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What a Dump! The Current State of Antidumping Duty Calculations in Non-Market Economy Cases

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WHAT A DUMP! THE CURRENT STATE OF ANTIDUMPING DUTY CALCULATIONS IN NON-MARKET ECONOMY CASES

> *How does the administrating authority choose among possible third countries from which to obtain these prices? . . . The answer many respondents give is hard-bitten, perhaps cynical. They suggest in N[on-market economies] A[ntidumping] cases, an administering authority essentially is free to "make up the numbers."*[1]
>
> —Raj Bhala

INTRODUCTION

Currently, a debate rages at the World Trade Organization (WTO) between China on the one hand and the United States and the European Union on the other.[2] It revolves around the latter two entities' refusal to treat China as a market economy for the purposes of assessing an antidumping duty.[3] An antidumping duty is a tariff applied to dumped products (i.e., products that have been sold in the importing country at less than their fair market value).[4] Normally when assessing such duties, a country simply charges the violating entity the difference between the product's fair market value[5] and the price at which it was first sold in the importing country.[6] China is preoccupied with its status as a non-market economy ("NME") because WTO members are allowed to calculate the antidumping duties owed on imports from NMEs using a different methodology that many consider to be, at best, "convoluted."[7] While

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[1] RAJ BHALA, INTERNATIONAL TRADE LAW: INTERDISCIPLINARY THEORY AND PRACTICE 1044 (LexisNexis 3d ed. 2008).

[2] Request for Consultations by China, *United States – Measures Related to Price Comparison Methodologies*, WTO Doc. WT/DS515/1 (Dec. 15, 2016), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds515_e.htm (last visited Jan. 23, 2018).

[3] *See, e.g.*, *U.S. Set to Review China's Market-Economy Status Bid, WSJ Says*, BLOOMBERG NEWS (Mar. 30, 2017), https://www.bloomberg.com/news/articles/2017-03-30/u-s-set-to-review-china-s-market-economy-status-bid-wsj-says; Douglas Bulloch, *China Doesn't Deserve its 'Market Economy' Status by WTO*, FORBES (Dec. 12, 2016), http://www.forbes.com/sites/douglasbulloch/2016/12/12/china-doesnt-deserve-its-market-economy-status-by-wto/#37f635112d70.

[4] General Agreement on Tariffs and Trade art. VI, ¶ 1, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT].

[5] 19 U.S.C. § 1677(34)–(35) (2012). Instead of using the term "fair market value," the statute refers to the price at which the product is first sold for consumption in the exporting country. 19 U.S.C. § 1677(a) (2012).

[6] 19 U.S.C. §§ 1677(34)–(35), 1677(a)(1)(B)(i). *See also Technical Information on Antidumping*, WTO, https://www.wto.org/english/tratop_e/adp_e/adp_info_e.htm (last visited Jan. 23, 2018).

[7] David Dodwell, *Market Economy Debate Really About Anti-dumping Shenanigans*, SOUTH CHINA MORNING POST (Jan. 10, 2016), http://www.scmp.com/business/article/1899039/market-economy-debate-really-about-antidumping-shenanigans; K. William Watson, *It's Time to Dump Nonmarket Economy Treatment*, FREE TRADE BULL. NO. 65, 1 (Mar. 9, 2016).

arguments rage about what certain language in China's 2000 Accession Agreement to the World Trade Organization means or whether China is actually a market economy, the reality, especially for purposes of the United States, is that China's status as a NME is unlikely to change in the near future, and improvements to the convoluted methodology should at least be considered.[8]

The history of custom duties extends back at least to the ancient Egyptians,[9] but only relatively recently have countries imposed tariffs for the stated purpose of correcting unfair market distortions that undermine the general social welfare promoted by free trade.[10] The General Agreement on Tariffs and Trade (GATT) was created in 1947 for the express objective of substantially reducing tariffs and other trade barriers and eliminating preferences on a "reciprocal and mutually advantageous" basis;[11] even so, it has always allowed for the levying of antidumping and countervailing duties.[12] Within eight years of the GATT's creation, countries quickly realized the "special difficulties [that] may exist" in trying to assess such duties on imports from NME countries.[13] Calculating the duty for dumped products is a difficult process even in the market economy context; doing so for products from NMEs adds another layer of complexity that substantially adds unpredictability to the process. The significance of these administrative problems explains why China is so concerned about its NME status.

For NME antidumping duty determinations, the U.S. Department of Commerce (Commerce Department) is required to attempt to find a comparable price for the dumped product by examining data from a third country with a market economy.[14] The lack of consistency or predictability in

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[8]   Shawn Donnan, *U.S. Seeks to Deny China Market Economy Status in WTO*, FINANCIAL TIMES (Nov. 30, 2017), https://www.ft.com/content/f7941646-d571-11e7-8c9a-d9c0a5c8d5c9; Matthew Bey, *Invading China, One Trade Dispute at a Time*, FORBES (Jan. 17, 2017), http://www.forbes.com/sites/stratfor/2017/01/17/invading-china-one-trade-dispute-at-a-time.

[9]   HIRONORI ASAKURA, WORLD HISTORY OF THE CUSTOMS AND TARIFFS 67 (World Customs Org. 2003).

[10]   John J. Barceló III, *A History of GATT Unfair Trade Remedy Law – Confusion of Purposes*, CORNELL L. FAC. PUBLICATIONS 311, 311 (1991).

[11]   GATT, *supra* note 4, at pmbl.

[12]   *Id.* art. VI, ¶ 2. Article VI deals exclusively with antidumping and countervailing duties. It defines countervailing duties as "special dut[ies] levied for the purpose of offsetting any . . . subsidy bestowed, directly or indirectly, upon the manufacture, production or exportation of any merchandise." *Id.*

[13]   *Id.* Annex I, Addendum to Article VI, ¶ 1.2 (effectively defining non-market economy to mean "a country which has a complete or substantially complete monopoly of its trade and where all domestic prices are fixed by the State").

