded. The only real data the United States uses is for its 2014 base-year calculations. The United States has essentially abandoned the wealth of readily available data and adopted a model that is suitable for use only when there are no such data available.

33.   The United States also did not use appropriate data for monthly imports of feeder cattle when requested to by the Arbitrator. It not only failed to use the data it suggested it would (U.S. Department of Commerce data), but then used an inaccurate USDA summary data set that includes only some of the relevant livestock categories, leading to misleading and incomplete results. The United States also mistakenly specified the key COOL variables. When these errors were corrected by Canada, the results are very similar to when weekly data are used. None of the effects is different to a statistically significant degree and all effects are strongly and significantly negative.

34.   Further, at the request of the Arbitrator, Canada used monthly data instead of weekly data in its estimations. The results are found in a table in Canada's responses to Question 37. Despite some expected differences, the results are very similar to the results using weekly data. None of the differences is statistically significant. In fact, using monthly data causes the estimate of Canada's losses to rise above the $3.068 billion that Canada reported in its Methodology paper.

Also at the request of the Arbitrator, Canada changed the base period by several weeks, extended the sample period for cattle, changed the dates of the COOL dummies, and used a different implementation date for fed cattle, larger feeder cattle and fed hogs. The results were generally not significantly different from those in Canada's Methodology Paper and any changes were predictable.

E. Canada's Data for Feeder Pigs are Accurate and Verifiable

35. The parties agree that there are no available feeder price data amenable for statistical analysis in this case. As a result, Canada provided evidence covered by the *Procedures of the Arbitrator on Business Confidential Information*, which cannot be summarized here. In any event, Canada's evidence is further supported by econometric analyses and simulations. It is also consistent with the losses suffered in the three other livestock categories.

III. METHODOLOGY AND CALCULATION OF PRICE SUPPRESSION LOSSES

36. In addition to the loss of revenue resulting from the reduction in livestock exports to the United States and the lower prices received for those livestock that were exported, the amended COOL measure has caused Canadian livestock producers to suffer losses resulting from the reduction in the price received in Canada for cattle or hogs that were not shipped to the United States.

37. Canada's estimate of these losses is carefully constructed and conservative. First, it avoids double counting of suppressed exports that are already included in the estimate of the loss of export revenue. It does this by ensuring that in the price-suppression equation, the quantity of animals in Canada to which price suppression applies is reduced by the implied loss of quantity of exports that are estimated to be part of the loss of export revenue. Second, it does not include the reduced production and supply from Canadian livestock industries due to the lower prices that they face.

38. The losses due to domestic price suppression for all categories of livestock except feeder pigs were based on appropriate industry and government data. The domestic losses for feeder pigs were calculated on the basis of the most reliable data Canada could access. Both parties agree that there is no public government source for data that provides consistent time-series price data amenable for statistical analysis of the price of feeder pigs in Canada. Therefore, Canada relies on evidence covered by the *Procedures of the Arbitrator on Business Confidential Information*, which cannot be summarized here.

39. A high level of integration between the Canadian and U.S. markets results in price arbitrage between the Canadian export price of live cattle and hogs and the price of domestic cattle and hogs. As a result of the amended COOL measure, once a drop occurred in the export price, the price of the domestic livestock adjusted accordingly. This arbitrage mechanism is well accepted as a "given" in the industry. There are no domestic factors that impede this mechanism. Canada is a price taker for all categories of cattle and hogs as it supplies only a trivial market share for each in the massive U.S. market (in all cases less than 4%, and in most cases less than 2%.) There is therefore a direct causal link between the amended COOL measure and the domestic price-suppression losses experienced in Canada. Because of this arbitrage between markets, the price impacts for the domestic price-suppression analysis are the same as those that are used in the calculation of export revenue losses.

40. In response to Question 42 from the Arbitrator, Canada acknowledged an inadvertent error in its original calculation of price-suppression losses for feeder pigs (of $325,400,000, as compared to the Arbitrator's calculation of the same losses in the amount of $237,805,000). As to the price-suppression losses claimed by Canada in respect of the other three animal categories, it explained the small discrepancies between the numbers contained in Canada's Methodology Paper and those contained in the Tables to Question 42 from the Arbitrator.

IV.   LOSSES DUE TO DOMESTIC PRICE SUPPRESSION ARE SUPPORTED BY BOTH THE DSU AND THE JURISPRUDENCE

41.   The amended COOL measure impaired Canada's benefit by adversely affecting the conditions of competition of Canadian livestock exports to the United States, which resulted in reduced prices and export volumes. As a direct result of the violation of national treatment and the highly integrated nature of the two markets, the livestock that were not exported to the United States also received a lower price in Canada. The resulting increased supply in Canada and the lack of an alternative export market suppressed the prices of these animals in the Canadian market, resulting in specific and quantifiable losses.

42.   Based on the highly integrated nature of these two markets, these are direct losses from the denial of a direct benefit. In the alternative, domestic price suppression losses are at the very least losses that result from the impairment of an indirect benefit of national treatment. Regardless, both direct and indirect benefits are covered by DSU Article 3.3 and therefore by DSU Article 22.4.

43.   The United States concedes that the nullification or impairment suffered by Canada in this case includes export losses. However, the United States challenges Canada's claim for domestic price-suppression losses, arguing that these losses do not flow from one of the "benefits" accruing to a Member under the provisions of the covered agreements, in this case the GATT 1994 and the TBT Agreement. The United States is incorrect.

44.   In this proceeding, the denial of the "benefit" in question is based on market access, as the United States acknowledged at the meeting of the Arbitrator with the parties. As Canada has explained, its entitlement to national treatment under the GATT 1994 and the TBT Agreement provides a benefit not to see the competitive positions of Canadian cattle and hogs adversely affected by the amended COOL measure, including through domestic price effects. The jurisprudence supports this position. As was stated in *US-Byrd Amendment*, the denial of benefits accruing (which is a broader concept than the breach of an obligation) is not to be confused with the violation of the obligations itself.

45.   Contrary to what the United States argues, there is no indication that losses need to be limited to those suffered in the territory of the respondent. Indeed, the indirect losses claimed by requesting parties in *US-Byrd Amendment* were in the form of exports to other markets. These were not rejected in principle, but because they were too speculative and unquantifiable. A limit to the scope for a claim of indirect losses was decided in *EC-Bananas* where the panel rejected a losses claim based on exports through a third country, because the claim was based on inputs into the final product made by another country. In contrast, Canada is the direct exporting party, the price-suppression losses are in its own market.

46.   Further and crucially, indirect losses, like direct losses, require causation by the impugned measure, and verifiable information to support the claim. Canada's claim has both. Causation occurs through the arbitrage mechanism, discussed above, and Canada's careful calculation of these losses is based on verifiable government and industry data.

47.   The United States has repeatedly failed to define the "benefits" to which it refers; instead, it vaguely states that these benefits "relate to trade effects". It erroneously relies on cases interpreting the level of nullification or impairment as being concerned with the "trade effects" of the impugned measure, in order to claim that the jurisprudence has limited the scope of "trade effects" to export losses. This is a mischaracterization of the jurisprudence. On the contrary, WTO jurisprudence suggests a broad interpretation of "trade effects". Further, there is nothing in the DSU that limits the level of nullification or impairment to export losses.

48.   Contrary to what the United States argues, cases that focus on the "trade effects" of nullification or impairment are not limited to an assessment of losses based on exports alone. For example, in *US-1916*, "trade effects" included the settlement awards and judgments of the 1916 Anti-Dumping Act against the complainant's companies, and neither involved an assessment of trade flows. In *US-Byrd Amendment*, the Arbitrator rejected a narrow interpretation of "trade effects", dismissing the U.S. position that nullification or impairment was limited to the direct trade loss resulting from the violation.

49.   It is incorrect for the United States to argue that all domestic losses claims are inadmissible or *ultra vires* the DSU. In *US-Gambling,* a claim for domestic losses was based on the "multiplier effect" of the impugned measure on the broader Antiguan economy. The Arbitrator did not reject the claim for domestic losses because it was incompatible with the DSU but because the claim contradicted some of the other Antiguan arguments.

50.   There are no WTO arbitrations under DSU Article 22.6 that have rejected a claim for domestic price-suppression losses. In the two cases that the United States cites as support for its argument that "trade effects" are limited to export trade (*EC-Hormones* and *EC-Bananas*), the complainants only claimed and argued for export losses.

51.   Unlike the cases of *EC–Hormones*, *EC–Bananas*, or other "trade effects" cases, in which the markets concerned are not integrated, the live cattle and hog markets of Canada and the United States were almost fully integrated before the adoption of the original COOL measure. The live cattle and hog industries in both countries are structurally similar and interdependent. As a result and as the United States has recognized, any change in supply or demand in the United States will directly and causally affect Canada.

52.   Further, there is absolutely no merit in the argument made by the United States that, if the level of suspension of nullification or impairment includes domestic price-suppression losses, the level of suspension has to be decreased by a calculation of the "broader economic effects on the U.S. economy". The level of nullification or impairment is an independent calculation based on the losses of the complaining party. There is no calculation with respect to the level of suspension of concessions. The meaning of "equivalence" is that the level of suspension of concessions will equal the level of nullification or impairment that is determined by this arbitration.

53.   Finally, the burden is on the United States to make a *prima facie* case that the level of suspension is not equivalent to the level of nullification or impairment. In comparing the precise domestic price suppression losses claimed by Canada, to the speculative impact that the suspension could have on the U.S. economy, the United States has failed to meet its burden of proof.

V.   THE EDM IS MISSPECIFIED AND INAPPROPRIATE IN THESE CIRCUMSTANCES

54.   As explained above, the United States has failed to meet its burden of proof because it has not demonstrated that Canada's proposed level of suspension of concessions exceeds the level of nullification or impairment that resulted from the COOL labeling requirements.

55.   Instead of fulfilling this burden, the United States has presented a model that is conceptually ill-suited for this case. However, more importantly, the Equilibrium Displacement Model (the "EDM") proposed by the United States utilizes incorrect elasticities, fails to consider differential segregation and compliance costs, fails to use real-world data outside of the base year, and is rife with faulty assumptions. The model also suffers from serious numerical errors. As a result, the U.S. model is fundamentally flawed and severely underestimates the losses faced by Canada.

A.   The EDM is Inappropriate in these Circumstances

56.   Economists are clear that when appropriate market data are available, an econometric analysis is preferable to a simulation model. Indeed, hundreds of refereed articles in the economics literature have examined data before and after the introduction of a government measure by using econometrics, including in the most up-to-date peer-reviewed academic literature. There is simply no reason not to adopt an econometric methodology in this case. Nevertheless, the United States has adopted an EDM, which is a simulation model that does not use real-world data on the actual impacts of the amended COOL measure.

57.   A simulation analysis is best suited for assessing the future impact of a policy change or measure, when the impact of a policy or measure has not yet been observed. This is precisely why a simulation analysis was used in Brester et al., Lusk et al., and Tonsor et al. These studies were done before the policy was put in place and thus are predictive only, and do not benefit from real-world data or the knowledge of how the COOL measure was actually applied.

B.   The EDM Uses the Wrong Elasticities

58.   The EDM uses short-run elasticities when long-run elasticities should have been used. Short-run elasticities are appropriate in situations in which very little time is needed for the domestic market to reach equilibrium. In this case, the Canadian market has still not completely adjusted after six years, and therefore the use of short-run elasticities is inappropriate. Further, using short-run elasticities is inconsistent with the underlying assumption in the EDM of adjustment from one full market equilibrium to another with no adequate market adjustment time. The United States has in fact admitted that it may not have chosen the correct elasticities for this case.

59.   As an example, the United States' model relies on a study in Brester et al., which obtained low export-supply elasticities using Canadian export-share data that are no longer applicable and by using short-run elasticities over an adjustment period of just three months. In reality, cattle-supply adjustment takes much longer than this. The use of long-run elasticities and the current export-share data would have produced much higher export supply elasticities, and as a result, much higher losses. This assumption of full equilibrium using short-run elasticities highlights an internal inconsistency in the EDM that leads to a major underestimation of losses suffered by Canada.

60.   The United States has also erred in using inappropriate "import supply elasticities" (which should be called export supply elasticities) for U.S. imports of feeder and slaughter animals, which are equivalent to Canadian exports of these animals. In essence, since no such elasticities exist, the United States sets these categories to the supply elasticity for U.S. imports of wholesale meat. Similarly, the U.S. assigns a certain elasticity value to beef import supply and two livestock import-supply elasticities, with no explanation. These arbitrary assignments further undermine the U.S. model.

61.   The crucial point is that the United States has used export supply elasticities that are far too small for each category of animals from Canada and feeder cattle from Mexico. This is a major error because export supply elasticities are one of the most important parameters in a simulation model since they determine the magnitude of the different effects on export quantities and prices in a simulation model. Specifically, the United States has used the wrong underlying domestic (Canadian and Mexican) elasticities and market shares in the export supply elasticity formula, which resulted in artificially low figures. To illustrate this grave flaw in the EDM, Canada provided a chart containing the proper elasticities in its Comments on the Responses of the United States to Question 46 of the Arbitrator (dated 8 October 2015). The United States position that the elasticities proposed by Canada are not supported by academic literature is completely false, and in any event, they are determined by a standard formula included in the literature as well as in Canada's submissions.

