INDIA – MEASURES CONCERNING THE IMPORTATION OF CERTAIN AGRICULTURAL PRODUCTS: RECOURSE TO ARTICLE 22.6 OF THE DSU BY INDIA

(DS430)

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Double brackets ("[[ ]]") indicate where
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I. INTRODUCTION

1. India agrees with the United States that the proper way to determine the level of nullification or impairment in this dispute is to calculate the price wedge that resulted from India's WTO-inconsistent import ban on U.S. poultry products, and then use a partial equilibrium model to determine the trade effect that removing the price wedge would have. India also agrees with the United States on the proper way to perform those calculations. What the parties disagree about—and therefore the only things that the Arbitrator must decide—are 1) the inputs used to determine the price wedge and in the partial equilibrium model, and 2) whether the authorized suspension of concessions should increase each year to recognize the increasing trade effect India's WTO-inconsistent import ban has on U.S. poultry exports. India's arguments on these two points are unfounded, and the suspension of concessions should be calculated based on the formula in the Methodology Paper of the United States ("Methodology Paper"), with the first year's suspension valued at no less than $478.1 million.

2. India spends much of its submission discussing factors it believes will limit Indian demand for frozen chicken leg quarters ("CLQs") imported from the United States: lack of cold chain capacity (including low consumer refrigerator ownership and unreliable electricity supply), purported Indian preference for fresh chicken meat, and a large vegetarian population in India. But India makes little attempt to quantify the impact that these factors would have on demand for CLQs. And, in any event, the Methodology Paper already took these factors into account by focusing on the processed poultry market in India, rather than the Indian poultry market in general. The processed poultry market relies on cold chain, and its main drivers of growth—restaurants and other institutional businesses—drive cold chain development as their demand for processed poultry products increases. Also, even assuming that Indians do prefer fresh poultry meat, that does not necessarily mean that they will forgo purchasing less expensive frozen CLQs.

3. Importantly, India's analysis completely fails to address the fact that the level of suspension of concessions discussed in the Methodology Paper is in reality smaller than the level of nullification or impairment that results from India's WTO-inconsistent import ban. The Methodology Paper only analyzes the effect that India's ban has with respect to CLQs, while the import ban prohibits the importation of *all* poultry products. India's silence on this point is telling.

4. India first argues that the Methodology Paper incorrectly interprets the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU") in two ways: first, by calculating the level of nullification or impairment resulting from India's WTO-inconsistent import ban with reference to calendar year 2016, as opposed to the twelve-month period following the expiration of the reasonable period of time to comply ("the RPT"); and second, by using a formula, rather than a fixed value, to establish the level of suspension of concessions, to reflect that the level of nullification or impairment will increase over time. Both of these complaints are baseless, as neither the text of the DSU nor prior arbitrator decisions support India's position.

5. India then purports to re-calculate the level of nullification or impairment as $15 million. It bases this new value, in part, on its arguments that the United States overstated both the share of the Indian poultry market that would be served by CLQs, and the demand that Indians would have for CLQs if they were available. But India's new figures are not based on academic literature or econometric analysis; indeed, they are contrary to the available sources. India also purports to recalculate the cost of shipping CLQs from the United States to India, but it uses a method that is highly flawed, and relies on a subset of data that appears selected only to maximize the calculated shipping charges. The Arbitrator can safely reject this analysis.

6. But all of this should not overlook the key fact that India's WTO-inconsistent measure prohibits *all* imports of poultry products, not just CLQs. The conservative estimate of $478.1 million as the level of nullification or impairment identified in the Methodology Paper likely vastly understates the actual trade effect of India's import ban, both specific to CLQs and the poultry market as a whole. India's attempt to distract attention with discussions of cold chain capacity, food safety, and Indian consumer preference should be rejected.

II. INDIA'S INTERPRETATION OF THE DSU IS UNFOUNDED

7. India argues that the Methodology Paper contains two legal errors: 1) that the level of nullification or impairment can be measured with reference to calendar year 2016, and 2) that the total level of nullification or impairment—and therefore the level of suspension of concessions—can be determined as a formula, rather than a fixed number. India is wrong on both points; the Methodology Paper is consistent with the text of the DSU, as well as past decisions from arbitrators evaluating issues under DSU Article 22.6.

A. The DSU Does Not Mandate Measuring the Level of Nullification or Impairment by the 12-Month Period Starting When the RPT Expires

8. India and the United States agree that the level of nullification or impairment—and therefore the proper level of suspension of concessions and other obligations—should be measured over the course of one year.[1] The parties disagree, however, on which year to measure. The Methodology Paper estimates the level of nullification or impairment resulting from India's import ban by analyzing calendar year 2016. India argues instead that the proper period to analyze is the twelve-month period following the expiration of the RPT, July 2016 through June 2017.

9. India's position is without legal basis. This is most evident from the fact that India cites no provision of the DSU or arbitrator's decision to support its assertion. India does not do this because it cannot; the DSU is silent on the proper method to calculate the level of suspension of concessions and other obligations, requiring only that it is "equivalent to the level of nullification

[1] First Written Submission of India, para. 34 ("India agrees [with the United States] that the short-term assessment of the counterfactual should be one year.").

or impairment."[2] Indeed, India's position is *contrary* to the text of DSU. Article 22.6 mandates that arbitrations "shall be completed within 60 days after the date of the expiry of the reasonable period of time." If India's approach were correct, and the *only* reference period for determining the level of nullification or impairment were the twelve-month period following the expiration of the RPT, then it would be impossible to comply with the 60 day deadline in the DSU. The DSU contemplates that the common situation is one where, as a result of a complaining party requesting authorization to suspend concessions immediately after the expiry of the RPT, the Article 22.6 arbitration commences immediately and is concluded no later than 60 days after the expiry of the RPT. Obviously, in this situation no arbitrator would have 12 months of data following the expiry of the RPT. And just as obviously, there is no legal basis for India's approach.