[14]   19 U.S.C. § 1677b(a)(1)(C) (2012).

the Commerce Department's attempts to establish such a surrogate country and determine a good's fair market price has left many with the impression that the Commerce Department "makes it up as it goes."[15] It is well established that in large part "economic success . . . depend[s] on an efficient and predictable rule of law."[16] The lack of predictability in the Commerce Department's work hurts both foreign and domestic producers.[17] Foreign companies cannot know ahead of time how much they must pay, and domestic companies cannot know how saturated the market will be—a problem that makes it significantly more difficult for them to predict the sales prices for their goods.[18]

This Comment first examines the Commerce Department's process for assessing duties on dumped imports from NMEs to determine this method's consistency. Finding problems with the Commerce Department's results, this Comment argues that to reduce lawsuits and add a modicum of predictability to its determinations, the Commerce Department should adopt a more formulaic approach for selecting the best surrogate country. More specifically, Part I of this Comment provides not only the historical background of such duties, but also presents the economic theory underlying such duties. Part II lays out the basic state of antidumping duties in the United States in 2017, while Part III raises questions about the accuracy of the process for dealing with antidumping duties on imports from NMEs. Part IV examines how the Canadian antidumping duty regime deals with the surrogate country selection conundrum. Lastly, Part V presents a potential path forward for the Commerce Department to increase the predictability of their proceedings without unduly hampering their discretion.

I. THE HISTORY OF AND THEORY BEHIND ANTIDUMPING AND COUNTERVAILING DUTIES

Custom duties trace their origins back to the gifts and bribes ancient merchants would give a king or chieftain for the right to trade within that

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[15] K. William Watson, *Will Nonmarket Economy Methodology Go Quietly Into the Night?*, 763 POL'Y ANALYSIS 1, 1, 4 (Oct. 28, 2014); *see also* Patricia Piskorski, *A Dangerous Discretionary "Duty"*, 34 HOFSTRA L. REV. 595, 598 (2005) ("The U.S. antidumping rubric is left open to criticism . . . because of its unpredictability and lack of accuracy.").

[16] Alan Greenspan, Chairman, Fed. Reserve Bd., Remarks at the 2003 Financial Markets Conference of the Federal Reserve Bank of Atlanta (Apr. 4, 2003), https://www.federalreserve.gov/boarddocs/speeches/2003/20030404/default.htm; *see also* THE AMERICAS SOC'Y & THE COUNCIL OF THE AMERICAS, RULE OF LAW, ECONOMIC GROWTH AND PROSPERITY 18 (2007) ("An environment in which the administration of justice . . . is more predictable . . . eases the constraints for expansion of . . . enterprises.").

[17] Watson, *Will Nonmarket Economy Methodology Go Quietly Into the Night?*, *supra* note 15, at 3–4.

[18] *Id.*

sovereign's territory.[19] The adoption of mercantilism by the European powers of the seventeenth and eighteenth centuries brought about a new rationale for the implementation of tariffs; sovereigns hoped tariffs would reduce imports and encourage exports, thereby encouraging the flow into the king's coffers of money deriving from local production.[20] Very early in its history, the United States recognized the detrimental impact another country's export subsidies and dumping could have on a national economy.[21] Perhaps unsurprisingly, the United States was the first country to enact what would now be considered a countervailing duty law when it passed the McKinley Tariff of 1890.[22] The McKinley Tariff imposed an additional duty on sugar from countries paying "directly or indirectly, a bounty on the exportation" of certain kinds of sugar.[23] The first antidumping duty law came in 1904 when Canada created a "special duty of customs equal to the difference between [a product's] fair market value and [its] selling price."[24] Even before that law passed, critics expressed concern over potential administrative problems.[25] Nevertheless, countervailing and antidumping duties became fairly common within the tariff laws of the first half of the twentieth century and so were incorporated into the GATT in 1947.[26]

In theory, antidumping and countervailing duty laws exist to "prevent companies from establishing monopolies through the use of predatory pricing."[27] Even temporary or sporadic dumping can theoretically force local

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[19]   ASAKURA, *supra* note 9, at 19, 46 ("[I]n ancient and medieval times Customs duty was primarily a means of raising revenue for the state or a royal family.").

[20]   *Id*. at 189–94.

[21]   ALEXANDER HAMILTON, REPORT ON MANUFACTURES, 3 ANNALS OF CONG. 989 (Dec. 1, 1791). In early 1790, Congress asked Alexander Hamilton to report on the subject of manufacturing and promotion of such. In his report, he noted that:

> the greatest obstacle of all to the successful prosecution of a new branch of industry in a country in which it was before unknown, consists . . . [of] the bounties premiums and other aids which are granted . . . by the nations, in which the establishments to be imitated are previously introduced. It is well known . . . that certain nations grant bounties on the exportation of particular commodities, to enable their own workmen to undersell and supplant all competitors, in the countries to which those commodities are sent.

Id.

[22]   Barceló, *supra* note 10, at 321–23.

[23]   McKinley Tariff Act of 1890, ch. 1244, 26 Stat. 567, ¶ 237 (1890).

[24]   An Act to Amend the Customs Tariff, 1897, S.C. 1904 c. 11, § 19 (Can.).

[25]   LXVI OFFICIAL REPORT OF THE DEBATES OF THE HOUSE OF COMMONS OF THE DOMINION OF CANADA, 9th Parliament, 4th Sess. 5742 (1904) (Thomas Birkett states, "I would like to point out how difficult it is going to be to carry out the antidumping clause.").

[26]   *See* Barceló, *supra* note 10, at 314–15, 322–23.

[27]   Jean-Marc Leclerc, *Reforming Antidumping Law: Balancing the Interests of Consumers and Domestic Industries*, 44 MCGILL L.J. 111, 113 (1999).

producers to exit a market, which means the economy will have to bear the cost of retraining people or rebuilding facilities when the dumping inevitably ends.[28] Dumping can also force people to change jobs, which can have an effect on the morale and efficiency of the community.[29] Economic analyses have, at best, left unresolved whether the harm caused by dumping or export subsidies does in fact outweigh the benefit of cheaper goods; nevertheless, such law retains a central place in many countries' trade policies.[30] It is on this controversial theoretical basis that support for antidumping duties must rely before even bringing in practical administrative concerns.

II.   ANTIDUMPING DUTIES IN THE UNITED STATES TODAY

For antidumping and countervailing duty purposes, U.S. law defines NMEs as those that, according to the Commerce Department, do "not operate on market principles of cost or pricing structures, so that sales of merchandise in such countr[ies] do not reflect the fair value of the merchandise."[31] Eleven countries are currently designated by the Commerce Department as NMEs,[32] but by far the most significant two are China and Vietnam.[33] Every year, goods

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[28]   *Id.* at 117.