62.   A stark example of the U.S.'s flawed export supply elasticities is found in the responses to Question 46 of the Arbitrator. Canada has shown that it was the larger export shares of Canadian fed hogs and feeder pigs sourced from the dated Wohlgenant study that resulted in much smaller implied export-supply elasticities than those obtained by Canada using current export shares. Even worse, for feeder cattle the United States failed to download the proper export data from their own source table and use clearly misrepresented elasticities from their own source document. Canada uses the much more recent supply and demand elasticities from the Tonsor et al. (2015) report, also cited by the United States, to illustrate the correct calculation of export supply elasticities with the proper export share. Similarly, in response to Question 51, Canada also showed that it is possible to obtain proper elasticities, which account for market realities, when appropriate data are used.

C.   The EDM Fails to Account for Differential Segregation Costs

63.   One of the most fundamental errors in the EDM is its failure to take into account differential compliance and segregation costs. A proper simulation analysis would consider how market forces determine how imports of Canadian cattle and hogs are traded relative to the equivalent U.S.-origin animals. Indeed, this is the very rationale for Canada's complaint. The COOL labeling requirements have undeniably resulted in greater implementation costs for U.S. firms that use imported livestock as opposed to U.S. firms that exclusively use domestic-origin livestock. However, in the EDM, the U.S. domestic supply chain is assumed to have the same segregation

costs as a supply chain that uses both imported and U.S.-origin livestock. This assumption has fatally biased the results of the EDM. For example, Equations 18-23 of the U.S. EDM contain the misplaced U.S. assumption that changes in the price of U.S. livestock must equal changes in the price of imported livestock of the same weight categories.

64.   The United States' denial of the existence of differential compliance and segregation costs has been clear throughout these proceedings. While the United States continues to claim that the EDM reflects the reality of the U.S. livestock and retail beef and pork markets, this is totally inaccurate. As both Canada and Mexico have noted, the EDM fails to consider the crucial fact that the COOL measure influenced buyers to treat livestock of different origins differently in order to comply with the labelling requirements. Accordingly, the inaccuracy of the EDM could only be corrected through a re-structuring that accounts for these differential costs imposed on all intermediate buyers of livestock. However, the United States refused to do this, even when requested to do so by the Arbitrator in Question 44.

D.   The EDM is Plagued by Additional Faulty Underlying Assumptions

65.   In addition to the most serious flaws explained above, the results of the EDM are biased by a host of other faulty assumptions, as Canada outlined in its submission of 12 August 2015.

66.   For example, the EDM assumes perfect competition amongst firms in the U.S. meat processing industry such that individual firms do not influence prices. The EDM also assumes efficiency of all plants regardless of size, that all animals are used in all markets by all plants and firms, and that all markets clear in a complete and perfect equilibrium both with and without the amended COOL measure. Furthermore, it assumes that there are no market imperfections of any sort, and no path for adjustment or transition.

67.   These assumptions are obviously at odds with reality and therefore provide a flawed foundation for the EDM. Because the EDM is based on these assumptions as well as others listed above, its results are completely unreliable.

E.   Reliability of the Data and Numerical Errors

68.   Canada finally notes the many numerical errors that were made in the EDM calculations, as discussed in Comments on the Responses of the United States to the Questions of the Arbitrator (dated October 8 2015). Moreover, the reliability of the data used in the EDM calculations is seriously flawed because some studies relied upon are decades old and unpublished.

69.   Further, the United States has committed a series of serious data errors in its submissions. For example, it uses United States Census data for the base year even when they are not suitable because they do not provide information specific to imports of barrows and gilts for slaughter. The United States arbitrarily divided total hog imports by half to create the data for the fed hog category.

70.   In short, a simulation cannot replace the need to examine the impact of the measure in the real world. As demonstrated in Canada's calculations using the EDM in response to Question 51, accurately calculated elasticities that account for market realities can yield results that are plausible. However the U.S. calculations in the EDM are based on inaccurate and unrealistic elasticities. These theoretical and practical flaws in the EDM illustrate the inappropriateness of using a simulation model in these circumstances and further demonstrate the suitability of Canada's econometric approach.

VI.   CONCLUSION

71.   The United States has failed to make its *prima facie* case to discredit Canada's methodology to determine the level of the nullification or impairment of benefits it is entitled to. Canada has demonstrated that its methodology is sound and accurately represents the devastating losses Canada has been suffering for seven years.

72.   Indeed, when Canada includes the variables proposed by the United States, uses monthly instead of weekly data, and changes dates as requested by the Arbitrator, the results do not

change significantly, which demonstrates that Canada's methodology is robust. Similarly, even when the United States makes the changes to Canada's methodology requested by the Arbitrator, the results do not alter significantly and do not suggest that Canada's approach is flawed. The fundamental integrity of Canada's Methodology Paper remains intact and its calculations are accurate. Therefore, the Arbitrator should use Canada's methodology to award losses suffered by Canada in this case.

73.   Canada respectfully requests that the Arbitrator find that Canada's level of nullification or impairment is as was specified in Canada's request to the DSB for authorization to suspend concessions to the United States, i.e. CDN $ 3.068 billion per annum, subject to a correction conceded by Canada in paragraph 40 of this Executive Summary.

ANNEX B-2

EXECUTIVE SUMMARY OF THE ARGUMENTS OF MEXICO

1.   Mexico's Methodology Paper demonstrates that the COOL measure has reduced the prices paid for Mexican cattle in the United States, reduced Mexican export sales and supressed the prices of feeder cattle in the Mexican domestic market. Because the United States has not taken any steps to bring the COOL measure into conformity with its obligations, Mexico is seeking authorization to suspend concessions in the amount of USD 713.4 million.

2.   In the present case, the Arbitrator's mandate under Articles 22.6 and 22.7 of the DSU is to determine whether the proposed level of the suspension of concessions requested by Mexico is equivalent to the level of the nullification or impairment of benefits accruing to Mexico as a result of the United States' failure to bring its WTO-inconsistent COOL measure into compliance. The level of the nullification or impairment that Mexico has suffered is the difference between the actual level of benefits accruing to Mexico at the time of expiry of the reasonable period of time (RPT) to comply as a result of the adverse effects of the COOL measure and the level of benefits that would have accrued to Mexico in a counterfactual scenario in which the COOL measure had never been adopted. This approach properly measures the full extent of the nullification or impairment caused by the COOL measure because it measures its adverse effect against the level of benefits that the parties negotiated under the covered agreements — i.e., benefits that prohibit the COOL measure from ever existing.

3.   Mexico's methodology uses an approach that combines detailed econometric estimates and simulations to accurately calculate the level of nullification and impairment. First, an econometric model using observed data is employed to estimate the adverse effects of the COOL measure on the price of Mexican feeder cattle exported to the United States. Second, this estimated export price impact is then used to simulate a consistent reduction in exports of Mexican feeder cattle. Third, the estimated export price impact is used to measure the corresponding price impact in Mexico's domestic market. Export losses and price suppression losses are then calculated based on the adverse effects of the COOL measure.

4.   In response, the United States proposes a novel simulation that builds on the currently observed market equilibrium and removes the costs associated with the COOL measure.   The approach used by the United States is flawed in many ways. First, instead of using the available pre- and post-COOL data to directly estimate the adverse effects of the COOL measure, the United States purports to measure the impact of removing the COOL measure through a complicated theoretical model that is inconsistent with the actual effect of the COOL measure as found in the WTO rulings. Second, the United States' concept of calculating losses based on market outcomes with the COOL measure in place is fundamentally flawed as it assumes, *inter alia*, that the impact of imposing a measure is equivalent to that of removing it.   Importantly, under the approach proposed by the United States, if the harms caused by a measure are not fully reversible, then the amount of nullification or impairment would inevitably be understated.

5.   In *US – Upland Cotton (Article 22.6 – US)*, the Arbitrator confirmed that the party objecting to the proposed countermeasures bears the initial burden of establishing a *prima facie* case that the proposed countermeasures are not in accordance with the requirements of the relevant WTO provisions; if this initial burden is discharged, then it falls to the party proposing the countermeasures to rebut such a presumption.[1] This standard is consistent with the burden of proof applied in other arbitrations, including *EC – Hormones (US) (Article 22.6 – EC)*, *EC – Bananas III (Ecuador) (Article 22.6 – EC)* and *US – 1916 Act (EC) (Article 22.6 – US)*. Similarly, the arbitrator in *US – Gambling (Article 22.6 – US)* confirmed that the burden rested upon the United States, as the objecting party, to demonstrate that the level of suspension proposed by Antigua was not equivalent to the level of nullification or impairment resulting from the continued application of the WTO-inconsistent measure. For the purpose of discharging this burden, the Arbitrator emphasized that the United States must successfully challenge the accuracy of the level

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[1] Decision by the Arbitrator, *US – Upland Cotton (Article 22.5 – US I)*, paras. 4.21-4.22.

of the nullification or impairment reflected in the counterfactual scenario proposed by Antigua, rather than merely proposing alternative scenarios of its own.[2]

6.   Thus, the United States bears the initial burden of establishing a *prima facie* case that the level of suspension of benefits requested by Mexico is not in accordance with the requirements of the DSU. The United States has failed to discharge its burden. There are significant legal and conceptual errors in the United States' criticisms of Mexico's methodology and also in the alternative methodology that the United States proposes. Mexico's comprehensive analysis is the correct approach under the circumstances, and it has been properly applied to accurately estimate the level of nullification and impairment caused by the amended COOL measure. The United States' inaccurate criticisms and flawed alternative "Equilibrium Displacement Model" (EDM) are therefore insufficient to establish a *prima facie* case the Mexico's methodology is inconsistent with DSU Article 22.4.

7.   In the event that the Arbitrator disagrees and finds instead that the United States has established a *prima facie* case, in whole or in part, then Mexico submits that its methodology remains the most appropriate approach to assessing the level of the nullification or impairment of the benefits that would accrue to Mexico but for the adverse effects of the amended COOL measure, subject to any adjustments that the Arbitrator determines are required.

8.   Mexico emphasizes that, although Canada's approach is very similar to Mexico's, the Canadian methodology is not identical to that of Mexico. In particular, Mexico is able to rely on pricing data for Mexican cattle from sales within the United States, and that eliminates the relevance of certain variables discussed by the United States. For this reason, Mexico's analysis must be reviewed independently and evaluated on its own merits. The United States has not even attempted to explain how any alleged errors, omissions or defects would materially affect the outcome of Mexico's model if "corrected". Rather, the United States' approach is to avoid engaging with Mexico's proposed methodology altogether.

Mexico's estimation of export losses from the impact on prices for Mexican cattle in the U.S. market

9.   Mexico's Methodology Paper uses regression analysis to estimate the economic impact of the COOL measure on the price of Mexican feeder cattle imported into the United States. The price of Mexican feeder cattle is measured in New Mexico and Texas and is compared to the price of U.S. feeder cattle measured at the same locations. Since prices are measured at the same locations, a limited number of factors explain their difference. Mexico's Methodology Paper found that the COOL measure depressed exported feeder cattle price by $0.187/lb.

10.   The prices used in the Mexican regression model are measured in the United States. Once Mexican feeder cattle have crossed the U.S. border and are at their selling points in the United States, transportation costs and exchange rates do not matter as these costs are already sunk. Given that these costs have already been incurred, the price of Mexican feeder cattle is determined solely by the valuation for feeder cattle by U.S. buyers.

11.   Before the COOL measure, U.S. and Mexican born feeder cattle of the same weight were perfect substitutes. Prices for animals of either origin at selling points in the United States were essentially the same, as animals of both origins were physically identical and because animals were not differentiated by origin in the U.S. supply chain.

12.   The COOL measure caused differential treatment of feeder cattle across origins in the U.S. cattle supply chain. Since the price of Mexican fed cattle in the United States, which were imported from Mexico as feeder cattle, is discounted compared to fed cattle of U.S. origin, the prices of Mexican feeder cattle are discounted. In other words, the discount is passed back from transactions for fed cattle to transactions for feeder cattle.

13.   Mexico's regression model estimates the impact of the COOL measure as revealed by the price basis. It is well-established in economics that prices summarize all the information in a competitive market setting. In a supply chain, this means that a shock at any stage of a supply

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[2] Decision by the Arbitrator, *US – Gambling (Article 22.6 – US)*, paras. 3.23-3.24.

chain is distributed through the entire supply chain. Thus all demand and supply shifters that affect the U.S. cattle and beef industry are summarized in the prices for feeder cattle. The regression model does not attempt to explain a price-in level but instead seeks to explain the price basis. Given that both the prices of U.S. feeder cattle and Mexican feeder cattle summarize the supply and demand shifters that impact the U.S. beef and cattle supply chain, the price basis measures what differentially impacts these prices. Because U.S. feeder cattle and Mexican feeder cattle are identical except for their differential treatment because of the COOL measure, the price basis regression is able to measure the total impact of the COOL measure that is distributed down the supply chain onto the price paid for Mexican feeder cattle. Thus, the relevant variables to include in the regression model are those that explain the differential value to U.S. buyers that is distributed down the supply chain rather than all the variables that explain individual feeder cattle prices. The equations are not "truncated," as the United States alleges; rather they include the relevant factors and exclude those that are not relevant. Accordingly, Mexico's price basis equation reflects the difference between the price paid for Mexican feeder cattle and U.S. feeder cattle rather than the "difference between the U.S. price and the Canadian price" as stated by the United States.

14. The objective of Mexico's regression model is to explain how the differential treatment of cattle in the United States according to their origin affected the price paid for Mexico feeder cattle. As explained in the Methodology Paper and above, Mexico's regression model measures how the COOL measure differentially impacted the price paid for U.S. and Mexico feeder cattle as revealed by the price basis. With prices measured in the same locations, the number of variables that affect the basis is limited. A regression of the price paid for Mexico feeder cattle in the United States as a dependent variable with the U.S. price for feeder cattle would require the same set of explanatory variables as the basis regression presented in Mexico's Methodology Paper. However, such a regression model would be plagued with problems that the basis regression does not have. For example, the price of Mexican feeder cattle exported to the United States contains a unit-root as shown in Table 1 of Mexico's Methodology Paper. Thus, a conventional linear regression model would yield biased coefficients unless it is possible to find a cointegration relationship. The basis does not have a unit-root and thus can be used as a dependent variable in a linear model.