10. Even if India's position were not contrary to the plain language of the DSU (it is), there still would be no reason for the Arbitrator to adopt India's position. Previous arbitrations have determined that the level of suspension must "be a reasoned estimate."[3] Further, these estimates must "rely, as much as possible, on credible, factual, and verifiable information."[4] The question before the Arbitrator, therefore, is which period—calendar year 2016, or July 2016 through June 2017—has more "credible, factual, and verifiable information" that the Arbitrator can use to make a "reasoned estimate" of the level of nullification and impairment. The United States used calendar year 2016, and only CLQs, because the data for that year and for that product are readily available. India offers no reason why using calendar year 2016 would not reasonably estimate the level of nullification or impairment, so there is no reason for the Arbitrator to disregard that data.

11. But, India is correct that the twelve-month period following the expiration of the RPT may be used by the Arbitrator. And, consistent with the Arbitrator's mandate to make a reasoned estimate based on credible information, some estimates and other data are available for that period. India identifies some of that data in its submission; it adjusts the U.S. model to reflect a slight increase in the cost of CLQs exported from the United States.[5] But other variables can be adjusted as well. The Indian price of leg pieces increased slightly during that period from $2.83 per kilogram to $2.87 per kilogram.[6] Exchange rates changed. Additionally, the estimated size of the Indian poultry market increased from just under 4.2 million metric tons to just under 4.3

[2] DSU Article 22.4.

[3] *EC – Hormones (US) (Article 22.6 – EC)*, para. 41.

[4] *US – 1916 Act (EC) (Article 22.6 – US*), para. 5.54.

[5] First Written Submission of India, paras. 64–66.

[6] Exhibit US-32. As with the Methodology Paper, these prices were taken from the Murga market in Delhi, as posted at the website www.poultrybazaar.com.

million metric tons.[7] As a result, the estimated size of the Indian processed poultry market increased from 629,400 metric tons to 644,475 metric tons.

12. Using these updated values in the calculations outlined in the Methodology Paper leads to an *increase* in the estimated level of nullification or impairment to **$493.5 million**.[8] If the Arbitrator chooses to use the reference period from July 2016 through June 2017, the level of suspension of concessions should be calculated based on this initial value.

B. The DSU Does Not Prohibit the Arbitrator from Basing the Suspension of Concessions on a Formula Rather than a Fixed Number

13. India also argues that the Arbitrator must determine the level of nullification or impairment—and therefore the level of suspension of concessions—as a fixed number, rather than a formula.[9] This is not correct. Neither the DSU nor subsequent arbitrator decisions indicate that the Arbitrator should not base the level of suspension of concessions on a formula.

14. Indeed, just the opposite is true. As the arbitrator in *US – Continued Dumping and Subsidy Offset Act of 2000* ("*Offset Act*") clearly put it, there is "no limitation in the DSU to the possibility of providing for a variable level of suspension if the level of nullification or impairment also varies."[10] Similarly, the arbitrator in *US – Antidumping Act of 1916*, in determining a level of suspension of concessions according to a formula that would vary over time, rejected the assertion that the complaining party's "right to suspend obligations must be frozen in time as of the date it made the request under DSU Article 22.2."[11]

15. This of course makes perfect sense given that under Article 22.4 of the DSU, the level of suspension of concessions "is" to be equivalent to the level of nullification or impairment. The use of the present tense "is" indicates that the level of suspension of concessions may need to be determined in a manner that allows it to continue to be equivalent to the level of nullification or impairment.

16. Furthermore, "a fundamental objective of the suspension of concessions is to induce compliance" by the other party, while avoiding the imposition of punitive measures.[12] Ideally,

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[7] Exhibit US-33. Because USDA estimates are for years rather than months, the 4.296 million metric ton estimate represents the average of the estimates for 2016 and 2017.

[8] This calculation is explained further in Exhibit US-48.

[9] First Written Submission of India, para. 43.

[10] *US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)*, para. 4.20.

[11] *US – 1916 Act (EC) (Article 22.6 – US*), para. 6.14.

[12] *US – 1916 Act (EC) (Article 22.6 – US*), paras. 5.7, 5.8.

the suspension of concessions should adjust in tandem with the level of nullification or impairment to continue inducing compliance. And, contrary to India's implication that the DSU disfavors applying a formula as opposed to a fixed level of suspension, arbitrators have authorized suspension based on a formula when the parties request it.[13] None of the complaining parties in the arbitrations cited by India requested that the level of suspension be set by formula, so none were.[14] That does not mean that doing so is impermissible under the DSU.