[29]   *Id.* at 119.

[30]   Raj Bhala, *Rethinking Antidumping Law*, 29 GEO. WASH. J. INT'L. L. & ECON. 1, 2, 11 (1995) ("Empirical evidence strongly suggests that this gain [to society in the form of lower prices] outweighs the cost to producers in the import country, measured by reduced profits, and to their employees, in terms of reduced employment.").

[31]   19 U.S.C. § 1677(18)(A) (2012).

[32]   De Facto Criteria for Establishing a Separate Rate in Antidumping Proceedings Involving Non-Market Economy Countries, 78 Fed. Reg. 40430, 40430 n.3 (July 5, 2013). The other nine NMEs are Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, and Uzbekistan. Once a country is determined to be a nonmarket economy, that determination remains in effect until revoked by the Commerce Department. *See* 19 U.S.C. § 1677(18)(C)(i) ("Any determination that a foreign country is a nonmarket economy shall remain in effect until revoked by the administering authority."). The Commerce Department recently indicated that of these, at least Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Turkmenistan are still considered nonmarket economies. *See* Int'l Trade Admin., Decision Memorandum for the Preliminary Affirmative Determination: Countervailing Duty Investigation of Truck and Bus Tires from the People's Republic of China; and the Preliminary Affirmative Determination of Critical Circumstances in Part, at 21 (June 27, 2016), http://ia.ita.doc.gov/frn/summary/prc/2016-15837-1.pdf. Certain imports from Belarus and Moldova are still the subject of antidumping duty orders. *See* Carbon and Certain Alloy Steel Wire Rod from Brazil, Indonesia, Mexico, Moldova, and Trinidad and Tobago: Continuation of Antidumping and Countervailing Duty Orders, 79 Fed. Reg. 38008 (July 3, 2014); Steel Concrete Reinforcing Bars from Belarus, Indonesia, Latvia, Moldova, Poland, the People's Republic of China, and Ukraine: Continuation of Antidumping Duty Orders, 78 Fed. Reg. 43858 (July 22, 2013).

[33]   Although the list does not include Cuba, it would likely be added should the embargo be removed. When determining if a country is a non-market economy, the Commerce Department must consider, among other things, "(i) the extent to which the country's currency is convertible into the currency of other countries, (ii) the extent to which wages are determined by free bargaining between labor and management . . . , (iv) the extent of government ownership or control of the means of production, [and] (v) the extent of government

from those two countries constitute approximately twenty-three percent of all imports into the United States.[34] Of the 321 antidumping duty orders in place as of September 13, 2017, 120 involved products from China or Vietnam.[35] Almost one third of all import duties collected during 2014, 2015, and 2016 were on imports from those two countries.[36]

As noted above, one major complaint with the Commerce Department's process for assessing antidumping duties on imports from NMEs is that neither foreign exporters nor the domestic industry can predict how large a tariff will be charged on products.[37] "The U.S. antidumping rubric is left open to criticism . . . because of its unpredictability and lack of accuracy."[38] In particular, critics argue that "the use of nonmarket economy methodology harms domestic import-using businesses and consumers" because it "results in unpredictable and unrealistically high antidumping duties."[39] The inability to plan for the future creates significant difficulties for foreign producers and exporters, while American consumers have to pay higher prices.

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control over the allocation of resources and over the price and output decisions of enterprises . . . ." 19 U.S.C. § 1677(18)(B); *see Day Zero or D-Day*, THE ECONOMIST (May 16, 2015), https://www.economist.com/news/americas/21651292-tricky-task-unifying-crazy-system-exchange-rates-day-zero-or-d-day; *Double Trouble*, THE ECONOMIST (Oct. 23, 2013), http://www.economist.com/blogs/americasview/2013/10/cubas-currency; CLAY BOGGS & GEOFF THALE, WASHINGTON OFFICE ON LATIN AMERICA, LABOR RIGHTS AND CUBA'S ECONOMIC REFORMS 2, 5 (Dec. 2013), https://www.wola.org/sites/default/files/Labor_Rights_and_Cubas_Economic_Reforms.pdf; Karen DeYoung, *In Cuba, Prosperity Will Require Changes to Government Control*, WASH. POST (Feb. 14, 2015), https://www.washingtonpost.com/world/national-security/in-cuba-prosperity-will-require-changes-to-government-control/2015/02/14/71844fee-afe0-11e4-886b-c22184f27c35_story.html; Dudley Althaus, *Cuba Moves to Legalize Small- and Medium-Size Businesses*, WALL ST. J. (May 24, 2016), http://www.wsj.com/articles/cuba-moves-to-legalize-small-and-medium-size-businesses-1464132702; Sarah Marsh & Marc Frank, *Cuba Says Economy Shrank This Year In Tandem with Venezuela Crisis*, REUTERS (Dec. 27, 2016), https://www.reuters.com/article/us-cuba-economy/cuba-says-economy-shrank-this-year-in-tandem-with-venezuela-crisis-idUSKBN14G1E0.

[34] U.S. Census Bureau, *U.S. International Trade in Goods and Services: FT-900 Supplement*, Exhibit 4 (Feb. 7, 2017), https://www.bea.gov/newsreleases/international/trade/2017/pdf/trad1216.pdf (noting that for 2016, the value of goods imported into the United States from China was equal to $462,813,000,000 and the value of imports from Vietnam was $42,109,200,000, while the total value of all imported goods was $2,188,940,600,000).

[35] *See* U.S. Int'l Trade Comm'n, *Antidumping and Countervailing Duty Orders in Place*, https://www.usitc.gov/trade_remedy/documents/orders.xls (last visited Jan. 23, 2018).

[36] *See* U.S. Int'l Trade Comm'n, *Interactive Tariff and Trade DataWeb*, https://dataweb.usitc.gov/scripts/user_set.asp (last visited Jan. 23, 2018) (noting that import duties on goods from China totaled $19.637 billion in 2014, $20.84 billion in 2015, and $18.957 billion in 2016, and import duties on goods from Vietnam were $1.423 billion in 2014, $1.673 billion in 2015, and $1.662 billion in 2016, while overall the government collected $64.974 billion in import duties in 2014, $67.07 billion in 2015, and $62.349 billion in 2016).