15. Contrary to the argument of the United States,[3] the Pouliot and Sumner (2014) study does not undermine Mexico's methodology. Pouliot and Sumner (2014) are correct in stating that it is theoretically possible that imposing the COOL measure would result in higher prices in the importing country and lower prices in the exporting country.[4] The increase in the domestic U.S. price, however, would be small in practice because the market share of imported cattle is small relative compared to the total size of the U.S. domestic cattle and beef industry. Moreover, the relevant import volumes change caused by the COOL measure is an even smaller share of the U.S. market. Further, there is a limited amount of commingling in the U.S. market, and thus most of the U.S. livestock supply chain handles single origin animals or meat, keeping costs of compliance with the COOL measure to a minimum.

16. In fact, a significant increase in prices for products of U.S. origin in the U.S. livestock supply chain would indicate large compliance costs and the regulation would not have been adopted if it imposed significant costs on U.S. firms. Arbitrage between animals of different origins would cause these prices to differ only by the difference in cost from the differential treatment associated with the COOL measure. Thus, even though the U.S. domestic price may marginally increase and the price of the imported animal decrease, the difference between the two prices reflects exactly the costs associated with the COOL measure that is passed on to Mexican feeder cattle. Note that even though the United States' EDM is wrongly specified in many ways, it yields results that are consistent with Pouliot and Sumner (2014) with the finding that the removal of COOL measure has a small impact on US domestic prices.

17. The United States' criticisms of Mexico's pricing data are also unfounded. Mexico's Methodology Paper uses price data collected by the U.S. Department of Agriculture's Agricultural Marketing Service (AMS). These data offer an unbiased measure of the price paid for Mexican feeder cattle exported to the United States and for the U.S. price of feeder cattle in New Mexico and Texas. The data provided by the AMS are appropriate for this analysis and in fact the United States used the same data source to calibrate its own EDM.

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[3] United States' written submission, para. 78.
[4] Exhibit US-35.

18.   The United States claims that the reports of the U.S. Department of Agriculture on which Mexico relies for pricing data are from auctions, and should be considered unrepresentative of Mexican exports. But Mexico did not use reports from auctions. Rather, it used the Department of Agriculture's reports on its daily survey of the prices of Mexican cattle sold in direct sales after crossing the border in New Mexico and Texas. The quantities of cattle covered by those reports comprise over 70 percent of all U.S. imports of Mexican cattle. Exhibit MEX-26 contains a statement by the Mexican industry explaining that Mexican cattle are sold immediately after they have been transferred to the U.S. side of the border.

19.   Also importantly, Mexico's price basis analysis compares prices for Mexican cattle from Department of Agriculture reports with the prices for U.S. cattle from Department of Agriculture reports. Mexico's comparisons also control for the weight and muscle categories available from the Department of Agriculture reports. This results in the "apples to apples" comparison that the United States says is so important.

20.   Remarkably, the United States criticizes Mexico's model for relying on actual market data for the relevant period. In fact, Mexico's Methodology Paper uses a careful, thorough and state-of-the-art approach. The econometric models include the relevant sets of control variables to measure the causal impacts of the COOL measure on prices and quantities.

21.   Econometric modeling is not only a tool for forecasting as the United States asserts, but is also a well-accepted approach in economics to find causal relationships. A correctly specified regression controls for the relevant set of variables that affect a dependent variable. The inclusion of variables that do not pertain to the economic model and that are correlated with the variables of interest (dummies for the COOL measure in this specific case) biases the coefficients. Mexico's Methodology Paper uses a careful approach to include only the variables that are economically relevant in the regression models.

22.   Mexico's regression model includes monthly dummy variables and a dummy variable for the drought to control for weather effects on the quality of feeder cattle. For instance, higher temperatures can cause more significant weight loss over the long distance.

23.   Macro-economic variables (e.g. unemployment and GDP) and input cost variables are not relevant because the regression model compares the price of two substitute goods for which demands are affected by the same shocks. Input costs previously incurred are not relevant as they are already sunk costs at the moment when feeder cattle are sold.

24.   Changes in quantities are not relevant in the regression model because the model compares prices for two substitute goods measured at the same locations that are impacted by the same demand-side variables. U.S. production volumes and Mexican export volumes of feeder cattle have nothing to do with how U.S. feeder cattle buyers differentiate the value of feeder cattle of different origins.

25.   Increase in Mexican beef processing and beef exports are irrelevant to the difference in the U.S. prices paid for U.S. born feeder cattle and Mexican born feeder cattle. The decision to export Mexican feeder cattle has already been made once feeder cattle cross the U.S. border. As the regression model compares prices for feeder cattle of two origins at the same locations, it is their relative values to U.S. buyers that determine the difference in their prices. Mexican beef processing and beef exports have nothing to do with how U.S. feeder cattle buyers differentially value feeder cattle of different origins.

26.   Mexican feeder cattle exported to the United States meet all animal disease requirements for exports to the United States. Although in the past animal diseases have had market impacts, they do not affect U.S. feeder cattle buyers' differential valuation of feeder cattle of different origins and thus should not be included in the regression model.

27.   The data used in Mexico's Methodology Paper are monthly, and monthly dummy variables control for the effect of U.S. holidays, if any.

28.   Including variables that do not have a causal effect on the relative price of U.S. and Mexican feeder cattle prices would bias the coefficients for the COOL variables if these variables are

correlated with the COOL variables. Thus, the regression model used in Mexico's Methodology Paper includes only the variables that are relevant to explain the difference between the price for U.S. feeder cattle and the price of Mexican feeder cattle, both measured by sales within the United States.

29.   Contrary to the argument of the United States, all the variables to explain the difference in the valuation of U.S. buyers of feeder cattle from the United States and Mexico are included in the regression model. As explained in the Methodology Paper and above, macro-economic variables and other variables that can impact the livestock industry have nothing to do with the difference in value that U.S. buyers assign to feeder cattle of different origins. The United States asserts that other variables are relevant, but does not explain why.

Impact of the COOL Measure on Export Volumes

30.   To estimate the impact of the COOL measure on the export of feeder cattle, Mexico's methodology uses a small simulation model. A simulation is the most appropriate approach to estimate the loss in export volume because there are causal variables that are missing to explain the export of feeder cattle. Notably, a variable to measure expectations about the drought does not exist. The model found that the COOL measure suppressed export volumes of Mexican feeder cattle by 342,476 for 2014.

31.   The simulation is based on the estimated impact of the COOL measure on the price that is estimated econometrically. Given that the export price for Mexican feeder cattle is suppressed, there is a corresponding decline in the export volume of feeder cattle. This decline in the export quantity is measure based on calculated export supply elasticity that is based on elasticity estimates from the literature and a carefully measured export share of Mexican feeder cattle.

32.   The United States attacks Mexico's export supply elasticity. But the export supply elasticity for feeder cattle exported to the United States is derived based on observed data in a transparent way in Mexico's Methodology Paper. The value of 4.0 for the export elasticity is very reasonable given the size of Mexican cattle market, the structure of Mexican cattle market and empirical evidence on supply and demand elasticities provided in Marsh (2003), among others. An elasticity of 4.0 is a conservative estimate that is consistent with observed data, the presented empirical evidence and the length of run over which the market adjusts to the introduction or the removal of COOL measures. The approach employed by Mexico is transparent and consistent with economic theory, unlike the elasticity employed by the United States in its EDM which considers the wrong length of run and employs an elasticity estimated for a completely different product, wholesale meat.

33.   The United States also criticizes Mexico's suggested level of nullification or impairment based on its relative size compared to the current value of Mexican feeder cattle exports to the United States. The large relative value is not surprising given that the basis used to calculate the relative value, trade volumes and prices are depressed under the COOL measure. As an example of why the comparison offered by the United States is incorrect, if the volumes of trade under COOL had fallen to zero, then the relative size would have been infinite. Mexico notes that the United States alleges that it is incredible that Mexico could export 30 percent more feeder cattle. But Mexico's 2014 exports were 1,115,855 head, while its exports previously have been as high as 1,653,408 in 1995 and more recently in 2012 – before the amended COOL measure was implemented – were 1,468,189. It is therefore completely realistic that the Mexican industry can increase the quantity of its exports by 30% over the 2014 figures.

34.   The United States' criticisms of Mexico's calculation of the impact of the COOL measure on Mexican exports of feeder cattle to the United States are both superficial and illogical. Equation (5) in Mexico's Methodology Paper (relating to the quantity of exported cattle) is the same as equation (31) in Exhibit US-4 that describes the United States' EDM. The single equation is sufficient and does not need to account for the complexity of the feeder cattle market in Mexico and the United States because, as explained previously, this is accounted for in the estimated coefficient of the impact of the COOL measure on the price of Mexican feeder cattle exported to the United States in the price basis regression. The United States attempts to mix the different analyzes together in a confusing and incorrect manner.

35.   Exports of livestock from Mexico and Canada to the United States are significant but nonetheless represent a small share of the total U.S. livestock market (2013 Final Rule, 78 Fed. Reg. at 31367). Changes in export volumes from Mexico and Canada would thus have a small impact on U.S. livestock prices. Furthermore, the United States is a very large country and exports of cattle from Mexico are made to a very different area than the exports from Canada, thus limiting direct competition between Mexican and Canadian cattle.

The United States' EDM is Unreliable

36.   The United States argues that only an EDM is appropriate for use in evaluating the impact of the COOL measure on Mexico, but that is incorrect. The relevant economic literature – e.g., peer-reviewed economic journals that focus on applied economics – confirms that econometric analysis is the standard approach for *ex post* evaluation of policy programs. Importantly, the U.S. government itself has collected and published most of the relevant data needed to estimate the impact of the COOL measure as used in Mexico's Methodology Paper. Therefore, there is no lack of reliable data needed to estimate the impacts of the COOL measure and no reason not to use it.

37.   The United States also argues that econometric analyzes are not favored in WTO disputes, but overlooks that the Panel in *US – COOL* found that an econometric model provided robust evidence that the COOL measure had a negative and significant impact on Canadian imports shares and price basis.

38.   The United States' EDM suffers from a number of deficiencies. In particular, the U.S. EDM is calibrated using short-run elasticities, while the full impact of the COOL measure can only be measured with a long-run economic analysis. The use of a short-run analysis grossly underestimates the impact of the COOL measure.

39.   Also, the structure of the U.S. EDM is fundamentally flawed. Mexico's Exhibit MEX-29 provides a schematic of the structure of the U.S. model. The U.S. analysis assumes that all cattle in the United States are identical, so that the same costs of the COOL measure are incurred as products move through the supply chain regardless of the country of origin. The model ignores costs from segregating livestock and meat according to the country of origin which have been recognized by the panel in earlier rulings.

40.   For the correct application of the labels at retail, cattle and meat must be segregated according to their origin. A correct structure for an EDM requires taking into account that cattle of different origins be kept separated and with different costs of the COOL measure according to the cattle's country of origin. An illustration of such a structure is provided on page 4 of Exhibit MEX-29.

30.   Moreover, the United States bases its calculation on export prices and volumes that are suppressed by the COOL measure. A correct calculation of impairment is one where the baseline is the situation where the COOL measure has not yet been implemented and then the COOL measure is introduced. Mexico's methodology follows this correct approach.

41.   Instead of using the available data to directly estimate the impact of the COOL measure on the export of Mexican feeder cattle to the United States, the United States proposed a fictional world that is examined within an EDM and proposes to use this fictional world for the calculation of nullification and impairment. The modeling assumptions in the EDM presented by the United States assume that there has been no denial of equal competitive opportunities for Mexican cattle, which conflicts with the findings of the Panel and the Appellate Body.

42.   Specifically, a complex EDM such as the one proposed by the United States relies on a large number of assumptions that result in a poor approximation of the causal effects of policy changes. In particular, the United States' EDM ignores the specifics of the segregation technology utilized by firms to comply with the COOL measure and ignores corner solutions, while assuming there is perfect competition in the US livestock industry. These modeling flaws cause the United States' EDM to grossly underestimate the impacts of the COOL measure. The United States' EDM oversimplifies market conditions and is inconsistent with market realities with respect to the path that the U.S. livestock industry has taken to comply with the COOL measure.

43. An EDM cannot be an appropriate substitute for econometric analysis to evaluate the impact of policy changes *ex post*. Actual changes in market prices and quantities reveal the true impact of policy changes given existing market realities. Unlike a supply chain model such as the one offered by the United States, econometric analysis does not rely on assumptions about market structure and model calibration and instead allows the data itself to reveal impacts on prices and quantities. Data to evaluate the market impacts of the COOL measure, as demonstrated in Mexico's Methodology Paper, are readily available and can be used to estimate the causal impacts of the COOL measures.

44. Even if one were to accept that an EDM is appropriate to apply in these circumstances (*ex post*), there are a number of specific problems with the United States' EDM. Tonsor et al. (2015) made a proper use of an EDM in their *ex ante* analysis of the costs of the COOL measure.[5] This is the type of analysis that is typically performed using EDMs, unlike the United States *ex post* analysis. The EDM of Tonsor et al. (2015) does not specifically consider imports but does account for the segregation costs as described in the report prepared by Informa Economics on the impact of the COOL measure by using the weighted average of the costs associated with the COOL measures for firms that source animals from a single origin and firms that source animals from multiple origins.