17. India's argument is similar to the argument the arbitrator rejected in *US – Offset Act (Brazil) (Article 22.6 – US)*. There the United States argued, as India does here, that "the DSU does not permit a requesting party to alter the level of suspension in the future."[15] The arbitrator rejected this argument, finding that as long as the approved level of suspension was equivalent to the level of nullification or impairment, there was no "reason why these levels may not be adjusted from time to time, provided such adjustments are justified and unpredictability is not increased as a result."[16]

18. Here, the requested "adjustments" in the Methodology Paper are both justified and do not increase unpredictability. They are justified for the same reason that the arbitrator in *Offset Act* found them justified; given the substantial growth anticipated in the processed poultry market, failure to make adjustments would mean that the authorized level of suspension of concessions would no longer be equivalent to the level of nullification or impairment, as required by the DSU. Furthermore, such an imbalance would erode the incentive for India to bring its behavior into compliance. As the *Offset Act* arbitrator noted:

> it is possible that the level of suspension of concessions or other obligations would become, as time goes by, significantly less than the actual level of nullification or impairment resulting from the continued application [of the WTO-inconsistent conduct] . . . . In other words, the cost of the violation . . . could decrease. In such a case, the incentive to comply would most probably decrease too.[17]

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[13] *See, e.g.*, *US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)*, para. 3.58 (summarizing the requesting parties' position that the level of nullification or impairment can be determined by using an economic model based on future payments made under the WTO-inconsistent measure); *US – Upland Cotton (Article 22.6 – US I)*, paras. 4.1–4.5 (summarizing Brazil's request to set a variable level of suspension of concessions).

[14] *EC – Hormones (US) (Article 22.6 – EC)*, para. 30 (summarizing United States calculation setting level of nullification or impairment at $140 million, in part because imports were limited by a tariff rate quota); *US – COOL (Article 22.6)*, paras. 3.3–3.4 (noting Canada and Mexico both calculate the level of nullification or impairment as a fixed dollar amount); *US – Tuna II (Mexico) (Article 22.6)*, para. 5.3 (noting Mexico's estimate of the level of nullification or impairment is a fixed dollar amount).

[15] *US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)*, para. 4.17.

[16] *US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)*, para. 4.20.

[17] *US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)*, para. 4.25.

19. And the request to increase the authorized suspension by a fixed percentage every year in recognition of the anticipated growth rate of India's processed poultry market in no way increases unpredictability; rather, India (and other Members) will have clear notice of the authorized level of suspension of concessions and of the potential trade consequences of its maintenance of WTO-inconsistent measures.

20. Importantly, increasing the level of suspension of concessions each year would help ensure that the level of suspension of concessions is no more than equivalent to the actual level of nullification or impairment. As discussed in the Methodology Paper, and repeated above, the Methodology Paper calculates the level of nullification or impairment only for CLQs, which is less than the actual nullification or impairment resulting from India's import ban on all poultry products. Indeed, India claims that the level of nullification or impairment of the trade of CLQs is only 5% of the total poultry market that is affected by the import ban. So, unless the Arbitrator assumes a growth rate that is substantially higher than the actual growth rate, the level of suspension of concessions should not exceed the level of nullification or impairment.

21. Regardless of whether the authorized level of suspension of concessions is fixed or variable, it will always represent the arbitrator's reasoned estimate of the future level of nullification or impairment resulting from the WTO-inconsistent measure. As noted in the Methodology Paper, and further explained above, the best way to help ensure equivalency between the level of suspension of concessions and the level of nullification or impairment in this case is to determine a level of suspension of concessions that reflects the anticipated growth in India's market over time. As a result, India's argument that the DSU requires the level of suspension be a fixed number should be rejected, and the level of suspension of concessions to be authorized should be determined consistent with the formula outlined in the Methodology Paper.

III. INDIA'S CRITICISMS OF THE INPUTS INTO THE PRICE-WEDGE MODEL ARE WITHOUT MERIT

22. In addition to its legal arguments, India takes issue with a number of the inputs the United States used when calculating the level of nullification or impairment. Specifically, it claims that the United States overestimated the size of the processed poultry market in India, overestimated the demand elasticity for processed poultry, and failed to properly calculate the freight and insurance costs that would be incorporated into the price Indians would pay if they were allowed to purchase imported poultry. All of India's criticisms are undermined by relevant data and academic literature, as discussed further below.

23. Moreover, India attempts to justify these first two criticisms by describing in great detail the limitations on India's cold chain infrastructure, lack of reliable electricity supply, and Indian

consumers' purported preference for fresh poultry meat.[18] But the United States already took these factors into account in the Methodology Paper by focusing on the processed poultry market in India, rather than the Indian poultry market in general. The processed poultry market relies on cold chain, and its main drivers of growth—restaurants and other institutional businesses—drive cold chain development as their demand increases. Also, even assuming that Indians do prefer fresh poultry meat, that does not necessarily mean that they will forgo purchasing frozen CLQs that are less expensive. These reasons alone are sufficient to dismiss India's proposed inputs to the economic model. In addition, India also failed to sufficiently quantify how these factors would affect the level of nullification or impairment calculations as India claims.

24. Similarly, India's recalculation of freight and insurance costs for shipping CLQs to India is based on a flawed methodology and flawed data.

25. India's proposed recalculation should be disregarded.

A. India Fails to Link Its General Observations About Cold Chain Capacity and Consumer Preference to the Calculated Level of Nullification or Impairment

26. India's First Written Submission is based on a fundamental misperception. India appears to believe that the economic model in the Methodology Paper was based on the Indian poultry market in general. But this is not correct. The economic model in the Methodology Paper focused on the processed poultry market in India, not the overall poultry market. Therefore, all of India's discussion of the limited cold storage facilities in India, limited refrigerator capacity, frequent electricity power outages, and health risks related to selling frozen meat in traditional outdoor markets without cold chain facilities misses the point. The economic model already took all of these into account by focusing on the existing processed poultry market, a market where these factors are not relevant because they have already been addressed.