[37] Piskorski, *supra* note 15, at 598.

[38] *Id.*

[39] Watson, *It's Time to Dump Nonmarket Economy Treatment*, *supra* note 7, at 1.

To properly understand the uncertainty companies face when dealing with exports from non-market economies, it is first necessary to understand the problems inherent to all antidumping duty calculations. Current U.S. antidumping (and countervailing duty) law comes from the Tariff Act of 1930, which Congress has substantively amended on numerous occasions.[40] Antidumping duty investigations may be initiated upon the request of a domestic industry,[41] at which point the International Trade Commission must make an initial determination as to whether a domestic industry is being (or is threatened to be) injured.[42] If that is the case, the Commerce Department preliminarily determines whether there is a reasonable basis to believe that merchandise is being sold at less than fair value.[43] Broadly speaking, the Commerce Department makes this preliminary determination by calculating what the dumping margin for each exporter should be.[44] The dumping margin is equal to the home market price of the product in question (the normal value) minus the price of the product when it was first sold in the United States (the export price).[45] If the dumping margin is greater than zero, then the product was "dumped,"[46] and the foreign exporter must pay an antidumping duty equal to the dumping margin.[47] After making preliminary calculations, the Commerce Department takes comments from foreign exporters and the domestic industry and then recalculates everything to come up with a final determination for the dumping margin.[48]

Although this is relatively simple in theory, in practice the process quickly becomes complicated. For instance, all foreign exporters of a particular product do not sell that product for the same price in the United States.[49]

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[40]   19 U.S.C. §§ 1202–1683g (2012). The provisions dealing with antidumping and countervailing duties were last amended by the Trade Facilitation and Enforcement Act of 2015, Pub. L. No. 114–25, title IV, §§ 401–33, 130 Stat. 155–71 (Feb. 24, 2016).

[41]   19 U.S.C. §§ 1673, 1673a (2012) (for the language relevant to countervailing duties, see the equivalent language in §§ 1671–1671h); Bryan Johnson, *A Guide to Antidumping Laws: America's Unfair Trade Practice*, THE HERITAGE FOUND. (July 21, 1992), http://www.heritage.org/trade/report/guide-antidumping-laws-americas-unfair-trade-practice. *Cf.* 19 U.S.C. §§ 1671–1671h (containing equivalent language relevant to countervailing duties).

[42]   19 U.S.C. § 1673b(a).

[43]   19 U.S.C. § 1673b(b).

[44]   19 U.S.C. § 1673b(d).

[45]   19 U.S.C. §§ 1677(34)–(35). In other words, dumping margin equals normal value minus export price. *See id.*

[46]   In reality, if the dumping margin is calculated to be less than two percent ad valorem, then the dumping margin is considered *de minimis* and no duty is imposed. *See* 19 U.S.C. § 1673b(b)(3).

[47]   19 U.S.C. §§ 1673, 1673e(b)(1).

[48]   19 U.S.C. §§ 1673d(a), (c).

[49]   *See, e.g.*, Fresh Garlic from the People's Republic of China: Preliminary Results of the 2009-2010 Antidumping Duty Administrative Review, 76 Fed. Reg. 76375, 76381 (Dec. 7, 2011).

However, given that often up to sixty companies are subject to an investigation, calculating a dumping margin for every single exporter would be extremely time consuming for the Commerce Department.[50] Consequently, the Tariff Act of 1930 allows the Commerce Department to select a few exporters, called mandatory respondents, and calculate each of their dumping margins.[51] The weighted average of those values is then used as the all-others rate (i.e., the dumping margin rate for all the exporters who weren't examined individually).[52] Although other exporters can request to be individually examined as voluntary respondents, the Commerce Department has wide discretion in taking on that additional burden.[53] The Commerce Department has never promulgated regulations explaining how it chooses which companies will be mandatory respondents and so it is only bound by the broad language of the statute.[54] Presumably for cost-saving reasons, the Commerce Department tends to choose only the two largest exporters and deny most applications to be a voluntary respondent.[55] Problematically, though, numerous circumstances often force the Commerce Department to ultimately dismiss one or both of mandatory respondents' numbers, meaning that vast swaths of exporters are given an all-others rate based entirely off of a single company's

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[50] *E.g.*, Mid Continent Nail Corp. v. United States, 949 F. Supp. 2d 1247, 1267 (Ct. Int'l Trade 2013) (noting that there were 159 companies under review). The Commerce Department once tried to argue that calculating an individual dumping margin for each of the only four exporters of the good was administratively burdensome enough to justify relying on the averaging method. Zhejiang Native Produce & Animal By-Products Imp. & Exp. Corp. v. United States, 33 Ct. Int'l Trade 1125, 1128 (2009).

[51] § 1677f–1(c)(2). Should a mandatory respondent's dumping margin end up as *de minimis*, then that margin cannot be used for averaging purposes when calculating the all-others rate.

[52] *Id.*

[53] *See, e.g.*, Shenzhen Xinboda Indus. Co. v. United States, 180 F. Supp. 3d 1305, 1319 n.16 (Ct. Int'l Trade 2016) ("Commerce's recent history evidences a questionable tendency not to accept any voluntary respondents."); Longkou Haimeng Mach. Co. v. United States, 32 Ct. Int'l Trade 1142, 1151 (2008). Until recently, margins for voluntary respondents were not even included in the calculation of the all-others rate. MacLean-Fogg Co. v. United States, 753 F.3d 1237, 1240 (Fed. Cir. 2014) (holding 19 C.F.R. § 351.204(d)(3) invalid).

[54] § 1677f–1(c)(2).

> If it is not practicable to make individual weighted average dumping margin determinations under paragraph (1) because of the large number of exporters or producers involved in the investigation or review, the administering authority may determine the weighted average dumping margins for a reasonable number of exporters or producers by limiting its examination to—
> (A) a sample of exporters, producers, or types of products that is statistically valid based on the information available to the administering authority at the time of selection, or
> (B) exporters and producers accounting for the largest volume of the subject merchandise from the exporting country that can be reasonably examined.