45. The United States' EDM is inconsistent with the fact that processing plants accepting imported animals pass the cost of the COOL measure onto the price they pay for animals that were previously imported as feeder cattle. The Panel in the underlying proceedings made findings on this issue:

> In fact, there is direct evidence of major slaughterhouses applying a considerable COOL discount of USD 40-60 per head for imported livestock. This proves that major processors are passing on at least some of the additional costs of the COOL measure upstream to suppliers of imported livestock. We have no evidence of a similar discount being applied to suppliers of domestic livestock, nor has the United States responded to the evidence submitted by Canada and Mexico in this respect.[6]

46. Also in the original proceedings, the Panel undertook a detailed examination of the impact of the COOL measure on imported livestock, and found that competitive opportunities were reduced in at least sixteen significant ways, namely:

a) a considerable COOL discount being applied by several major processors to imported livestock and the absence of a similar discount being applied to domestic livestock,

b) plants and companies simply refusing to process any imported livestock,

c) fewer processing plants accepting imported livestock,

d) certain suppliers having to transport imported livestock longer distances,

e) plants processing imported livestock at specific limited times, namely on specific days of the week or only after specific hours of the day,

f) additional logistical problems and additional costs for certain imported livestock suppliers,

g) due to congestion resulting from limited specific-time deliveries, certain imported livestock suppliers faced increased difficulty in obtaining delivery trucks or using trucks in the most efficient way,

h) transportation delays for certain suppliers of imported livestock,

i) increased transportation costs for certain suppliers of imported livestock,

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[5] Appendix 15 to Exhibit MEX-2.
[6] Panel Reports, *US – COOL*, para. 7.356. See also Panel Reports, *US – COOL (Article 21.5 – Canada and Mexico)*, paras. 7.170 and 7.176.

j) less efficient transportation for certain suppliers of imported livestock because of fewer deliveries due to the longer distance and less turn-around time,

k) changes to contractual terms for suppliers of imported livestock to incorporate a COOL opt-out clause to allow processors to unilaterally terminate or amend their contracts with suppliers of imported livestock,

l) cancellation, termination or non-renewal of supply contracts for imported livestock,

m) replacement of long-term contracts with spot contracts at lower purchase prices,

n) 14 days advance notice being required for suppliers of Mexican cattle at various U.S. processing facilities,

o) certain suppliers of domestic livestock suffered significant financial disadvantages due to price discounts for imported livestock as a result of the COOL Measure, and also due to the refusal of financial institutions to provide credits and loans to Canadian livestock producers because of the risks resulting from the COOL Measure, and

p) exclusion of imported cattle from premium beef programs which are particularly profitable for livestock suppliers.[7]

47. In addition, the Informa Study clearly describes that firms that handle single origin animals/meat incur substantially smaller costs of compliance with COOL than firms that deal with animal/meat from multiple origins. The United States' EDM is therefore inconsistent with the actual cost structure and impact of the COOL measure.

48. Moreover, equations (18) to (23) of the United States' EDM in Exhibit US-3 are based on an implausible assumption that removal of the COOL measure will have the same impact on the prices of imported livestock as on the prices of U.S. livestock of the same weight categories. This is inconsistent with the pattern of discrimination found to exist under the COOL measure. Under the COOL measure, animals of different origins are imperfect substitutes. The COOL measure requires that feeder cattle imported from Mexico be differentiated from U.S. born cattle at later stages of the supply chain, so that the meat from these animals can be correctly labeled according to their origins as specified by the COOL measure. The requirement to differentiate animals according to their origins impose additional costs that can be averted by using animals of a single origin, which is precisely why the COOL measure has a differential impact in the price of imported Mexican cattle. Equations (18) to (23) simply assume away this reality.

49. The United States' EDM is set up in such a manner that the results regarding livestock prices are given by what the United States calls the "import wedge." For instance, in tab 16 (Complete Results) of Exhibit US-3, the change in the imported Mexican feeder cattle price in the United States is USD 12.63 while the change in the Imported Mexican feeder calf price in Mexico is USD 14.88. The difference between these two values is USD 2.25, which is the value of what the United States calls the "import wedge" for "farrowing and cow calf calves from Mexico" in tab 13 (COOL costs) in Exhibit US-3. This feature of the EDM is inconsistent with the fundamental economic theory that the costs of a policy program are distributed through the whole supply chain. It is also inconsistent with established facts that all the cost of the COOL measure for the entire supply chain are passed onto the price of imported animals, not just the cost of the COOL measure associated with the imported animals. Moreover, it is inconsistent with the evidence established during the proceedings that, even before the implementation of the amended COOL measure, processors were imposing a much higher "COOL discount" of up to USD 40 to 60 per head. Indeed, the Panel in the original proceedings observed that "[i]n the absence of a large share of US consumers willing to pay a price premium for country of origin labelling, the cheapest way to comply with the COOL measure is to process only US-origin livestock, all other things being equal", that the "other possibility is to continue processing imported livestock through segregation, which

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[7] Panel Reports, *US – COOL*, paras. 7.373-7.381.

entails additional costs in virtually all cases" and that "[e]ither process configuration is likely to cause a decrease in the volume and price of imported livestock".[8]

50. Another problem with the United States' EDM is that the set of elasticities utilized are inappropriate to measure the full impacts of withdrawing the COOL measure. Incorrect elasticities values contribute to a severe underestimation of the impacts of the COOL measure on imported feeder cattle from Mexico. The United States uses elasticities from previously published works, but those studies had a very different objective than measuring nullification or impairment and a different length of run. In some cases, the United States uses elasticities for a completely different product. The United States' model uses some of the elasticities reported in Tonsor, et al. (2015) to derive short-run estimates (one-year). But complete removal of the COOL measure would require a period of adjustment that exceeds one year. The inappropriate length of run of the United States' model causes underestimation of the market impacts of the COOL measure.

51. Moreover, the United States' EDM uses the same elasticity of supply for U.S. fed and U.S. feeder cattle. There is no economic rationale for this assumption and this is not supported by the work of Tonsor et al. (2015).

52. The United States set the export supply elasticity of Mexican feeder cattle at 1.83 to equal the supply elasticity for U.S. imports of wholesale meat. However, there is no economic rationale to set the export supply elasticity of feeder cattle to be the same as for wholesale meat. The Mexican feeder cattle export supply elasticity depends on the Mexican domestic demand and supply elasticities and the export share. There is no economic rationale for the export supply elasticity of feeder cattle to equal the export supply elasticity of meat. The supply and demand conditions for these two products are significantly different.

53. In its EDM in Exhibit US-3, the United States uses cost estimates from the Regulatory Impact Analysis (RIA) prepared by the Agricultural Marketing Service of the U.S. Department of Agriculture, which were prepared in connection with the 2009 and 2013 versions of the COOL regulations (Exhibit US-1 and Exhibit US-2). The RIA is a costs and benefits analysis that is concerned with regulatory impacts on the United States' economy. The 2009 and the 2013 RIA therefore mainly focus on labelling and completely ignore segregation costs that are the source of the differential treatment of imported livestock. The United States accordingly ignores in its model a significant source of costs, which leads to severe underestimation of the amount of nullification and impairment. As an alternative, the United States could have used the Informa Study as an objective and unbiased source of information about the costs of the COOL measure. The estimated costs in the Informa Study are substantially higher than those in the RIA, in particular for firms that source livestock from more than one country of origin. The EDM presented by the United States fails to account for the cost of segregation and segmentation described in the Informa Study.

54. The United States' EDM also includes an adjustment for the United States' assertion that costs should be reduced to account for the exemptions from the COOL measure, such as for processed products. But the Panel in the underlying proceedings found that the burdens of the COOL measure were imposed on all imports of Mexican cattle, because at the time of importation the purchasers do not know their ultimate use. The United States pursued this argument with the Appellate Body and it was rejected. Accordingly, there is no justifiable basis for including such an adjustment in the United States' model.

Impact on Mexican Domestic Market Prices

55. Mexico's Methodology Paper established that the COOL measure's impact on Mexico's exports of cattle has had effects not only on Mexican exports, but also on sales of cattle in Mexico's domestic market. The impact of the domestic price suppression is calculated to be USD 198 million. Like the export price and volume effects, this domestic price suppression effect is directly related to the nullification or impairment at issue. In simple terms, the relevant benefit accruing to Mexico is the right of not having to face a measure like the COOL measure. By virtue of the nullification or impairment of this benefit by the COOL measure, Mexican domestic prices have been suppressed. It would fundamentally undermine the balance of concessions in the WTO Agreements if the full extent of the benefits accruing to WTO Members were not recognized in this

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[8] Panel Reports, *US – COOL*, para. 7.506.

arbitration. The COOL measure has disrupted the previously integrated North American cattle market. The price suppression in the Mexican market is a direct result of this disruption. In legal terms, the price suppression is the direct effect of the nullification or impairment of the benefits accruing to Mexico under the WTO Agreements.

56.   The United States argues that, as a matter of law, the harmful economic effects of price suppression in the Mexican domestic market for cattle cannot be considered at all. It claims that prior arbitrators have found that they must only consider trade flows, and seeks to characterize Mexico's quantification of the harm from domestic price suppression as "some broader, subjective measure of the overall economic impacts supposedly related to non-compliance."[9] But Mexico has not claimed that it should be compensated for general effects in its domestic economy; rather, it has shown the causal effects of the COOL measure specifically on the Mexican cattle industry. Moreover, the covered agreements contemplate that nullification and impairment can have indirect effects, and prior arbitrators have not excluded the possibility that effects in domestic markets can be taken into account. These points are explained in detail below.

57.   In evaluating claims for economic harm, arbitrators in prior disputes have focused on whether there was a sufficient "causal link" between the measure at issue and the alleged harm, such as in in *EC − Hormones (US) (Article 22.6 − EC)*. The requirement of a causal link between benefits being nullified and impaired and the measure at issue derives from the language of GATT Article XXIII:1, which establishes that a nullification or impairment must arise "as the result of … the failure of another contracting party to carry out its obligations".

58.   The concept of "causal link" has been discussed in cases arising under other agreements. For example, in *US −Steel Safeguards*, the Appellate Body, in the context of examining the term "as a result of" in Article XIX:1(a), found that there is a need to establish a causal link between increased imports and unforeseen developments when imposing a safeguard measure:

> Turning to the term "as a result of" that is also found in Article XIX:1(a), we note that the ordinary meaning of "result" is, as defined in the dictionary, "an effect, issue, or outcome *from* some action, process or design". The increased imports to which this provision refers must therefore be an "effect, or outcome" of the "unforeseen developments". Put differently, the "unforeseen developments" must "result" in increased imports of the product ("such product") that is subject to a safeguard measure.[10]

59.   Similarly, in *US − Wheat Gluten*, the Appellate Body stated:

> The word "causal" means "relating to a cause or causes" while the word "cause", in turn, denotes a relationship between, at least, two elements, whereby the first element has, in some way, "brought about", "produced" or induced" the existence of the second element. The word "link" indicates simply that increased imports have played a part in, or contributed to, bringing about serious injury so that there is a causal "connection" or "nexus" between these two elements.[11]

60.   This case does not involve a situation in which economic harm is based on speculation and/or is not capable of quantification. Mexico has demonstrated an extremely close causal link between the COOL measure and price suppression in the Mexican domestic market. In particular, it is undisputed that the Mexican and U.S. markets for cattle are tightly integrated. The Mexican cow-calf industry was structured over one hundred years ago to supply the U.S. market. There are no export markets for Mexican cattle other than the United States. Mexico's methodology takes into account the loss of exports caused by the COOL measure, to avoid double-counting.

61.   The only criticism the United States makes of the methodology is to state, vaguely, that "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

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[9] United States' written submission, para. 120.
[10] Appellate Body Report, *US −Steel Safeguards*, para. 315.
[11] Appellate Body Report, *US − Wheat Gluten*, para. 67.

cattle."[12] To the contrary, Mexico's methodology isolates the impact of the COOL measure, and measures the impact in terms of lowered prices in the Mexican market.

62.   The calculation of the price suppression in the Mexican domestic cattle market builds on the estimate of the impact of the COOL measure on the price of Mexican feeder cattle exported to the United States. The U.S. and Mexican cattle industries are highly integrated and it is a natural outcome of economic forces that a shock on the price of Mexican feeder cattle exported to the United States to be transferred onto prices in the domestic Mexican cattle market. The approach in Mexico's Methodology Paper is to estimate a price transmission regression to measure price linkage between the U.S. feeder cattle market and the Mexican feeder cattle market. It is found that in the long run, $0.678/lb of a $1/lb increase in the price of feeder cattle exported to the United States is transmitted to the Mexican domestic price of feeder cattle. Thus, given that the COOL measure depressed exported feeder cattle price by $0.187/lb, the corresponding price suppression to the Mexican domestic price is -$0.127/lb. Applying the price suppression to the Mexican domestic feeder cattle market yields a total prices suppression loss to Mexico of $198,628,204.

63.   The calculations of the price suppression loss to Mexico focus on the feeder cattle market. The losses however certainly extend to the whole Mexican domestic cattle market. On a per pound basis, the losses to other cattle categories are smaller and more difficult to measure. However, applied to the whole Mexican cattle industry, these losses are certainly substantial. Hence, the calculations offered by Mexico, which focus on the feeder cattle market, should be understood as a lower bound of the total damage caused to the Mexican cattle industry by the COOL measure.