27. The growth in the processed poultry sector is driven in part by expansion of the quick service restaurants (QSRs) and hotel, restaurant, and institutional (HRI) businesses.[19] The QSRs and HRI businesses use and rely on existing cold chain infrastructure. As they grow, the cold chain infrastructure grows with them.[20] Growth in these sectors is in turn driven by "India's

[18] First Written Submission of India, paras. 7–22. India also argues that, because the United States used calendar year 2016 rather than July 2016 through June 2017, the Methodology Paper used an artificially low price for CLQs from the United States. *Id.*, paras. 64–66. As discussed above, Section II.A, *supra*, even if India were correct as a matter of DSU interpretation (it is not), using this period would *increase* the estimate of the level of nullification or impairment in the first year to over **$493.5 million**. *See* Exhibit US-48.

[19] *See, e.g.*, Methodology Paper, para. 12; "Chicken consumption growing at 12%, making India one of the fastest growing markets" (Exhibit US-34) ("Indians are eating more chicken — in the form of nuggets, wings, sandwiches and wraps — than burgers, having outpaced the category in the quick-service restaurant (QSR) market.").

[20] *See, e.g.*, "Cold Chain logistics biz feasts on quick service restaurants" (Exhibit US-35) ("A fast-paced lifestyle and changing eating habits are not only fuelling [sic] expansion and growth of quick service restaurants (QSRs) across India, but also of the cold chain logistics industry, which helps food reach fast and fresh. With the growing

relatively strong economic growth, stable political environment, foreign investment, rising incomes, high aspiration level, a young population, increasing tourism, and changing consumer consumption patterns."[21]

28. As a result, India's lengthy discussion of its market outside of the processed poultry sector is irrelevant and can be disregarded.

29. In addition, India has not meaningfully quantified the effect that India asserts the country's lack of cold chain capacity or consumer preference[22] would have on the Methodology Paper's calculations. Past arbitrators determining the level of nullification or impairment have declined to take into account elements that lack sufficient quantitative support. For example, in *1916 Act*, the European Communities sought to have the arbitrator determine the level of nullification or impairment in part with reference to the "chilling effect" the WTO inconsistent provision had on trade, calling this "[a]rguably the most damaging effect . . . on the commercial behavior of European companies."[23] Despite this, the arbitrator declined to base the suspension of concessions on this factor because "the chilling effect cannot be quantified in the present case."[24] Similarly, in *Canada – Aircraft Credits and Guarantees (Article 22.6 – Canada*), Canada argued that a certain airline had a "revealed margin of preference" for a Canadian regional aircraft manufacturer. The arbitrator dismissed this argument in part because "[w]hile such a preference may have existed, Canada has not meaningfully quantified it."[25]

30. Similar to the chilling effect in *1916 Act* and the "revealed margin of preference" in *Aircraft Credits*, here India cites no studies, academic or otherwise, that quantify the effects these purported features of the Indian market would have on Indian demand for CLQs, nor does it include any data or econometric analysis purporting to quantify the effects.

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number of QSRs in India, local cold chain companies like Kelvin Cold Chain, Gati, Crystal Logistics and Snowman are seeing their business balloon at a pace of anywhere between 15% and 25%.").

[21] Exhibit US-36.

[22] The extent to which Indian consumers in *2017* "do not like frozen chicken," (First Written Submission of India, para. 51) is an open question. The *2012* source to which India cites in support of this statement appears to have copied verbatim its discussion of this purported live bird preference from a *2004* USDA report. *Compare* Exhibit IND-13 at 9 ("Live-Bird Preference") *with* Exhibit US-11 at 25 ("Live-Bird Preference"). Given the substantial changes to the Indian poultry market in just the past several years, *see, e.g.*, Section III.B, *infra*, it is unclear the extent to which Indian preferences from 2004 still predominate.

[23] *US – 1916 Act (EC) (Article 22.6 – US*), para. 5.64.

[24] *US – 1916 Act (EC) (Article 22.6 – US*), para. 5.70.

[25] *Canada – Aircraft Credits and Guarantees (Article 22.6 – Canada)*, para. 3.22.

31. India does not attempt to quantify meaningfully the effect of cold chain capacity and consumer preference perhaps because it cannot. As explained above, the United States *already took into account these issues* by only analyzing the processed poultry sector.

B. Processed Chicken's Share of the India Poultry Market Is At Least 15%

32. India argues that processed chicken comprises 5% of the Indian poultry market. But this claim is based on a single, unsupported source. That source cites to no surveys, academic studies, or economic analyses that support its estimate. Neither that source nor India's retained expert, Dr. Sebastian Pouliot, conducted any surveys or economic analysis. Further, India's proposed value is contrary to the substantial number of articles and studies that suggest the processed poultry market is large and growing.

33. India criticizes the U.S. estimate that processed poultry makes up 15% of the Indian poultry market. Specifically, India accuses the United States of conflating the rate of growth of that market with its size.[26] But this criticism misreads the Methodology Paper. The United States relied on *two* studies to estimate the size of the processed poultry market. The Methodology Paper identifies both of those studies in footnote 37. India's argument focuses exclusively on the 2016 GAIN Report's market estimate of seven to ten percent,[27] while ignoring the 2014 academic study that estimated "[c]urrently only 20% of the chicken . . . [is] processed."[28] The United States used the midpoint of these two studies—15%—as a conservative estimate of the size of the market.

34. A 15% market share is also consistent with a number of other sources, many of which the Methodology Paper cites:

- "American chicken legs could grab around 15% of India's poultry market."[29]
- "Industry players [in India] fear loss of 15-20% of market to US chicken in initial years . . . ."[30]

[26] First Written Submission of India, para. 62.

[27] Exhibit US-14.

[28] Exhibit US-6.

[29] Exhibit US-18.

[30] Exhibit US-19.