[55] *See, e.g., Shenzhen Xinboda*, 180 F. Supp. 3d at 1322 n.22; Husteel Co. v. U.S. Steel Corp., 180 F. Supp. 3d 1330, 1334–35 (Ct. Int'l Trade 2016).

numbers or even the previous year's numbers.[56] This leads to fairly large changes in a company's dumping margin, not only from year to year, but also from initial determinations to final determinations to remand results.[57]

III. NON-MARKET ECONOMY COMPLICATIONS

On top of the framework described in Part II comes the additional "convoluted" methodology for dealing with exports from NMEs.[58] The underlying premise for treating NMEs differently is that in such countries, "domestic sale prices are not market-determined but are instead set by central planners . . . [and so the prices] may bear no meaningful relationship . . . ." to the good's actual value.[59] With the home market's prices unsuitable for providing a normal value, calculating the dumping margin for products from NMEs is exceedingly difficult; it requires the Commerce Department to somehow arrive at a surrogate value for the normal value.[60] To create a surrogate value, the Commerce Department builds the price from the ground up.[61] It takes the cost of the elements used in producing the merchandise and adds to that value various other amounts representing general expenses, profits, or the cost of containers and packaging.[62] Of course, the Commerce Department cannot get those numbers directly from the non-market economy, so it must determine those quantities by looking to values from the surrogate country. The surrogate country itself must be "at a level of economic development comparable to that of the NME country, and significant producers of comparable merchandise."[63] Beyond that, the Commerce Department has no other statutory instructions telling it how to create this surrogate normal value;

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[56] An "all others rate" is the dumping rate assigned to exporters and producers not individually investigated. § 1673b(d)(1)(A)(ii). It is supposed to equal the weighted average of the individually investigated companies. § 1673d(c)(5). For examples of how the Commerce Department often excludes all the exporters individually investigated so that they have trouble calculating an "all others rate," see *Shenzhen Xinboda*, 180 F. Supp. 3d at 1322–24; Navneet Publ'ns (India) Ltd. v. United States, No. 13-00204, 2015 WL 1963768, at *3 (Ct. Int'l Trade May 4, 2015) (explaining how both individually investigated respondents had zero-percent rates).

[57] *See, e.g.*, *Navneet Publ'ns*, No. 13-00204, 2015 WL 1963768, at *1, *4 (Ct. Int'l Trade May 4, 2015) (demonstrating how the "all others rate" dropped from 11.01% to 0.5%); U.S. Steel Corp. v. United States, 179 F. Supp. 3d 1114, 1119–20 (Ct. Int'l Trade 2016) ("all others rate" changing from 55.29% to 5.79%).

[58] 19 U.S.C. § 1677b(c); IMP. ADMIN., U.S. DEP'T OF COMMERCE, POLICY BULLETIN 04.1 (Mar. 1, 2004), http://enforcement.trade.gov/policy/bull04-1.html; Watson, *It's Time to Dump Nonmarket Economy Treatment*, supra note 7, at 1.

[59] Watson, *Will Nonmarket Economy Methodology Go Quietly Into the Night?*, *supra* note 15, at 7–8.

[60] 19 U.S.C. § 1677b(c)(1)(B).

[61] 19 U.S.C. §§ 1677b(c)(1)(B), (c)(4).

[62] 19 U.S.C. § 1677b(c)(1)(B); *see also* 19 C.F.R. § 351.408.

[63] 19 U.S.C. § 1677b(c)(4).

the only other requirement is that the Commerce Department must base the valuation "on the best available information."[64]

The Commerce Department has promulgated regulations on the matter, which provide some additional guidelines.[65] The regulations help clarify that economic comparability should be measured by GDP per capita, that the Commerce Department will normally favor using a single country to derive all the surrogate numbers it needs, and that the Commerce Department will favor using publicly available information to value the factors of production.[66] Representing the entirety of the Commerce Department's direction, the statutory and regulatory framework still leaves the Commerce Department with a significant amount of discretion.

To understand exactly how little guidance those provisions provide the practitioners at the Commerce Department who make those determinations, a simple hypothetical is helpful. Imagine it is 2014 and the International Trade Commission has preliminarily determined that the domestic honey industry is being threatened by the dumping of honey from Vietnam.[67] The Commerce Department needs to establish a surrogate country that it can use to determine the cost of the factors of production (like hives, flowers, beekeeping suits, glass storage jars, etc.), the cost of labor, and the average profits of honey-making companies. The Commerce Department thinks it will be able to find that information from the following countries:

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[64] § 1677b(c)(1)(B); *see* Shakeproof Assembly Components, Div. of Ill. Tool Works, Inc. v. United States, 268 F.3d 1376, 1382 (Fed. Cir. 2001) ("In determining the valuation of the factors of production, the critical question is whether the methodology used by Commerce is based on the best available information and establishes antidumping margins as accurately as possible.").

[65] 19 C.F.R. § 351.408.

[66] *Id.*

[67] Although it is honey from China, not honey from Vietnam, that is actually subject to an antidumping duty order, it is one of the few products subject to such an order that is simple to understand. *See Notice of Antidumping Duty Order and Amendment to Final Determination: Honey from the People's Republic of China,* 66 Fed. Reg. 59026, 59026 (Dec. 10, 2001).

TABLE 1[68]		
Country	Honey Production (tonnes)	Gross National Income (GNI) per Capita (USD)
India	61,945	1,560
Tanzania	30,905	920
Romania	18,040	9,600
Vietnam	**14,218**	**1,900**
Australia	13,198	64,860
Poland	12,836	13,360
Uzbekistan	8,751	2,110
Egypt	5,443	3,250
Pakistan	4,371	1,390
Morocco	3,800	3,040
Nicaragua	560	1,890

How does the Commerce Department determine which country's data to use? The surrogate country must be both economically comparable to Vietnam and a significant producer of honey, but what does that mean? Should it value economies of scale and start with the country most similar in production capacity to Vietnam and see if it is economically comparable? Or should the Commerce Department start by seeing if any of the most economically comparable countries produce significant amounts of honey? Imagine if it favors economic comparability. Should Nicaragua's 560 tons of honey count as significant production? Does it matter that Nicaragua also produced 11,000 tons of a red dye made from a process extremely similar to that used to produce honey? What if Moroccan honey is not edible but rather almost solid and used only for medical purposes? What if the information on the cost of beekeeper suits and glass bottles in Pakistan comes from a website entitled "Aliens ARE AMOng uS!?!?!!" or, more realistically, cannot be easily authenticated because it comes from a website that is only in Urdu or Pashto?