64.   In Mexico's view, the price suppression in the Mexican market is a direct effect of the COOL measure. However, to the extent it might not be direct, it would fundamentally undermine the balance of concessions in the WTO Agreements if the full extent of the benefits accruing to WTO Members were not recognized in this arbitration. Thus, when examining the nullification or impairment of benefits under the provisions of all of the WTO Agreements including under Article 22 of the DSU, it is essential to interpret those benefits broadly so that they include obvious direct benefits but also benefits that are less direct but are nonetheless real. In this instance, the price suppression in the Mexican market is undoubtedly real and the benefits accruing to Mexico under the WTO Agreements should have prevented this price suppression from occurring but have not because they have been nullified or impaired.

65.   For both violations of the TBT Agreement and the GATT 1994, a Member may bring a dispute if it considers "any benefit" accruing to it "directly or indirectly" is being nullified or impaired "as the result of" a violation by another Member of its WTO obligations. The "nullification or impairment" referred to in DSU Article 22.4 is the nullification or impairment of "benefits" accruing to a member in the sense of GATT Article XXIII:1. In other words, the benefits may be direct or indirect benefits.

66.   The United States nonetheless argues that the Arbitrator may only consider "trade flows," claiming that arbitrators in past cases have found that the level of nullification and impairment must be based exclusively on the impact on trade flows. It cites to the *EC – Hormones*, *US – Gambling*, and *EC – Bananas* cases in support of this claim. However, the United States is wrong to suggest that the arbitrators in prior disputes have found that the effects of measures on domestic markets are excluded from consideration. For example, the arbitrator in *US – Byrd Amendment* stated:

> We do not agree with the United States that nullification or impairment is to be limited in all instances to the direct trade loss resulting from the violation. We agree with the Requesting Parties that the term "trade effect" is found neither in Article XXIII of GATT 1994, nor in Article 22 of the DSU. Previous arbitrators' decisions based on direct trade impact are not binding precedents.[13]

67.   The arbitrator in that case further commented that "[t]he use of direct trade effect in most cases reflects the fact that trade loss is generally more directly identifiable and quantifiable and

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[12] United States' written submission, para. 129.
[13] Decision by the Arbitrator, *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, para. 3.70.

that, in such a context, arbitrators preferred to rely on verifiable figures",[14] and also stated 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 original).[15] In other words, it is not the <u>only</u> correct application of Article 22.

68.   The United States also cites to *EC – Bananas (US) (Article 22.6 – EC).* In that case*,* the United States included a claim for economic harm arising from lost exports to third countries of inputs, such as fertilizer, for the <u>third countries' production</u> of bananas. The arbitrator rejected this claim, stating "[t]o the extent the US assessment of nullification or impairment includes *lost US exports* defined as *US content incorporated in Latin American bananas* (e.g. US fertilizer, pesticides and machinery shipped to Latin America and US capital or management services used in banana cultivation), we do not consider such *lost US exports* for calculating nullification or impairment in the present arbitration proceeding between the European Communities and the United States".[16] (emphasis original)

69.   In this regard, the key point for the Panel was its view that the third countries could make their own claims for nullification or impairment based on effects on their own exports of bananas to the EU, and that it was inappropriate for the United States to make, in effect, a claim of harm based on the harm to those other countries' exports. Mexico is not claiming harm from loss of exports to third countries. Furthermore, third countries could not make claims for nullification or impairment based on the price suppression effects caused by the COOL measure on Mexican cattle in the Mexican domestic market. Thus, the arbitrator's findings in *EC – Bananas* do not support the United States' argument that indirect effects can never be considered.

70.   In *US – Gambling*, Antigua argued that losses to the Antiguan remote gambling industry led to additional losses in other sectors of the economy, including lower income and government revenues. It characterized these as indirect effects that should be taken into account in addition to direct trade effects. To compensate for those effects, it proposed to apply a "multiplier" to its calculation of the trade effects to arrive at an approximation of the indirect effects. The arbitrator rejected the multiplier, finding that "the use of a multiplier reflecting the aggregate change in output for a unit change in demand would be contrary to some of Antigua's other arguments concerning the limited impact of remote gambling revenues on GDP."[17] Unlike Antigua in the *US – Gambling* case, Mexico has not made a claim of harm from negative effects to its general economy but rather has identified concrete effects on the Mexican cattle industry arising from the COOL measure. Mexico has not made other arguments that are contrary to its position.

71.   In the *EC – Hormones (Canada) (Article 22.6 – EC)* determination cited by the United States, Canada did not propose to include any economic harm except that to trade flows, so it is unclear why the United States believes that determination is a relevant precedent. In *EC – Hormones (United States) (Article 22.6 – EC)*, the arbitrator rejected a U.S. effort to include an estimated amount for additional exports of edible beef offal that would have been made as a result of U.S. marketing and promotional efforts that would have taken place but for the hormone ban. In other words, there had been no such marketing efforts. The arbitrator declined to take those projected exports into account on the basis that they were too speculative. The effects on the Mexican domestic market for cattle, in contrast, are not speculative; they are quantifiable and have a close causal connection to the COOL measure.

72.   The United States cites to a recent proposal to amend the DSU as evidence that the DSU currently prohibits the inclusion of domestic price suppression. The proposal, contained in TN/DS/26, is to amend the DSU to expressly allow the level of nullification and impairment to include an estimate of the effect of the inconsistent measure on a country's economy <u>as a whole</u>. Mexico has not proposed to include in the level of nullification and impairment the impact of the COOL measure on Mexico's economy as a whole; rather, Mexico has included the effects of the inconsistent measure on the Mexican market for cattle – effects that have a close causal link to the U.S. measure. Accordingly, TN/DS/26 is not relevant to this dispute.

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[14] Decision by the Arbitrator, *US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)*, para. 3.39.
[15] Ibid., para. 3.71.
[16] Decision by the Arbitrator, *EC – Bananas III (US) (Article 22.6 – EC),* para. 6.12.
[17] Decision by the Arbitrator, *US – Gambling (Article 22.6)*, para. 3.123.

73.   The United States also puts forth an argument that there is a requirement to evaluate the effect of Mexico's proposed suspension of benefits on the U.S. economy as a whole, claiming that "[t]he 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."[18] The United States cites no provision of the covered agreements or any prior arbitration ruling in support of this argument, because there is none. The level of nullification and impairment is not measured in terms of its impact on the country that maintains the inconsistent measure. The appropriate measure is the value of the denial of benefits, direct and indirect, to the complaining member.

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[18] United States' written submission, para. 127.

ANNEX B-3

EXECUTIVE SUMMARY OF THE ARGUMENTS OF THE UNITED STATES

I.   INTRODUCTION

1.   Both Canada and Mexico calculate the level of nullification or impairment as the sum of "export revenue losses" and domestic "price suppression losses." In the first instance, these estimates dwarf the historical and current export value of livestock and in no way reflect the "benefit" impaired by the amended COOL measure. Specifically, Canada and Mexico are arguing that if the amended COOL measure were withdrawn, their exports of livestock would increase 92 percent and 70 percent, by value respectively, to never before seen levels, and even as overall demand for beef and pork muscle cuts in the United States has been in decline since 2008 – with no sign of rebound. In the second, the claimed "price suppression losses" are not part of the level of nullification or impairment of benefits accruing under the *Agreement on Technical Barriers to Trade* ("TBT Agreement") or the *General Agreement on Tariffs and Trade 1994* ("GATT 1994").

2.   In response, the United States explains why the econometric calculations of the requesting parties produce highly inflated levels of nullification and impairment. In contrast 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, an equilibrium displacement model ("EDM") is the most suitable tool for estimating the trade effects of the amended COOL measure. And finally, the United States has explained why the requesting parties' claims for non-trade related damages cannot succeed.

II.   APPROPRIATE CALCULATION OF THE LEVEL OF NULLIFICATION OR IMPAIRMENT

3.   Pursuant to Article 22.6 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU"), the United States objected to Canada and Mexico's proposed levels of suspension of concessions or other obligations because each party has submitted a proposed level of suspension that is far in excess of the level of nullification or impairment attributable to the measure at issue. 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." The requesting parties' calculations suffer from conceptual flaws and methodological errors that result in grossly inflated estimates of the levels of nullification or impairment.

4.   In this proceeding, Canada and Mexico have each gone far beyond an "equivalent" level of nullification in offering a two-part asserted level of nullification or impairment, which in the first instance exceeds all possible trade effects, and which in the second instance is not attributable to the nullified or impaired benefit. As to the former, Canada and Mexico attempt to quantify the "export revenue losses" attributable to the amended COOL measure, *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 levels of suspension of concessions that are unsupportable. As to the latter, Canada and Mexico argue that domestic "price suppression losses" should also be included in the total level of nullification or impairment. Even if this "loss" level was determined through a clear and rational methodology, which it is not, the alleged effects on domestic price are not trade effects and do not relate to the "benefits" accruing under the relevant covered agreements (the TBT Agreement and the GATT 1994) that are being nullified or impaired.

5.   The DSU does not prescribe any particular way to demonstrate that the level of suspension requested by each party is excessive in light of the requirements of the DSU. The United States has established its *prima facie* case in three different, and independent, ways. First, the United States has provided a methodology – the EDM – that more accurately estimates the level of nullification and impairment than the one proposed by the requesting parties. Second, the United States has explained why, even aside from the EDM approach, the somewhat differing econometric

calculations of the requesting parties produce highly inflated levels of nullification and impairment. Third, the United States has explained why the requesting parties' claims for non-trade related damages – *i.e.*, their claims regarding domestic "price suppression losses" – are legally invalid.

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

6.   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 were withdrawn and all other factors were held constant (the counterfactual).

7.   Recognizing these challenges, and the complexity of the North American livestock markets, the United States uses a type of partial equilibrium model, 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.

1. Overview of the Equilibrium Displacement Model

8.   EDMs are a well-accepted and widely used type of partial equilibrium model used for applied economic analysis, particularly in the agricultural sector. In particular, 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. In the context of COOL, the United States notes that there have been at least three significant studies of the U.S. livestock market using EDMs.

9.   Further, prior arbitrators in Article 22.6 proceedings have in the past relied on partial equilibrium or stimulation models similar to the EDM proposed by the United States. In this regard, the United States notes that the arbitrator in *US – CDSOA (Article 22.6 – US)* considered 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." That is, the use of well-supported and reasoned economic models that recognize the varying effects of a measure, as the EDM does, has been an important tool for arbitrators.

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

10.   The United States uses an EDM 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 EDM is a series of linearized equations that provide economic estimates of the trade shifts that would occur if the amended COOL measure were withdrawn.

11.   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."

12.   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 EDM by a set of exogenous and computed components. Exogenous components include the baseline quantity and prices, demand and supply elasticities, and COOL compliance costs.

3.   2014 Baseline Quantities and Prices

13.   The EDM's baseline utilizes 2014 market quantities and prices sourced from the U.S. Census Bureau trade data. 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 existed in 2014. The year 2014 thus provides the most appropriate baseline for the purposes of determining the nullification or impairment of benefits accruing to Mexico and Canada under the TBT Agreement and the GATT 1994 on a prospective basis.

14.   Construction of the 2014 baseline, as well as the EDM, depends on certain additional assumptions. The EDM assumes that all marketing levels are in perfect competition. The EDM utilizes "fixed proportions" between inputs and outputs through the marketing channel. The EDM also assumes that technologies used in the "value-added" sectors provide a constant return to scale. The EDM further uses certain "conversion factors" to translate animal standard-sized livestock from the number of head of livestock into the retail weight in pounds. 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.

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

15.   To accurately estimate the trade effects of the amended COOL measure 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 of pork and beef. The model therefore captures the elements of supply and demand relevant to the livestock/meat market in North America.

16.   The 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. These equations are based on the assumption that equilibrium conditions exist at each stage of production.

5.   Explanation of Elasticities and COOL Compliance Costs

17.   There are two primary input parameter values utilized by the EDM: elasticities and COOL compliance costs.

a.   Elasticities

18.   The EDM's 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. As discussed in academic literature and noted in Mexico's Methodology Paper, data and time constraints render impractical estimating all supply and demand elasticities econometrically. Therefore, the EDM follows the same approach as other EDM studies and uses supply and demand elasticity estimates established in and vetted by peer-reviewed academic literature.

19.   The EDM utilizes short-run 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. In this context, short-run is typically defined as one to two years, while long run is typically defined as ten years. The EDM also utilizes demand elasticities for U.S. retail meat (own-price and cross-price elasticities) and U.S. wholesale meat exports.

20.   Previous academic studies of the North American livestock market do not provide supply elasticities for U.S. imports of feeder or slaughter animals. The United States has thus set these elasticities to equal the supply elasticity for U.S. imports of wholesale meat imports. 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. Canada claims, however, that these elasticities are inappropriate

because the ratio of export supply to total supply is important, and the (alleged) long-run must be calculated on an *annual* basis (and purports to do so for 2014). Canada provides no clear methodology or data to support its extreme export supply elasticities (which range from 12.6 to 126.3), which are much higher than those developed by academics specifically considering the underlying markets.

b. COOL Compliance Costs

i. RIA Cost Estimates

21. 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 Regulatory Impact Analyses ("RIAs") conducted by the U.S. Department of Agriculture ("USDA") with respect to the 2009 and 2013 COOL final rules. The United States has also put forward an alternative based on the Informa Economics report costs which form the far upward bound of likely costs.

22. Although the RIA costs 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. That is, imported products are more sensitive to incremental cost increases and reflect these changes more severely in price and quantity changes. This difference reflects the differential compliance costs imposed on Canadian and Mexican livestock suppliers.