- Chicken leg imports from the United States "could potentially occupy about 40 per cent of the Indian market."[31]

- "American chicken legs could grab around 15% of India's poultry market . . . . Branded food chains like McDonald's and KFC will likely be the main buyers . . . ."[32]

- "Industry players fear loss of 15-20% of market to the US chicken in initial years . . . ."[33]

35. If anything, these estimates are low given how fast this segment of the market is growing. As noted in the Methodology Paper, demand for processed chicken is driven by QSRs and HRI businesses, which in turn is driven by India's urbanization and economic growth. These sectors are experiencing rapid growth. One report noted that the QSR sector "is projected to grow at a CAGR of 25% to reach INR 16,785 crore (USD 3,230 million) by 2018."[34] Another noted that the "sector is expected to grow from its current value of $1.1 billion to $4.2 billion by 2020."[35]

36. Rather than "overestimat[ing] the market share of processed chicken in India,"[36] the Methodology Paper made a reasonable assumption about the size of that market based on multiple sources. That estimate is reinforced by the substantial growth in the QSR and HSI sectors, which even India's retained economist admits is the source "of the growth in consumption of processed chicken" in India.[37] It therefore would be appropriate to use an estimate of processed poultry as 15% of the Indian poultry market when calculating the level of nullification or impairment resulting from India's WTO-inconsistent import ban.

C. The -1.5 Value of Price Elasticity of Demand in India is Reasonable

37. India is incorrect when it argues that the price elasticity of demand value used in the Methodology Paper is not substantiated by reasoned justification. First, the elasticity value

[31] Exhibit US-20.

[32] Exhibit US-37.

[33] Exhibit US-38.

[34] Exhibit US-39.

[35] Exhibit US-40.

[36] Exhibit IND-29 at 5.

[37] Exhibit IND-29 at 5.

stated in Exhibit US-11 was determined by the expert judgment of agricultural economists with over 35 years of combined experience analyzing India's agricultural markets.

38. Second, Dr. Pouliot's criticisms are unfounded. The value stated in Exhibit US-11 does not simply attribute the -1.5 to the growth rate in per capita income, nor does it erroneously link "the concepts of price elasticity of demand and income elasticity."[38] Rather, the authors of Exhibit US-11 adjusted upward an Indian demand elasticity for "all meats" (-0.88)—which was estimated by other economists—because that value, along with the assumed income elasticity of 1.7[39] could not explain the rapid observed growth in Indian poultry meat demand in the preceding years. During that time Indian consumers substantially increased their consumption of poultry as the vertical integration and modernization of the industry led to declining real prices for poultry meat; the price of poultry grew much more slowly than other food prices. The authors of US-11 therefore deduced that declining real prices led Indian consumers to substitute poultry for other food products, and particularly other meats. This trend would also be consistent with the findings of extensive field interviews with industry participants. As a result, the authors adjusted the demand elasticity to -1.5 in order to arrive at a set of basic demand parameters consistent with observed changes in consumption, real incomes, and real prices.

39. A demand elasticity of -1.5 is also supported by more recent academic literature, which found that the "own price elasticit[y] of demand" for chicken in urban areas was -1.37.[40] Because this is the demand elasticity for chicken in general, it is safe to assume that the demand elasticity for CLQ would be larger—at least -1.5—because "[n]arrowly defined markets tend to have more elastic demand than broadly defined markets."[41]

40. India also argues that the United States used an incorrect value for the price elasticity of demand because the -1.5 used in the Methodology Paper "ignored critical aspects of the elasticity of demand in India."[42] Specifically, as with the size of the processed poultry market, India argues that its lack of cold chain infrastructure, large percentage of vegetarians, and preference for fresh meat lead the price elasticity figure to be much lower—only -0.4. India is wrong.

41. India's retained economist provided no explanation for how he determined that the price elasticity of demand was only -0.4; he cited to no academic work purporting to quantify price elasticity of demand, and performed no quantitative modeling or economic analysis of any kind

[38] Exhibit IND-29 at 8.

[39] This was the highest assumed income elasticity for any meat because poultry is the most widely accepted meat among Indian consumers.

[40] Exhibit US-47.

[41] Exhibit US-31.

[42] First Written Submission of India, paras. 69–70.

to support his conclusion.[43] Rather, he disregards without explanation or analysis both the -1.5 India-specific value determined by the USDA's thorough review of the Indian poultry market, as well as the generic -0.88 "own-price elasticity for meats" from an academic study of the Indian market. Instead, he simply arbitrarily asserts the value is -0.4 and labels it as "reasonable."[44]

42. But it is not reasonable. Beyond the lack of quantitative analysis or reference to academic research on the issue, Dr. Pouliot's conclusion that the price elasticity of demand for CLQs is low in absolute terms, and lower than demand for generic meats, is contrary to the observations and conclusions of a number of academic studies of the Indian poultry market:

- "Demand for poultry meat [in India] *is highly price sensitive* among low and middle income groups."[45]
- "Goods with close substitutes tend to have more elastic demand because it is easier for consumers to switch from that good to others."[46]
- "[O]verall, low-income countries are more responsive to changes in income and food prices and, therefore, make larger adjustments to their food consumption pattern when incomes and prices change."[47]
- "Low poultry prices in South India, due largely to the prevalence of poultry integrators in the region, are reported to have stimulated rapid growth in consumption."[48]
- "[I]ndustry sources claim that Indian consumers have a preference for dark meat portions."[49]

[43] In this context, India's reference to the Methodology Paper as a "factual vacuum" (First Written Submission of India at 11) is ironic. Dr. Pouliot's unsupported assertions are in stark contrast to the Methodology Paper's reliance on numerous academic studies and reviews of the Indian poultry market.

[44] Exhibit IND-29 at 9.