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[68]   These are a selection of countries that at first glance might seem to have similar numbers to Vietnam. Honey production information comes from FOOD & AGRIC. ORG. OF THE UNITED NATIONS, http://www.fao.org/faostat/en/#data/QL (last visited Jan. 23, 2018). For the GNI per capita information, see *GNI per Capita Ranking Atlas Method (Current US$)*, WORLD BANK, https://data.worldbank.org/indicator/ NY.GNP.PCAP.CD?end=2015&name_desc=false&start=2014 (last visited Jan. 23, 2018).

What if Turkmenistan is dumping glass bottles into India and thereby artificially reducing the price there for that factor of production?

The Commerce Department has set out its policy for approaching such questions.[69] According to Policy Bulletin 04.1, the process begins with the creation of a list of market economy countries economically comparable to the NME.[70] The Commerce Department then determines which of those countries are producers of comparable merchandise.[71] It notes that, while "identical merchandise . . . qualifies as . . . comparable merchandise," what other merchandise counts as comparable "is best determined on a case-by-case basis."[72]

Next, the Commerce Department judges which of the countries are in fact significant producers of that comparable merchandise.[73] What counts as significant production is to be judged according to the "characteristics of [the] world production of, and trade in, comparable merchandise."[74] Often, "significant producer" means "significant net exporter," but "the standard for 'significant producer' will vary from case to case,"[75] and therefore, "[b]ecause the meaning of 'significant producer' can differ significantly from case to case, fixed standards . . . have not been adopted."[76]

Finally, if necessary, the Commerce Department selects from the remaining countries the one whose data are best according to five considerations.[77] Notably, in this process, the Commerce Department does not give extra weight to a country that is more economically comparable or more significant of a producer.[78] The Commerce Department concludes the Policy Bulletin by pointing out that there will be exceptions when this particular sequential process is not appropriate and when it would be better "to address economic comparability only after the significant producer of comparable merchandise requirement is met."[79] In laying out this policy, the Commerce

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[69]   POLICY BULLETIN 04.1, *supra* note 58.

[70]   *Id.*

[71]   *Id.*

[72]   *Id.*

[73]   *Id.*

[74]   *Id.*

[75]   *Id.*

[76]   *Id.*

[77]   *Id.* (The five considerations are: (1) does the data represent period wide price averages; (2) are the prices provided specific to the input in question; (3) are the prices the net of taxes and import duties; (4) are the prices contemporaneous with the period of review; and (5) are the data publicly available?).

[78]   *Id.*

[79]   *Id.*

Department chose to preserve its discretion rather than to bring more consistency and predictability to its work.

Companies have an extremely difficult time trying to predict the duties they will owe,[80] a problem exemplified by the importation of fresh garlic from China.[81] Fresh garlic from China has been subject to an antidumping duty order since 1994 and offers a good insight into how duties can fluctuate over time for any number of reasons.[82] Over the last decade, the calculated separate rate dumping margin[83] has swung significantly not only from year to year, but also from each year's preliminary determination to the year's ultimate determination. This strongly indicates that adding up the costs of the inputs needed to produce the product in a third country is simply not a reliable way to estimate what the production costs were in the NME.

TABLE 2				
Admin. Review	Period of Review	Determination Type	Surrogate Country	Separate Rate
13th	Nov. 06–Oct. 07	Preliminary[84]	India	$0.10
13th	Nov. 06–Oct. 07	Final[85]	India	$1.03
14th	Nov. 07–Oct. 08	Preliminary[86]	N/A	$1.03

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[80]   Alan Luberda, *Supply Chain Basics: Thirteen Things Every Importer Should Know About Risks Involved with Sourcing Products Subject to AD/CVD Orders*, THOMPSON REUTERS: TAX & ACCT., Feb. 2014, at 15.

[81]   *See* Antidumping Duty Order; Fresh Garlic from the People's Republic of China, 59 Fed. Reg. 59209, 59210 (Nov. 16, 1994).

[82]   *See id.*

[83]   The separate rate dumping margin is simply the "all others rate" discussed above, *supra* note 56, but in the NME context. Amanda Foods (Vietnam) Ltd. v. United States, 647 F. Supp. 2d 1368, 1379 (Ct. Int'l Trade 2009).

[84]   Fresh Garlic from the People's Republic of China: Preliminary Results of the Antidumping Duty Administrative and New Shipper Reviews and Intent to Rescind, In Part, the Antidumping Duty Administrative and New Shipper Reviews, 73 Fed. Reg. 74462, 74468 (Dec. 8, 2008). The dumping margin was given as a percentage (7.07%), but given how the percentage 72.74% equated to $1.03 in the final review, the preliminary dumping margin rate of 7.07% would be equal to $0.10.

[85]   Fresh Garlic from the People's Republic of China: Final Results and Partial Rescission of the 13th Antidumping Duty Administrative Review and New Shipper Reviews, 74 Fed. Reg. 29174, 29176 (June 19, 2009). The dumping margin was given as a percentage (72.74%), but the fourteenth administrative review used the same dumping margin. *Infra* note 87.

[86]   Fresh Garlic from the People's Republic of China: Preliminary Results of, and Intent to Rescind, in Part, the Antidumping Duty Administrative Review, 74 Fed. Reg. 64677, 64684 (Dec. 8, 2009) [hereinafter Preliminary Results AR 14].

14th	Nov. 07–Oct. 08	Final[87]	N/A	$1.03
15th	Nov. 08–Oct. 09	Preliminary[88]	India	$0.72
15th	Nov. 08–Oct. 09	Final[89]	India	$0.06
15th	Nov. 08–Oct. 09	1st Remand Results[90]	India	$0.02
16th	Nov. 09–Oct. 10	Preliminary[91]	India	$0.48
16th	Nov. 09–Oct. 10	Final[92]	India	$0.41
17th	Nov. 10–Oct. 11	Preliminary[93]	Ukraine	$1.81
17th	Nov. 10–Oct. 11	Final[94]	N/A	$1.28
18th	Nov. 11–Oct. 12	Preliminary[95]	Philippines	$1.47
18th	Nov. 11–Oct. 12	Final[96]	Philippines	$1.82
18th	Nov. 11–Oct. 12	1st Remand Results[97]	Philippines	$1.82
18th	Nov. 11–Oct. 12	2nd Remand Results[98]	Ukraine	$2.19

[87] Fresh Garlic from the People's Republic of China: Finals Results and Partial Rescission of the 14th Antidumping Duty Administrative Review, 75 Fed. Reg. 34976, 34976 (June 21, 2010).