23. 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 US$3.75 million higher than 2014 levels, and Canadian slaughter hogs would have been US$0.35 million higher. Canadian feeder calf exports would have been US$21.45 million higher and slaughter cattle would have been US$17.64 million higher. Mexican feeder calf exports would have been US$49.18 million higher than 2014 export levels.

ii. Informa Economics Cost Estimates

24. Recognizing that the original panel and compliance panels have found that some portion of U.S. costs may be shifted up the supply chain and imposed on importers, the United States has also put forward an alternative based on the Informa Economics report costs which form the far upward bound of likely costs. As the original panel noted, however, the "Informa Report is silent on its methodology and the sample considered (*i.e.*, time period, geographical zone, number of firms surveyed)," and thus is not "reliable and precise as regards its exact quantification of the costs of the COOL measure." These costs in fact represent an exaggeration of the compliance costs for mixed origin product, and the far upward bound of potential segregation and compliance costs.

25. Using this cost wedge and assuming that U.S. retailers and packers will push costs associated with mixed origin animals up the supply chain, 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 US$62.30 million higher than 2014 levels, and Canadian slaughter hogs would have been US$5.10 million higher. Canadian feeder calf exports would have been US$34.30 million higher and slaughter cattle would have been US$27.01 million higher. Mexican feeder calf exports would have been US$78.95 million higher than 2014 export levels.

6. Conclusion

26. As demonstrated by the EDM, the more appropriate level of nullification or impairment is approximately US$43.22 million per year for Canada, and certainly no more than US$128.71 million per year. With respect to Mexico, the more appropriate level of nullification or impairment is approximately US$47.55 million per year, and certainly no more than US$78.95 million per

year. This analysis demonstrates that the levels of suspension of concessions requested by Canada and Mexico are in excess of the appropriate levels of nullification or impairment.

III. THE LEVELS OF SUSPENSION OF CONCESSIONS OR OTHER OBLIGATIONS PROPOSED BY CANADA AND MEXICO FAR EXCEED THE LEVELS OF NULLIFICATION OR IMPAIRMENT

27. The requesting parties utilize econometric methods that are fundamentally incapable of estimating the impact of the amended COOL measure in the complex North American livestock and meat market. 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" accruing under the relevant covered agreement allegedly nullified or impaired "as a result of" the breach found by the DSB. That is, the proposed level 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.

A. Canada and Mexico's Proposed "Export Revenue Losses" Methodologies Are Fundamentally Flawed and Result in Overstatements of the Levels of Nullification or Impairment

28. The United States, Canada, and Mexico agree that the "trade effects" of an inconsistent measure are determined by evaluating the difference between a baseline annual export value and the estimation of what that export value would be if the amended COOL measure costs were eliminated. However, neither Canada nor Mexico's alleged level of nullification or impairment reflects the established patterns of supply and demand in North America or the realities of the livestock industry. Canada's total hog and cattle export value for 2014 was US$1.744 billion. Canada's estimated level of nullification or impairment, US$1.61 billion, suggests that export revenues would increase by 92.3 percent by value if the COOL measure was eliminated. Mexico's total feeder cattle export value for 2014 was US$737 million. Mexico's suggested level of nullification or impairment suggests that marginal revenue will increase by as much as 70 percent by value.

1. Econometric Modeling Is Not Well Suited to Accurately Determining Trade Effects

29. Canada's Methodology Paper attempts to use linear regression analysis to econometrically estimate the "reduction in the average weekly exports from Canada to the United States caused by the amended COOL measure," and the "price basis." Mexico's Methodology Paper seeks to determine "price basis" through econometric analysis, but abandons this methodology when determining the impact of the amended COOL measure with respect to exports.

30. Econometric modeling analysis seeks to estimate 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. Econometric modeling, however, is not an appropriate approach for determining the level of nullification or impairment. For example, it is widely understood that econometric models are dependent on the inclusion and accurate estimation of exogenous variables, are limited by the ability to incorporate accurate real world data, and must ensure that the relationship between the variables and data is accurately identified. Failure to address these issues will lead the model to attribute to the amended COOL measure trade effects that are due to some other factor. The concept of "non-attribution" is one that is familiar under the covered agreements and was addressed by the recent *China – GOES* compliance panel. These concerns make econometric models poorly suited for analyzing complex markets, such as integrated and vertically linked animal and meat markets, which are subject to numerous and overlapping variables that may impact the dependent variables.

2. Canada and Mexico's Models Are Mis-specified Because the Models Omit Numerous Necessary Explanatory Variables

31.   The reduced form econometric modeling proposed by Canada and Mexico is far too simplistic to accurately isolate and quantify the magnitude of any potential effects of the amended COOL measure. In particular, Canada and Mexico's limited analysis does not consider a number of important explanatory variables impacting the North American livestock and meat markets between 2005 and 2015. Failure to accurately control for relevant factors results in attributing to the amended COOL measure effects that are instead due to other factors. For this reason, Canada and Mexico's proposed levels of nullification or impairment far exceed the "benefit" being impaired.

32.   To accurately isolate and assess the quantity and price impact of the amended COOL measure, the requesting parties' models should not choose to include or exclude explanatory variables based on the bias requesting parties assume the variable will create or on the assumption that the effect is small – as they have done in these arbitrations. Rather, all explanatory variables should be included in the analysis.

33.   Specifically, the requesting parties must effectively control for numerous independent variables, which also had an impact on quantity and price during this period. These independent variables include, but are not limited to:

- Economic Fluctuations and Recession: Significant economic fluctuations affecting the price and quantity of livestock exports to the United States have occurred during the period used by Canada and Mexico. The global economic crisis resulted in a worldwide slowing of trade and an overall contraction of agricultural markets between 2007 and 2009. The recessions had different origins and impacted each of the three economies differently. The U.S. recession, which lasted between December 2007 and June 2009, was largely driven by domestic factors in the housing and banking sectors. Canada entered economic recession in December 2008, which is a full year after the United States. Mexico's recession lasted from October 2008 to March 2009.

  Despite addressing the most significant economic downturn in recent memory in other submissions and academic papers, Canada and Mexico provide no assessment of the recession's effect on export quantities or the price basis. Instead, Canada and Mexico attribute the total effect of the economic downturn to the amended COOL measure.

- Increased Feed Costs: Feed costs, as one of the single largest input into livestock production, 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, encouraging increased slaughter or export of animals. Between 2005 and the present, feed costs in North America have shifted for a number of reasons, including drought, biofuels policy, changing export demands, and shifting domestic demand. In fact, feed costs not only change throughout the period of the amended COOL measure, impacting the price and quantity of livestock shipped, but feed costs affect Canada, Mexico, and the United States differently and must be accounted for in econometric price and quantity equations to ensure that changes in feed costs over time are not incorrectly attributed to the estimated effects of the amended COOL measure.

- Shifting Transportation Costs: Transportation costs can significantly impact cattle trade between Canada and the United States, and Mexico and the United States. When transportation costs, which are linked to the price of fuel, are high the incentive to ship Canadian cattle to the United States diminishes. Therefore, U.S. packers will purchase fewer Canadian livestock and Mexican cattle, and the price of imported livestock will decline. This is particularly clear as Canada's own submission specifies differences in transportation costs between costs for Canadian and U.S. producers. Unless these costs are properly accounted for, there is no way through an econometric analysis to precisely isolate the effects of the amended COOL measure on the price basis.

- Lingering Effects of BSE and Other Animal Diseases: The discovery of bovine spongiform encephalopathy ("BSE") in Canada in 2003 has also had lingering effects

on the Canadian market. While Canada has attempted to account for the trade disruption between Canada and the United States, it has not addressed the impact of bans enacted by other trading partners on imports of live cattle, beef, and beef products. Conversely, Mexico continues to benefit from its increased market share in a number of Canada's prime export markets, which are periodically closed to Canadian exports due to BSE cases (reported as recently as February 2015).

- Shifting Livestock Processing: Both Canada and Mexico have functioning slaughter and processing sectors which provide meat for domestic consumption as well as export. The relative health of this sector and, in particular, shifts in production capacity have a significant impact on the domestic price of livestock and the competitive opportunities for Canadian/Mexican farmers and feedlot owners. This should be considered in any econometric analysis.

- Weather Patterns: Weather related disruptions, such as drought, can significantly impact export levels. For instance, between 2011 and 2014 a significant drought affected Mexico and the U.S. Southwest. Drought both encouraged exports from Mexico, and increased slaughter (and a decline in stocks) in the United States. Canada has not controlled for the impact of this drought or other weather conditions. Rather, Canada suggests that if this were included in the econometric model specification the COOL impact would be larger because the drought had increased demand for imports of Canadian cattle to be used for breeding stock rather than for slaughter. However, Canada misunderstands the impact of the drought in the context of the integrated market. As Mexico indicated, the drought and expectations regarding its length and cost encouraged Mexican farms to export to the United States more feeder animals at lower weights and lower prices. This increased supply from Mexico decreased demand for Canadian feeder animals, and this effect should not be attributed to the amended COOL measure.

- U.S. Holidays: Significant holidays are often preceded by an increase in demand for beef and pork. But in their Methodology Papers, Canada and Mexico fail to address the influence of these holidays on quantity impacts or price basis.

- Competing Imports: Canada does not appear to consider the impact of U.S. or Mexican production on the ability of Canada to export to the United States, and Mexico does not consider the impact of Canadian and U.S. production on Mexican exports. Canada suggests that the United States is so large that the presence of an additional significant supplier of feeder cattle is irrelevant. This is erroneous. Canada further suggests that imports on the southern border do not affect the prices or quantities imported on the northern border. This stands in contrast to Canada's statements regarding the single integrated market, and is also in error. Failure to include another significant market player will result in Canada attributing to the amended COOL measure the impact of factors related to the supply of Mexican feeder cattle and in Mexico attributing to the amended COOL measure impacts related to the supply of Canadian livestock.

34.   Finally, a wide variety of factors influence the quantity of livestock crossing the border and the price at which the livestock is sold, and because Canada and Mexico are seeking to determine both price and quantity effects, it is important to ensure that both the price and quantity equations are correctly specified with all the variables affecting either term. These additional variables include sales variables (such as lot size, average animal weight, animal sex, homogenous lots, type of sales contract, and other characteristics that may differ between Canadian and U.S. sales), demand shifters (such as relative prices of substitutes including consumer income, consumer preference, demographics, health concerns, and seasonality), and supply shifters (such as changes in slaughter capacity in both Canada and Mexico, or decisions to export at feeder or fed levels).

3.   Including Additional Variables Is Insufficient to Increase the Accuracy of Canada's Econometric Model

35.   Even if Canada and/or Mexico attempted to include additional explanatory independent variables, the econometric modeling still would not provide accurate results. Rather than focus on

the actual price of livestock, Canada and Mexico both utilize equations specified in terms of "price basis." The flaw with this equation specification is that the estimation of trade effects should measure how much the amended COOL measure impacts or lowers Canadian and Mexican livestock prices. Thus, changes to the price basis, which reflects changes in both the U.S. price and Canada or Mexico export prices, is not appropriate because any widening basis captures both the decline in Canada or Mexico export prices and the increase in the U.S. price.

36.   Canada states that estimating an equation "with the absolute price as the dependent variable" will be "biased and unreliable and yield no meaningful results that can be interpreted in the calculation of losses." Mexico suggests this approach is less efficient and will yield a less reliable estimate than a model specified with price basis as the dependent variable. However, the question before the Arbitrators is not whether the "price basis" widened or contracted due to the amended COOL measure, but rather what quantity of livestock would be exported and at what price but for the amended COOL measure. For these reasons, Canada and Mexico's econometric analysis and its resulting overestimation of the level of nullification or impairment should be rejected.

4.   Canada and Mexico's Methodologies Utilize Truncated Equations that Have Little Explanatory Power

37.   Canada and Mexico use faulty "reduced form equations" to estimate the impact on the quantity of Canadian livestock exports to the United States and on the price basis from the amended COOL measure. These equations do not adequately evaluate the complex livestock and meat industry or the relevant demand and supply shifters.

38.   Requesting parties' "reduced form equations" do not provide quantity equations that factor in price, or price equations that factor in quantity. In particular, the price and quantity equations, which are mutually linked (and in fact determinative), should have the same exogenous variables. Specifically, in a system attempting to identify both price and quantity, two reduced form equations should be specified with price and quantity as the dependent variables on the left hand side of the equations. On the right hand side should be all the variables affecting the price and quantity in the livestock market. It is important for all variables affecting either price or quantity to appear in both equations, otherwise the relevant variables affecting price and quantity are being omitted in the reduced form resulting in bias. Indeed, Canada itself conceded at the hearing that its quantity equation should, but does not, control for all causal factors. However, Canada inconsistently – and inaccurately – does not make the same concession for its price equation.

5.   Canada and Mexico Rely on Incomplete and Unsubstantiated Data

39.   Canada relies on unofficial weekly cattle and hog import data derived from veterinary certificates collected by USDA's Animal and Plant Health Inspection Service ("APHIS"). This is not the appropriate data to use because APHIS's responsibility is to ensure that health certificates are in order, not to track import numbers for official purposes.

40.   With respect to the pricing data provided for feeder pigs, Canada notes that "no consistent time series of price data amenable for statistical analysis is available for feeder pigs in Canada." Canada now seeks to rely on a limited, handpicked selection of transactions, which are completely unverifiable. Such evidence simply cannot satisfy Canada's burden in this regard.

41.   Mexico utilizes weekly pricing data collected by USDA's Agricultural Marketing Service ("AMS"). This data reflects a limited sample of 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. Moreover, it is significantly different from both the U.S. Census data and Mexico's reported export value. The AMS reported prices reflect both the export price and value added in the United States. However, Article 22.6 arbitration focuses on the trade effect of the inconsistent measure. This means it must reflect the impact of the measure on the product as it crosses the border not any later added value.