[45] Exhibit US-6 at 120; Exhibit US-11 at iii (emphasis added).

[46] Exhibit US-31 at 90.

[47] Exhibit US-46. India ranks 127th out of 191 countries in terms of per capita GDP. IMF World Economic Outlook Database, October 2017, available at www.imf.org.

[48] Exhibit US-11 at 5.

[49] Exhibit US-11 at 8.

Lower prices on the meat Indian consumers prefer should spur demand. Dr. Pouliot does not even attempt to explain how his assertion that the price elasticity of demand is -0.4 is consistent with these findings about the Indian poultry market.

43. Nor did Dr. Pouliot address the economic concept that "[n]arrowly defined markets tend to have more elastic demand than broadly defined markets."[50] As a result, the price demand elasticity for CLQs should be more elastic than the demand elasticity for chicken, which in turn should be more elastic than the demand elasticity for meat, which should be more elastic than the demand elasticity for food in general. Rejecting this basic principle of economics, Dr. Pouliot assumes that the demand elasticity of CLQs would be *lower than, indeed, less than half of,* the demand elasticity for "meat."[51]

44. India and Dr. Pouliot claim that this deviation from generic economic principles is "reasonable" because Indian consumers who allegedly prefer fresh meat, and have no reliable access to cold chain, "would not start buying U.S. poultry just because its price is allegedly lower."[52] As noted above, the United States already took this into account in its Methodology Paper by limiting the analysis to the processed poultry sector—by definition a market segment that includes chilled and/or frozen chicken. Further, any lack of a reliable cold chain is irrelevant to the question of demand elasticity, which is simply a measure of how much consumers respond to changes in price. As noted by Dr. Mankiw, factors that affect demand elasticity are the availability of close substitutes, whether the good is a necessity or a luxury, the definition of the market, and time horizon.[53] The presence or absence of a reliable cold chain does not fit into any of these categories.

45. But, in any event, the recent examples of Cameroon and Haiti suggest that Indian consumers may in fact "start buying U.S. poultry just because its price is allegedly lower."

[50] Exhibit US-31.

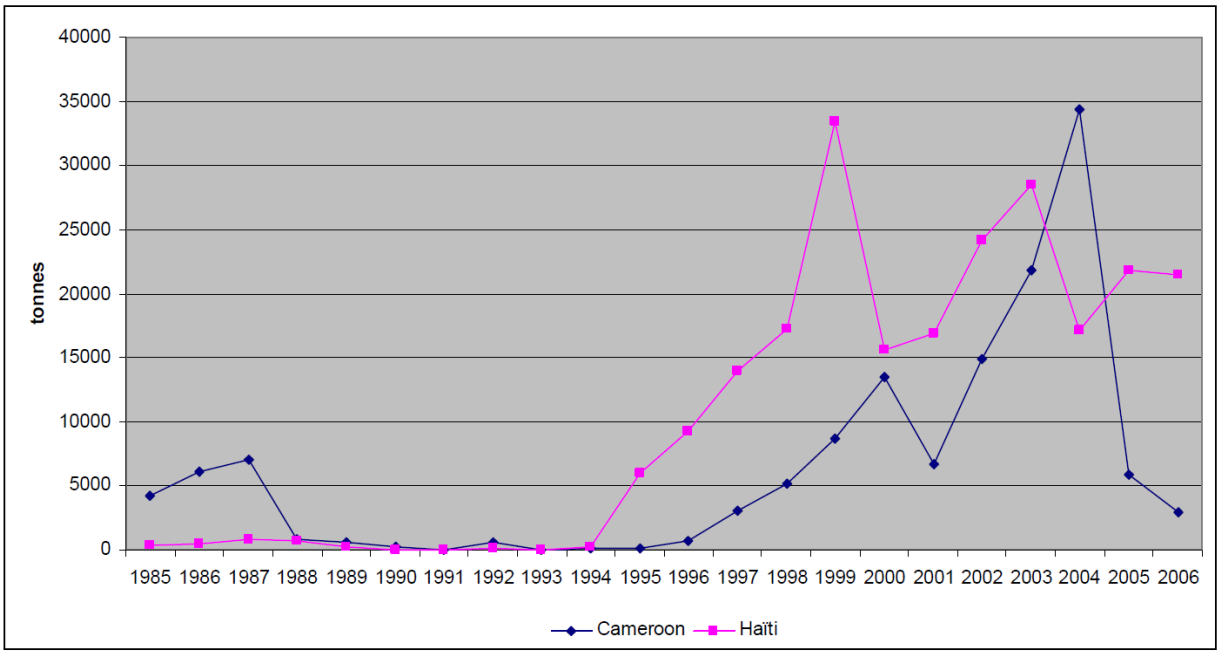
[51] IND-29 at 9.

[52] First Written Submission of India, para. 71.

[53] Exhibit US-31.

46. In the mid-1990's, both Haiti and Cameroon reduced tariffs on imported poultry meat. Soon thereafter poultry imports by each country increased dramatically:[54]

Graph 1: Cameroon and Haiti imports of poultry meat, 1985-2006



[54] Exhibit US-41.