[88] Fresh Garlic from the People's Republic of China: Preliminary Results of, Partial Rescission of, and Intent to Rescind in Part, the 15th Antidumping Duty Administrative Review, 75 Fed. Reg. 80458, 80467 (Dec. 22, 2010) [hereinafter Preliminary Results AR 15].

[89] Final Results of Redetermination Pursuant to Remand, Shenzhen Xinboda Indus. Co. v. United States, No. 11-00267, at 1 (Ct. Int'l Trade Apr. 16, 2014) [hereinafter Final Remand Results AR 15] (noting that the Commerce Department revised Xinboda's rate downward from $0.06 per kilogram to $0.02 per kilogram).

[90] *Id.* The separate rate entities did not object to the Final Results, but if they had, their rate would have gone down as well because for AR 15, the separate rate was just equal to Xinboda's rate. *See* Preliminary Results AR 15, *supra* note 88, at 80465.

[91] Fresh Garlic from the People's Republic of China: Preliminary Results of the 2009-2010 Antidumping Duty Administrative Review, 76 Fed. Reg. 76375, 76382 (Dec. 7, 2011).

[92] Fresh Garlic from the People's Republic of China: Final Results of the 2009-2010 Antidumping Duty Administrative Review, 77 Fed. Reg. 34346, 34348 (June 11, 2012).

[93] Fresh Garlic from the People's Republic of China: Preliminary Results of the 2010-2011 Antidumping Duty Administrative Review, 77 Fed. Reg. 73980, 73981 (Dec. 12, 2012).

[94] Fresh Garlic from the People's Republic of China: Final Results of the 2010-2011 Antidumping Duty Administrative Review, 78 Fed. Reg. 36168, 36169 (June 17, 2013) [hereinafter Final Results AR 17].

[95] Fresh Garlic from the People's Republic of China: Preliminary Results and Partial Rescission of the 18th Antidumping Duty Administrative Review; 2011-2012, 78 Fed. Reg. 77653, 77654 (Dec. 24, 2013).

[96] Fresh Garlic from the People's Republic of China: Finals Results and Partial Rescission of the 18th Antidumping Duty Administrative Review; 2011-2012, 79 Fed. Reg. 36721, 36723 (June 30, 2014).

[97] Final Results of Redetermination Pursuant to Remand: Fresh Garlic from the People's Republic of China, at 2, 24, Fresh Garlic Producers Ass'n v. United States, No. 14-00180 (Ct. Int'l Trade Feb. 9, 2016).

[98] THOMAS GILGUNN, INT'L TRADE ADMIN., DRAFT RESULTS OF REDETERMINATION PURSUANT TO REMAND: FRESH GARLIC FROM THE PEOPLE'S REPUBLIC OF CHINA 18 (2016).

19th	Nov. 12–Oct. 13	Preliminary[99]	N/A	$1.82
19th	Nov. 12–Oct. 13	Final[100]	N/A	$1.82
20th	Nov. 13–Oct. 14	Preliminary[101]	Romania	$2.72
20th	Nov. 13–Oct. 14	Final[102]	Romania	$2.75
Average Separate Rate Margin Actually Applied[103]				$1.36

Among the administrative reviews covering imports from November 2006 through October 2014, the Commerce Department twice determined from the outset that it lacked enough information to calculate a new separate entity dumping margin.[104] Thus, for the 14th and 19th reviews, the margins in the preliminary determinations equaled those of the final determinations because the Commerce Department assigned separate companies the rate from the previous year.[105] However, even including those two reviews, the average per kilogram change from one year to the next was $0.56.[106] The average difference between each review's preliminary and ultimate dumping margins was $0.42 per kilogram, while the average ultimate separate rate dumping margins for those years was only $1.36.[107] To place those numbers into

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[99]   Fresh Garlic from the People's Republic of China: Preliminary Results of the 19th Antidumping Duty Administrative Review; 2012-2013, 79 Fed. Reg. 72625, 72627 (Dec. 9, 2014) [hereinafter Preliminary Results AR 19].

[100]   Fresh Garlic from the People's Republic of China: Final Results and Partial Rescission of the 19th Antidumping Duty Administrative Review; 2012-2013, 80 Fed. Reg. 34141, 34142 (June 15, 2015). Because the Commerce Department did not want to calculate a separate rate, it is based on the previous review and will almost certainly change to match the ending rate of the 18th review.

[101]   Fresh Garlic from the People's Republic of China: Preliminary Results, Preliminary Intent to Rescind and Partial Rescission of the 20th Antidumping Duty Administrative Review; 2013-2014, 80 Fed. Reg. 75972, 75974 (Dec. 7, 2015).

[102]   Fresh Garlic from the People's Republic of China: Final Results and Final Rescission of the 20th Antidumping Duty Administrative Review; 2013-2014, 80 Fed. Reg. 39897, 39898 (June 20, 2016).

[103]   This is the unweighted average. Creating a weighted average is not possible because the amount each shipper imports is kept confidential and not every shipper receives a separate rate. YURI STARIKOV, ANTIDUMPING DUTIES: SEPARATE RATE 13 (New York Law School Center for International Law, 2011). This number also rests on three assumptions: 1) the department's appeal of the court's decision regarding the eighteenth administrative review will fail; 2) the ultimate dumping margin for the nineteenth administrative review will in fact end up being $2.19; and 3) the challenge to the twentieth administrative review's calculations will fail. *Id.*

[104]   Preliminary Results AR 14, *supra* note 86, at 34978; Preliminary Results AR 19, *supra* note 99, at 72626.

[105]   Preliminary Results AR 14, *supra* note 86, at 34979; Preliminary Results AR 19, *supra* note 99, at 72625.

[106]   Again, this calculation assumes the ultimate rate for the 19th administrative review will be $2.19.