6.   Mexico's Quantity Impact Analysis Is Also Subject to Significant Flaws

42.   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. Just one omitted variable – drought – in Mexico's opinion has undermined its ability to use econometric modeling to determine the quantity impact of the amended COOL measure. Mexico describes at length the difficulties associated with creating a variable to represent the economic impact of the drought. Shifts in producer expectations with respect to the length of the ongoing drought may affect the timing of sales, as well as expectations about whether input prices may be higher or less certain in the near future. Mexico notes that it is impossible to provide a variable that would represent these unknowable and unpredictable expectations. This alone was sufficient for Mexico to discredit the econometric analysis of the quantity impact of the amended COOL measure.

43.   Instead, Mexico uses a simple elasticity calculation to estimate the quantity impact. The 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.

44.   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 why 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.

45.   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." 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. It also appears to make unsupported assumptions about the rate of export, and ultimately with little explanation concludes that the export supply elasticity is 4. This elasticity exceeds the appropriate level.

46.   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.

7.   Canada and Mexico's Price and Quantity Estimates Result in Unsupportable Levels of Nullification or Impairment

47.   Finally, Canada and Mexico uses the inaccurately estimated quantity impact and price basis to derive an overall level of nullification or impairment for each livestock category. That is, Canada and Mexico essentially multiples the price basis it attributes to the amended COOL measure times the quantity impact it attributes to the amended COOL measure. However, Canada and Mexico's methodology erroneously attributes to the amended COOL measure the impact of a wide variety of other factors concurrently affecting the North American market. For this reason, the trade effect figures provided by Canada and Mexico are unsupported and do not accurately estimate the level of nullification and impairment resulting from the amended COOL measure.

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

48.   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." With respect to the "price suppression losses," the requesting parties 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," and "suppressed prices for livestock in Canada." 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.

49.   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."   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.

50.   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. Here, a trade benefit under these agreements relates to international trade in livestock, not to domestic markets. Indeed, it is notable that neither Canada nor Mexico has, *until this very arbitration*, considered that the "benefits accruing" under the WTO Agreement meant anything other than *the trade* in livestock. Thus, in their GATT 1994 Article XXIII claims before the compliance panels, Canada and Mexico claimed that the "benefits accruing" relate to *the market access of the livestock exported* to the United States, a point that the compliance panels recognized.

51.   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 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 for 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.

52.   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.

53.   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. For instance, there are numerous additional factors that would need to be considered in an econometric analysis of domestic price suppression – including Canadian and Mexican demand for livestock and differential input costs for domestic production.

IV. CONCLUSION

54.   For the reasons set forth above, the United States respectfully requests that the Arbitrators find that the levels of suspension of concessions requested by Canada and Mexico are in excess of

the appropriate levels of nullification or impairment. As described above, the more appropriate level of nullification or impairment is approximately US$43.19 million per year for Canada, and US$49.18 million per year for Mexico, and even assuming extreme compliance costs, the level of nullification or impairment would certainly be no more than US$128.71 million per year for Canada, and US$78.95 million per year for Mexico.

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ANNEX C

ARBITRATOR'S DETERMINATION – DETAILS ON RESULTS AND CALCULTATIONS

ANNEX C-1

ECONOMETRIC RESULTS

Table 1: Variables list

Variable name	Variable description	Data sources[23]
350 lb. Mexican feeder cattle price basis	Weekly price basis for 350 lb. Mexican feeder cattle (USD/lb)	United States Department of Agriculture Market News report; Exhibits MEX Appendix 1, MEX Appendix 2
550 lb. Mexican feeder cattle price basis	Weekly price basis for 550 lb. Mexican feeder cattle (USD/lb)	United States Department of Agriculture Market News report; Exhibits MEX Appendix 1, MEX Appendix 2
450 lb. Canadian feeder cattle price basis	Weekly price basis for 450 lb. Canadian feeder cattle (CAD/lb)	CanFax; United States Department of Agriculture Market News report; Exhibits CAN-35, CAN-68, CAN-81
550 lb. Canadian feeder cattle price basis	Weekly price basis for 550 lb. Canadian feeder cattle (CAD/lb)	CanFax; United States Department of Agriculture Market News report; Exhibits CAN-35, CAN-68, CAN-81
650 lb. Canadian feeder cattle price basis	Weekly price basis for 650 lb. Canadian feeder cattle (CAD/lb)	CanFax; United States Department of Agriculture Market News report; Exhibits CAN-35, CAN-68, CAN-81
750 lb. Canadian feeder cattle price basis	Weekly price basis for 750 lb. Canadian feeder cattle (CAD/lb)	CanFax; United States Department of Agriculture Market News report; Exhibits CAN-35, CAN-68, CAN-81
850 lb. Canadian feeder cattle	Weekly price basis for 850 lb. Canadian feeder cattle (CAD/lb)	CanFax; United States Department of Agriculture Market News report; Exhibits CAN-35, CAN-68, CAN-81
Canadian fed steers price basis	Weekly price basis for Canadian fed steers (CAD/lb)	CanFax; United States Department of Agriculture Market News report; Exhibits CAN-35, CAN-68, CAN-81
Smaller Canadian feeder pigs price basis	Monthly price basis for smaller Canadian feeder pigs (CAD/head)	United States Department of Agriculture Market News report; Exhibit CAN-82
Monthly basis for larger Canadian feeder pigs	Monthly price basis for larger Canadian feeder pigs (CAD/head)	United States Department of Agriculture Market News report; Exhibit CAN-82
Canadian fed hogs price basis	Weekly price basis for Canadian fed hogs (CAD/lb)	Bank of Canada; United States Department of Agriculture Market News report; Exhibit CAN-69
Exchange rate	Weekly exchange rate (USD/CAD)	Bank of Canada; Exhibits CAN-68, CAN-69, CAN-81, CAN-82
Drought	Percentage of area in Texas subject to severe to extreme and exceptional drought	National Drought Mitigation Center; Exhibits CAN-68, CAN-81
Diesel price	Weekly diesel retail price (USD per Gallon)	United States Energy Information Administration; Exhibit USA-61B
Difference in unemployment between the USA and Mexico	Difference between the United States and Mexico national monthly unemployment rates	Bureau of Labor Statistics; Instituto Nacional De Estadistica Y Geographica; Exhibit MEX-43
Difference in unemployment between the USA and Canada	Difference between the United States and Canada national monthly unemployment rates	Bureau of Labor Statistics; Statistics Canada; Exhibits CAN-68, CAN-69, CAN-81, CAN-82
US corn price	Nearest expiring futures price of corn in the US market (USD per bushel)	Quandl.com; Exhibits CAN-68, CAN-69, CAN-81, CAN-82; MEX-43
US imports of Canadian feeder cattle	US imports of feeder cattle from Canada	United States Department of Agriculture Market News report; Exhibits CAN-35, CAN-68, CAN-81
US imports of Mexican feeder cattle	US imports of feeder cattle from Mexico	United States Department of Agriculture Economic Research Service; Exhibits MEX-30, MEX-43
PEDV cases 12 weeks previously	Number of cases of porcine epidemic diarrhea virus (PEDV) in the United States 12 weeks previously (4 weeks moving average)	American Association of Swine Veterinarians; Exhibit CAN-69

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[23] See Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, and USA-61B.

Variable name	Variable description	Data sources[23]
Original COOL measure	Original COOL measure dummy taking the value of 1 after 29 September 2008	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
Amended COOL measure (23 May 2013)	Amended COOL measure dummy taking the value of 1 after 23 May 2013 (for small/medium feeder livestock)	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82
Amended COOL measure (1 July 2013)	Amended COOL measure dummy taking the value of 1 after 1 July 2013 (for large feeder livestock)	Exhibits CAN-35, CAN-68, CAN-81
Amended COOL measure (2 November 2013)	Amended COOL measure dummy taking the value of 1 after 2 November 2013 (for fed livestock)	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
Reopening of US border following BSE ban	Reopening of US border to Canada cattle over 30 months old following the BSE ban	Exhibits CAN-35 CAN-68, CAN-81
SRM regulation	Dummy variable for Canada's specified risk material (SRM) regulation	Exhibits CAN-35 CAN-68, CAN-81
Maple Leafs plant closing	Dummy variable for the closing of Maple Leafs plant	Exhibits CAN-36, CAN-69, CAN-82
US recession	Dummy variable for the US recession	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, USA-56, USA-61B
January	Dummy variable for the month of January	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
February	Dummy variable for the month of February	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
March	Dummy variable for the month of March	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
April	Dummy variable for the month of April	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
May	Dummy variable for the month of May	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
June	Dummy variable for the month of June	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
July	Dummy variable for the month of July	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
August	Dummy variable for the month of August	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
September	Dummy variable for the month of September	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
October	Dummy variable for the month of October	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
November	Dummy variable for the month of November	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B
December	Dummy variable for the month of December	Exhibits CAN-35, CAN-36, CAN-68, CAN-69, CAN-81, CAN-82, MEX-30, MEX-43, USA-61B

Table 2: Canada's econometric results on cattle's price basis[†]

	450 lb. feeder cattle's weekly price basis	550 lb. feeder cattle's weekly price basis	650 lb. feeder cattle's weekly price basis	750 lb. feeder cattle's weekly price basis	850 lb. feeder cattle's weekly price basis	Fed cattle's weekly price basis
Lagged dependent variable	0.488***	0.735***	0.630***	0.594***	0.631***	0.752***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Original COOL measure	0.0214	0.00347	0.0163	0.00399	0.00365	-0.0128**
	(0.398)	(0.849)	(0.314)	(0.762)	(0.734)	(0.038)
Amended COOL measure (23 May 2013)	-0.206***	-0.0936***	-0.0857***			
	(0.000)	(0.000)	(0.000)			
Amended COOL measure (1 July 2013)				-0.0648***	-0.0431***	
				(0.000)	(0.000)	
Amended COOL measure (2 November 2013)						-0.00789*
						(0.065)
Change in exchange rate	1.216***	1.592***	1.219***	1.354***	1.244***	0.870***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Reopening of US border following BSE ban	0.0591*	0.0301	0.0301	0.0460**	0.0364**	0.0197**
	(0.093)	(0.233)	(0.174)	(0.012)	(0.016)	(0.029)
SRM regulation in Canada	-0.00245	-0.00701	-0.0129	-0.0171	-0.0126	-0.000145
	(0.915)	(0.674)	(0.377)	(0.155)	(0.203)	(0.981)
Diesel retail price	0.0136	0.00247	0.00730	0.000949	0.00189	-0.00182
	(0.195)	(0.738)	(0.269)	(0.861)	(0.666)	(0.483)
Change in diesel retail price	0.225***	0.0929*	0.0654	0.0566	0.0254	0.0224
	(0.004)	(0.097)	(0.184)	(0.170)	(0.450)	(0.285)
Change in unemployment rate difference between the US and Canada	0.0827*	0.0268	0.0446	0.0252	0.0553***	0.00977
	(0.081)	(0.433)	(0.138)	(0.307)	(0.006)	(0.406)
US recession	-0.0579***	-0.0238*	-0.0252**	-0.0263***	-0.0211**	-0.00452
	(0.003)	(0.083)	(0.037)	(0.008)	(0.010)	(0.332)
Change in corn near term futures price	0.00569	0.0192	0.0277**	0.0153	0.0242***	-0.00183
	(0.800)	(0.231)	(0.047)	(0.187)	(0.010)	(0.756)
Change in drought areas in Texas	2.50e-05	0.00131*	0.000403	0.000230	-7.89e-06	-0.000309
	(0.980)	(0.076)	(0.524)	(0.657)	(0.985)	(0.235)
Change in export volumes of Mexican feeder cattle	-1.94e-07	1.20e-07	8.84e-08	2.24e-09	2.29e-08	
	(0.498)	(0.561)	(0.624)	(0.988)	(0.851)	
February	0.0163	-0.00439	-0.000345	-0.00244	-0.00507	-0.00202
	(0.533)	(0.817)	(0.984)	(0.858)	(0.651)	(0.714)
March	0.0285	-0.00430	0.000534	-0.00497	-0.00745	0.00337
	(0.277)	(0.820)	(0.974)	(0.712)	(0.502)	(0.538)

	450 lb. feeder cattle's weekly price basis	550 lb. feeder cattle's weekly price basis	650 lb. feeder cattle's weekly price basis	750 lb. feeder cattle's weekly price basis	850 lb. feeder cattle's weekly price basis	Fed cattle's weekly price basis
April	0.0216	-0.000569	0.00503	-0.00154	-0.00675	0.00486
	(0.412)	(0.976)	(0.765)	(0.910)	(0.546)	(0.376)
May	0.0325	0.0163	0.00910	0.000474	-0.0152	0.00770
	(0.220)	(0.400)	(0.593)	(0.973)	(0.177)	(0.166)
June	0.0308	-0.000886	0.0105	-0.0136	-0.0174	0.0116**
	(0.294)	(0.965)	(0.548)	(0.328)	(0.117)	(0.039)
July	0.0677**	0.0225	0.00347	-0.00106	-0.0108	0.00633
	(0.015)	(0.255)	(0.838)	(0.939)	(0.335)	(0.268)
August	0.0174	-0.00272	-0.00567	-0.00661	-0.00828	0.00222
	(0.516)	(0.887)	(0.732)	(0.624)	(0.455)	(0.688)
September	0.0693**	0.0168	0.0143	-0.000677	-0.00974	-0.00750
	(0.010)	(0.384)	(0.395)	(0.961)	(0.386)	(0.165)
October	0.0717***	0.0225	0.00705	-0.00289	-0.0155	0.00113
	(0.008)	(0.243)	(0.671)	(0.830)	(0.159)	(0.839)
November	0.0526*	-0.00841	-0.0134	-0.0212	-0.0289***	0.00399
	(0.051)	(0.661)	(0.419)	(0.115)	(0.009)	(0.460)
December	0.0196	-0.0104	-0.00729	-0.0150	-0.0255**	0.00673
	(0.464)	(0.590)	(0.666)	(0.276)	(0.025)	(0.217)
Constant	-0.224***	-0.0697**	-0.0911***	-0.0664***	-0.0571***	-0.0261***
	(0.000)	(0.016)	(0.000)	(0.002)	(0.001)	(0.002)
Observations	413	425	433	429	434	449
Adjusted R-squared	0.761	0.851	0.767	0.732	0.752	0.755

[†] Note: The p-values are reported in parenthesis.
*** p-value<0.01, ** p-value<0.05, * p-value<0.1.