47. Subsequent surveys of households in both Cameroon and Haiti revealed that this increase in poultry consumption was *not* due to a change in preference. Indeed, only 5.6% of Haitian households and 2.2% of Cameroonian households stated a preference for imported frozen chicken cuts. Despite this stated preference, 76.1% of Haitian households and 49.4% of Cameroonian households reported purchasing imported frozen chicken cuts:[55]

		Port-au-Prince - Haiti				Yaoundé - Cameroon			
		Rustic	Local Flesh	Imported frozen cuts	Total	Rustic	Local Flesh	Imported frozen cuts	Total
Preferred chicken out of price consideration (only one answer)	nb of answers	159	11	10	180	55	118	4	180
	% of answers	*83.0*	*6.1*	*5.6*	*100*	*30.6*	*65.6*	*2.2*	*100*
Chicken actually bought for familial meal (several answers accepted)	nb of answers	56	71	140	267	18	147	89	254
	% of households(1)	*31.1*	*39.4*	*76.1*		*10.0*	*81.7*	*49.4*	
Chicken actually bought for ceremonies (several answers accepted)	nb of answers	56	71	140	267	0	120	121	241
	% of households(1)	*31.1*	*39.4*	*76.1*		*0*	*66.7*	*67.2*	

48. Cameroon and Haiti are thousands of miles apart, and do not share a common culture, heritage, or history, yet households in both countries reacted the same way to the availability of low-cost imported frozen chicken: they bought it. A lot of it. And they bought a lot of it even though they still preferred the local fresh chicken to which they were accustomed before the tariffs were lowered.

49. There is no reason to believe that the behavior of Indian consumers would be any different from their counterparts in Cameroon and Haiti, with the convenience and price of frozen imported chicken mattering more to the purchaser than the reported preference for fresh domestic products. Specific to the arguments in India's written submission, the cold chain capacity of both Cameroon and Haiti are much worse than that of India.[56] Similarly, like India, chicken in Cameroon and Haiti traditionally is sold in wet markets,[57] and their citizens have less

[55] Exhibit US-41.

[56] According to the World Economic Forum, of all the countries in the world India has the 46th best "general state of infrastructure," and the 25th best transportation infrastructure. The comparable ranks for Cameroon are 132nd and 126th, and Haiti is ranked 134th in both categories. Exhibits US-42 and 43.

[57] Exhibit US-41.

access to electricity than citizens of India.[58] Despite this, a substantial portion of Cameroonian and Haitian households reported buying frozen imported chicken after import duties were lowered. Given that India has a higher GDP and more developed infrastructure than either country, there is no reason to believe that Indian consumers will reject imported chicken when Cameroonian and Haitians did not.

D. India's Calculation of Transportation and Insurance Costs Is Flawed Both in Theory and in Practice

50. Finally, India argues that the Methodology Paper substantially underestimated the cost of shipping CLQs to India, which caused the United States to overestimate the level of nullification or impairment by approximately $73 million.[59] But, the methodology India used to calculate the purported shipping costs does not provide a reliable measure of those costs. Even if that methodology were sound (it is not), the data India used, as well as the way it interpreted that data, does not reasonably approximate actual shipping costs. India's calculation is in error, and the Methodology Paper's estimate of 8.5 cents per kilogram is supported both by publicly available and U.S. industry sources.

1. India's Method of Indirectly Calculating Transportation Costs Is a Poor Proxy for Actual Shipping Costs

51. India purports to calculate the costs of freight and insurance by comparing "the difference between the import unit-value and the export unit-value."[60] Put another way, India purports to calculate the shipping and insurance costs by subtracting the value of goods as reported by the exporting country (in this case the United States, using data from the United States International Trade Commission) from the value of goods as reported by the importing country (as those values are shown in a United Nations database).[61]

52. This method has a substantial number of flaws. As one academic bluntly stated, "it would be *very unwise* to use data constructed from the matched partner technique [used by India here] for any exercise where the level . . . of transportation costs matters."[62] This is because much of the collected data is facially implausible (i.e., the derived transportation cost is

[58] According to the World Bank, in 2014 79.2% of India's population has access to electricity, compared to 56.8% in Cameroon and 37.9% in Haiti. https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS. For urban populations those numbers rise to 98.3%, 86.5%, and 53.3% respectively. https://data.worldbank.org/indicator/EG.ELEC.ACCS.ZS.

[59] First Written Submission of India, paras. 73–79, 86.

[60] First Written Submission of India, para. 76.

[61] First Written Submission of India, para. 75.

[62] Exhibit US-44 (emphasis added).

negative), and even data that is not questionable on its face can deviate from actual shipping costs to such an extent that the difference is "at least as big as the implied *ad valorem* rate being measured."[63] The reasons for these discrepancies are myriad:

- Poor Accounting for Exports: Countries may be less rigorous in accounting for the value and volume of exports as opposed to imports given that the latter usually affect the imposition and collection of tariffs while the former do not.

- Timing: Shipments may be recorded in one time period in the exporting country but recorded in the following in the importing country.

- Failure to Capture Trade Through Third-Party Countries: In some circumstances a country may export goods to one country, which then immediately exports those goods to a second country at an increased cost. Depending on what is known to the importing and exporting countries, each may calculate the value of the goods, and the trading partner involved, differently.

- Differences in Statistical Definitions: Generally, insurance and freight costs are not included in export statistics but are included in import statistics. But, this is not true in every case. Further, individual countries may have other idiosyncrasies that may cause additional discrepancies.

- Possible Fraudulent Misreporting: Data could be distorted by fraudulent reporting in either or both countries.

- Indirect Trade: The importing country may assign the value of certain goods to a country other than the country from which it received the goods. For example, if a used Airbus plane is exported from the United States to Canada, the United States records that as an export, but Canada records the sale as an import from Europe.

- Geographic Coverage: Importing and exporting countries may treat the same geographic region differently. For example, the United States includes exports from Puerto Rico and the U.S. Virgin Islands as part of exports from the United States, but other countries may track imports from those territories independent of imports from the United States.