Table 3: Canada's econometric results on pigs' price basis[†]

	Small feeder pigs' monthly price basis	Large feeder pigs' monthly price basis	Fed hogs' weekly price basis
Lagged dependent variable	0.688***	0.751***	0.781***
	(0.000)	(0.000)	(0.000)
Original COOL measure	-0.214	-0.0872	-0.00592***
	(0.775)	(0.965)	(0.005)
Amended COOL measure (23 May 2013)	-1.620**	-5.680***	
	(0.024)	(0.007)	
Amended COOL measure (2 November 2013)			-0.0113***
			(0.000)
Change in exchange rate	-3.918	17.37	0.821***
	(0.751)	(0.591)	(0.000)
Maple Leafs plant closing	0.0844	-1.177	0.00207

	Small feeder pigs' monthly price basis	Large feeder pigs' monthly price basis	Fed hogs' weekly price basis
	(0.931)	(0.645)	(0.440)
Diesel retail price	0.373	1.104	-0.00162
	(0.366)	(0.288)	(0.124)
Change in diesel retail price	-0.544	1.184	-0.00715
	(0.709)	(0.758)	(0.484)
Change in unemployment rate difference between the US and Canada	-0.590	2.596	0.000660
	(0.591)	(0.366)	(0.913)
US recession	-0.999	1.835	0.00120
	(0.175)	(0.329)	(0.532)
Change in corn near term futures price	1.066*	2.140	-0.00233
	(0.063)	(0.160)	(0.442)
Change in PEDV cases 12 weeks previously	0.000726	-0.0486	-0.000184
	(0.958)	(0.183)	(0.187)
February	1.214	1.070	-0.00151
	(0.203)	(0.668)	(0.577)
March	1.651*	0.632	-0.00146
	(0.091)	(0.806)	(0.583)
April	1.961**	3.504	-0.00147
	(0.047)	(0.178)	(0.583)
May	1.803*	10.11***	0.00121
	(0.068)	(0.000)	(0.649)
June	0.761	9.420***	-0.00276
	(0.441)	(0.000)	(0.302)
July	1.131	9.493***	-0.00238
	(0.264)	(0.000)	(0.375)
August	1.719*	9.374***	0.00254
	(0.082)	(0.000)	(0.344)
September	1.029	8.056***	-0.00183
	(0.301)	(0.003)	(0.501)
October	-0.0128	2.863	0.00101
	(0.990)	(0.281)	(0.706)
November	-0.0936	3.241	0.00184
	(0.922)	(0.210)	(0.492)
December	-0.481	-2.002	0.00375
	(0.618)	(0.434)	(0.162)
Constant	-3.215**	-10.98***	-0.0192***
	(0.021)	(0.001)	(0.000)
Observations	132	132	565
Adjusted R-squared	0.634	0.830	0.880

[†] Note: The p-values are reported in parenthesis.
*** p-value<0.01, ** p-value<0.05, * p-value<0.1.

Table 4: Mexico's econometric estimation results on cattle's price basis[†]

	350 lb. feeder cattle's price basis	550 lb. feeder cattle's price basis
Lagged dependent variable	0.210***	0.147***
	(0.000)	(0.004)
Original COOL measure	-0.0970***	-0.0917***
	(0.000)	(0.000)
Amended COOL measure (2 November 2013)	-0.0246**	0.00848
	(0.041)	(0.447)
Change in diesel retail price	-0.00247	-0.0383
	(0.971)	(0.574)
Change in unemployment rate difference	-0.0177	0.0239
	(0.436)	(0.269)
US recession	-0.0215*	-0.0119
	(0.068)	(0.325)
Change in corn near term futures price	0.0134	0.00988
	(0.520)	(0.611)
Change in export volumes of Canadian feeder cattle	-0.00133	0.000549
	(0.146)	(0.537)
Change in drought areas in Texas	3.94e-07	6.49e-07
	(0.839)	(0.727)
February	0.0362	0.0144
	(0.123)	(0.519)
March	0.0488**	0.0204
	(0.037)	(0.358)
April	0.0580**	0.0255
	(0.014)	(0.256)
May	0.0750***	0.0345
	(0.002)	(0.125)
June	0.0739***	0.0340
	(0.002)	(0.129)
July	0.0627***	0.0272
	(0.009)	(0.228)
August	0.0268	0.0531**
	(0.254)	(0.018)
September	0.0578**	0.0761***
	(0.015)	(0.001)
October	0.0787***	0.0797***
	(0.001)	(0.001)
November	0.0710***	0.0733***
	(0.002)	(0.001)

	350 lb. feeder cattle's price basis	550 lb. feeder cattle's price basis
December	0.00667	0.0131
	(0.781)	(0.566)
Constant	-0.0701***	-0.100***
	(0.001)	(0.000)
Observations	421	416
Adjusted R-squared	0.449	0.377

[†]Note: The p-values are reported in parenthesis.
*** p-value<0.01, ** p-value<0.05, * p-value<0.1.

EXPORT SUPPLY ELASTICITY CALCULATIONS[24]

Table 5: Computation of Canada's export supply elasticities of feeder cattle

Definition of export share	Export share	Demand elasticity	Supply elasticity	Export supply elasticity[25]
$\dfrac{\text{Feeder cattle export}}{\text{Slaughtered cattle + Feeder and fed cattle export}}$ [26]	0.15	-0.14	0.22	2.33
$\dfrac{\text{Feeder cattle export}}{\text{Slaughtered cattle + Feeder cattle export}}$ [27]	0.14	-0.14	0.22	2.49
$\dfrac{\text{Feeder and fed cattle export}}{\text{Calf crop production}}$ [28]	0.19	-0.14	0.22	1.71
			Average	**2.18**

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[24] For each definition of export share submitted by the parties, the computation uses the data and corresponding baseline period provided by each party in connection with its definition of the export share.

[25] The export supply elasticity is computed as $[(\varepsilon_s - \eta\,(1 - \omega)] / \omega$, where ε_s is the supply elasticity in the domestic market of livestock, η is the demand elasticity in the domestic market of livestock, and ω is the export share of livestock in the domestic supply.

[26] See Canada's response to Arbitrator question No. 31, paras. 91-94. Data taken from Exhibit CAN-63. Baseline period's export share: July 2014-June 2015.

[27] See United States' response to Arbitrator question No. 46, para. 87. Data taken from United States' response to Arbitrator question No. 46, para. 87 and Exhibit USA-3. Baseline period's export share: January 2014-December 2014.

[28] See United States' response to Arbitrator question No. 31, para. 121. Data taken from Exhibit USA-51. Baseline period's export share: January 2014-December 2014.

Table 6: Computation of Canada's export supply elasticities of fed cattle

Definition of export share	Export share	Demand elasticity	Supply elasticity	Export supply elasticity[29]
$\dfrac{\text{Fed cattle export}}{\text{Slaughtered cattle + Feeder and fed cattle export}}$ [30]	0.10	-0.40	0.26	6.50
$\dfrac{\text{Fed cattle export}}{\text{Slaughtered cattle + Fed cattle export}}$ [31]	0.12	-0.40	0.26	5.30
$\dfrac{\text{Feeder and fed cattle export}}{\text{Calf crop production}}$ [32]	0.19	-0.40	0.26	3.00
			Average	**4.93**

Table 7: Computation of Canada's export supply elasticities of feeder pigs

Definition of export share	Export share	Demand elasticity	Supply elasticity	Export supply elasticity[33]
$\dfrac{\text{Feeder pigs export}}{\text{Slaughtered hogs + Feeder pigs and fed hogs export}}$ [34]	0.16	-0.32	0.64	5.56
$\dfrac{\text{Feeder pigs export}}{\text{Slaughtered hogs + Feeder pigs export}}$ [35]	0.17	-0.32	0.64	5.38
$\dfrac{\text{Feeder pigs and fed hogs export}}{\text{Pig crop production}}$ [36]	0.18	-0.32	0.64	5.01
			Average	**5.32**

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[29] The export supply elasticity is computed as $[(\varepsilon_s - \eta\,(1-\omega)]/\omega$, where ε_s is the supply elasticity in the domestic market of livestock, η is the demand elasticity in the domestic market of livestock, and ω is the export share of livestock in the domestic supply.

[30] See Canada's response to Arbitrator question No. 31, paras. 91-94. Data taken from Exhibit CAN-63. Baseline period's export share: July 2014-June 2015.

[31] See United States' response to Arbitrator question No. 46, para. 87. Data taken from United States' response to Arbitrator question No. 46, para. 87 and Exhibit USA-3. Baseline period's export share: January 2014-December 2014.

[32] See United States' response to Arbitrator question No. 31, para. 121. Data taken from Exhibit USA-51. Baseline period's export share: January 2014-December 2014.

[33] The export supply elasticity is computed as $[(\varepsilon_s - \eta\,(1-\omega)]/\omega$, where ε_s is the supply elasticity in the domestic market of livestock, η is the demand elasticity in the domestic market of livestock, and ω is the export share of livestock in the domestic supply.

[34] See Canada's response to Arbitrator question No. 31, paras. 95-97. Data taken from Exhibit CAN-63. Baseline period's export share: July 2014-June 2015.

[35] See United States' response to Arbitrator question No. 46, para. 87. Data taken from Exhibit USA-3 and Exhibit CAN-67. Baseline period's export share: January 2014-December 2014.

[36] See United States' response to Arbitrator question No. 31, para. 121. Data taken from Exhibit USA-51. Baseline period's export share: January 2014-December 2014.

Table 8: Computation of Canada's export supply elasticities of fed hogs

Definition of export share	Export share	Demand elasticity	Supply elasticity	Export supply elasticity[37]
$\dfrac{\text{Fed hogs export}}{\text{Slaughtered hogs + Feeder pigs and fed hogs export}}$ [38]	0.021	-0.51	0.41	40.40
$\dfrac{\text{Fed hogs export}}{\text{Slaughtered hogs + Fed hogs export}}$ [39]	0.036	-0.51	0.41	24.91
$\dfrac{\text{Feeder pigs and fed hogs export}}{\text{Pig crop production}}$ [40]	0.180	-0.51	0.41	4.62
			Average	**23.31**

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[37] The export supply elasticity is computed as $[(\varepsilon_s - \eta\,(1-\omega)]/\,\omega$, where ε_s is the supply elasticity in the domestic market of livestock, η is the demand elasticity in the domestic market of livestock, and ω is the export share of livestock in the domestic supply.

[38] See Canada's response to Arbitrator question No. 31, paras. 95-97. Data taken from Exhibit CAN-63. Baseline period's export share: July 2014-June 2015.

[39] See United States' response to Arbitrator question No. 46, para. 87. Data taken from Exhibit USA-3 and Exhibit CAN-67. Baseline period's export share: January 2014-December 2014.

[40] See United States' response to Arbitrator question No. 31, para. 121. Data taken from Exhibit USA-51. Baseline period's export share: January 2014-December 2014.

Table 9: Computation of Mexico's export supply elasticities of feeder cattle

Definition of export share	Export share	Demand elasticity	Supply elasticity	Export supply elasticity[41]
$\dfrac{\text{Feeder cattle export}}{\text{Eligible beef crop}}$ [42]	0.75	-0.14	0.22	0.34
$\dfrac{\text{Feeder cattle export}}{\text{Total beef crop}}$ [43]	0.23	-0.14	0.22	1.41
$\dfrac{\text{Feeder cattle export}}{\text{Eligible beef crop export}}$ [44]	1.00	-0.14	0.22	0.22
$\dfrac{\text{Feeder cattle export}}{\text{Calf crop (production)}}$ [45]	0.17	-0.14	0.22	2.04
$\dfrac{\text{Feeder cattle export}}{\text{Total cattle population}}$ [46]	0.04	-0.14	0.22	8.56
			Average	**2.52**

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[41] The export supply elasticity is computed as $[(\varepsilon_s - \eta \, (1- \omega)]/ \, \omega$, where ε_s is the supply elasticity in the domestic market of livestock, η is the demand elasticity in the domestic market of livestock, and ω is the export share of livestock in the domestic supply.

[42] See Mexico's methodology paper, Pouliot Study, pp. 19-21. Data taken from Exhibit MEX-2.

[43] See Mexico's response to Arbitrator question No. 18, paras. 56-60. Data taken from Exhibit MEX-2.

[44] See Mexico's response to Arbitrator question No. 18, paras. 56-60. Data taken from Exhibit MEX-2.

[45] See United States' response to Arbitrator question No. 31, para. 121. Data taken from Exhibit USA-51.

[46] See Mexico's response to Arbitrator question No. 31, para. 88. Data taken from Exhibit MEX-2.