- Differential Treatment Based on Use: Some countries do not include in import statistics goods that are imported for further processing. While the United States includes in its statistics all imports and exports, regardless of whether they are

[63] Exhibit US-44 at 75.

intended for a processing zone, China and other countries may exclude these products from their import and export statistics.

- Inconsistent Treatment of Low Value Transactions: Most countries do not capture the value of imports and exports that are below a certain threshold. But that threshold can vary from country to country, causing a mismatch between export and import statistics.

53. Quite simply, the methodology India uses to calculate transportation costs is unreliable.

2. India's Purported Calculation of Transportation Costs Is Not Accurate

54. Even if the matched pairs analysis used by India were methodologically sound (it is not), the manner in which India calculated shipping costs would still be flawed.

55. India argues that the shipping cost for CLQs is 53 cents per kilogram (versus the 8.5 cents per kilogram used in the Methodology Paper).[64] India calculated this value by averaging the difference between the reported U.S. export price for "frozen cuts and offal of chicken" and the corresponding import price from five different countries: China, Hong Kong, Korea, Russia, and Singapore.[65] But this calculation, and the source data used to derive it, raise a number of issues that call into question its reliability.

56. First, the data on which India based its calculation appears to be flawed or otherwise incomplete. As India admits, the total amount of imports from the United States that a country reports does not necessarily match up with the total exports the United States reports to that country.[66] But these differences can be quite large. For example, in 2014 Hong Kong reported importing over 262,000 metric tons of CLQs, but the United States reported exporting nearly 491,000 metric tons.[67] The error can be large in the other direction as well; in 2011 Kazakhstan reported importing over 115,000 metric tons of CLQs, while the United States reported exporting just over 27,000 metric tons. This is consistent with the general methodological issues outlined above. Further, for a number of countries in a number of years, the estimated cost of freight and insurance is *negative*, including for some of the largest importers of U.S. CLQs. While the cost of transportation and insurance from the U.S. CLQs is relatively low, it would not be negative.

[64] First Written Submission of India, para. 78, Exhibit IND-29.

[65] Exhibit IND-29 at 7.

[66] First Written Submission of India, para. 77.

[67] Exhibit IND-31.

57. Second, India's analysis appears to be the result of looking through the data and finding those countries that have the highest identifiable differences. India's submission does not explain how or why it chose the five comparator countries used in the analysis. Those countries are not particularly representative of importers of U.S. CLQs. Indeed, neither China nor Russia imported *any* CLQs in 2016:[68]

	Rank for U.S. CLQs Exports - 2016
China	n/a (zero exports)
Hong Kong	38
Korea	50
Russia	n/a/ (zero exports)
Singapore	37

58. Using the data from Exhibit IND-31 for the five Asian countries that imported the most CLQ from the United States in 2016[69] results in a *negative* shipping cost of eight cents per kilogram:

	Rank for U.S. CLQs exports in 2016	Average CIF-FOB Differential 2011–2016
Taiwan	7	$ 0.12
Philippines	13	$ (0.06)
Iraq	6	$ (0.14)
Kazakhstan	4	$ (0.16)
Vietnam	12	$ (0.58)
Top 5 weighted average		$ (0.08)

59. Four of the five countries are negative over the six year period, and the total weighted average of all five countries for the time period is negative. These results show that India's proposed method for calculating freight and insurance costs is unreliable.

[68] Exhibit US-45.

[69] Exhibit US-45.

3. The Transportation and Insurance Costs Used in the Economic Model in the Methodology Paper Are Reasonable

60. The better estimate of freight and insurance is 8.5 cents per kilogram, as stated in the Methodology Paper. Not only is that the amount reported by U.S. industry,[70] it also is the value reported in public sources.

Freight Quotes for Frozen meat from U.S. to India

	Ocean freight quote for frozen meat		Ocean freight quote for frozen meat with insurance		Freight + Insurance $/kg	
Route	**Low**	**HI**	**Low**	**HI**	**Low**	**HI**
Savannah to Mumbai	2113	2335	2133	2357	0.08	0.09
Miami to Mumbai	2417	2672	2440	2697	0.09	0.10
NYC to Mumbai	1972	2180	1991	2200	0.08	0.08
Savannah to Chennai	2996	3312	3025	3343	0.12	0.13

Notes: Quotes are based on a 40 foot full container load (refrigerated) holding 26 MTs of frozen meat[71] valued at $20,500

Source: http://worldfreightrates.com

61. According to this source, shipping CLQs from Savannah, the largest U.S. export port for poultry products,[72] to Mumbai, would cost between eight and nine cents per kilogram, including

[70] Methodology Paper, para. 39 and note 4. The Federal Maritime Commission ("FMC") is the independent agency of the United States government responsible for regulating international oceanborn commerce under the Shipping Act of 1984. The Shipping Act, and the FMC's regulations interpreting it, mandate that shipping contracts ("service contracts") and other information regarding rates charged to ship products from the United States be filed with the FMC. [[

]] The United States is currently collecting documents supporting these figures, and intends to submit them in response to Advance Question from the Arbitrator No. 11.

[71] Exhibit US-49.

[72] Exhibit US-50.

insurance. Shipping from New York City to Mumbai would be slightly less, while shipping from Savannah to Chennai would be slightly more.

62. Because India uses a flawed analysis, and because the estimate in the Methodology Paper is supported by both industry sources and publicly available information, the estimate of freight and insurance costs of 8.5 cents per kilogram is appropriate and should be used.

IV. CONCLUSION

63. For the above reasons, the United States respectfully requests that the Arbitrator determine that level of suspension of concessions and other obligations is an amount no less than that determined by adjusting $478.1 million each year, consistent with the formula outlined in the Methodology Paper.