[107]   Again, this calculation assumes the ultimate rate for the 19th administrative review will be $2.19.

context, the average year-end price of fresh garlic in the United States over this time was approximately $1.25 per kilogram.[108]

Many factors in these analyses are interdependent—for example, the price of garlic in the United States, the costs of production of garlic in both China and the United States, the export price of Chinese garlic, and the dumping margin assigned to Chinese garlic imports all depend on each other. Therefore, using them to make assumptions about each other can be difficult. That being said, the data still suggest something is wrong. Theoretically, two formulas should be true. The first formula is a restatement of the definition of a dumping margin—the production cost of garlic in China minus the export price equals the dumping margin. The second states the idea that the total value of garlic in the United States must equal the price at which Chinese garlic is sold, times the amount of Chinese garlic sold, plus the price at which all the other garlic in the United States was sold, times the amount of that garlic. Thus, for the 2007–2014 time period described by the variables in the Table 3, those two equations can be stated as:

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[108]   *U.S. Garlic Price Received*, YCHARTS, https://ycharts.com/indicators/us_garlic_price_received (last visited Jan. 23, 2018) (looking at the year-end prices for 2007–14).

$$CP_C - P_E = DM^{109}$$

$$\&$$

$$(A_C * P_E) + (A_A * P_U) = P_A * (A_C + A_A)$$

TABLE 3		
Variable	**Symbol**	**Value**
Cost of Producing Garlic in China	CP_C	
Export Price	P_E	
Dumping Margin	DM	$1.3625 / kg[110]
Amount of Chinese Garlic Imported into the USA	A_C	526,813 tonnes[111]
Amount of Garlic in the USA not Originating from China	A_A	1,502,208 tonnes[112]
Price Non-Chinese Garlic is Sold in the USA	P_U	
Cost of Producing Garlic in the USA	CP_U	
Average Price of Garlic	P_A	$1.254 / kg[113]

Assuming that U.S. producers were not selling their garlic at a loss for eight years, then, at the very least, CP_U (the cost of producing garlic in the United States) must equal P_U (the price of non-Chinese garlic sold in the United States).[114] Under that assumption and plugging in the known numbers, unless China was selling the garlic for more than an eighty-percent loss—not even including the cost of the antidumping duties—for the entire eight year

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[109] Not all imported Chinese garlic had the same dumping margin (or export price). Given that the largest exporters were thrice assessed a dumping margin of $0.00 during this time period, the true average dumping margin for all imports might be lower. Conversely, given that garlic imports from state-run companies come with a $4.71 duty, it's possible that the true average is higher. The separate rate suffices as an approximation of the average in the absence of other information. *See also* Leigh Kamping-Carder, *ITA Maintains 4.71% Duties on Chinese Garlic*, LAW360 (June 22, 2010), https://www.law360.com/articles/176483/ita-maintains-4-71-duties-on-chinese-garlic.

[110] *See supra* note 107.

[111] *See supra* note 36.

[112] *See id*; FOOD & AGRIC. ORG. OF THE UNITED NATIONS, *supra* note 68. Total Amount of Garlic in the United States equals Amount Produced in the United States, plus Total Amount Imported, minus Total Amount Imported from China, minus Amount Exported equals 1,463,920, plus 628,011, minus 526,813, minus 62,910 equals 1,502,208.

[113] *See supra* note 108.

[114] One would actually expect that $CP_U < P_U$.

period (so that $P_E < \$0.24$), then the cost of producing garlic in China was greater than the cost of producing garlic in the United States.[115] This seems highly unlikely.[116] The more likely explanation is that the Commerce Department's unpredictable method for calculating the CP_C (the cost of producing garlic in China) and subsequently the DM ("dumping margin"), from surrogate values, yielded unreliable results.

This unpredictability is most clearly seen in the 15th, 17th, and 18th reviews. In the preliminary determination for the 15th administrative review, which covered most of 2009, the Commerce Department used surrogate values from India when calculating the factors of production.[117] It therefore initially determined the separate rate dumping margin to be $\$0.72$ per kilogram.[118] However, before issuing its final determination, the Commerce Department was persuaded to switch from using a generic wholesale price index to a garlic specific price index and to use more recent records when looking at an Indian company to see what appropriate financial ratios were for similar businesses.[119] These two changes, among others, caused the ultimate dumping margin for the 15th administrative review to plummet to $\$0.02$.[120]

In the 17th administrative review, the Commerce Department initially used Ukraine as the surrogate and came up with a dumping margin of $\$1.81$ per kilogram for the separate rate entities.[121] Before issuing its final determination, the Commerce Department was persuaded that the database it used to determine the price of garlic bulbs in Ukraine was unreliable and switched to a

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[115] To determine at what point $CP_C = CP_U$, we can rewrite the dumping margin formula so that $P_U - P_E =$ DM. Plugging in the $\$1.36$ for the DM, we can rewrite P_U in terms of P_E: $P_U = 1.36 + P_E$. Plugging that into the other equation produces $(A_A * (1.36*P_E) = P_A * (A_C + A_A) - (A_C * P_E))$. Filling in the other known factors from Table 3 yields the equation $1,502,208 * (1.36 + P_E = \{[1.25 * (526,813 + 1,502,208)] - (526,813 * P_E)\})$. Changing the assumptions leads to equally questionable results. For example, let's say that, in reality, China is selling their garlic at a fifty-percent loss. In that case, $CP_C = \$2.72$ and $P_E = \$1.36$. Thus, $P_U = \{[1.25 * (526,813 + 1,502,208)] - (526,813 * 1.36)\} / 1,502,208 = \$1.21 = CP_U$. This means that the cost of production of garlic in China ($\$2.72$) was more than 120% greater than the cost of garlic production in the United States ($\$1.21$).

[116] JOANNA BONARRIVA, U.S. INT'L TRADE COMM'N, CHINA'S AGRIC. TRADE: COMPETITIVE CONDITIONS AND EFFECTS ON U.S. EXPS., App'x D-3 (Mar. 2011) (noting that an American trade association explicitly "stated that Chinese dehy[drated] garlic has a competitive advantage over U.S.-produced dehy[drated] garlic in all markets because of lower production costs.").

[117] Preliminary Results AR 15, *supra* note 88, at 80462.

[118] *Id.* at 80467.

[119] Fresh Garlic from the People's Republic of China: Final Results and Partial Rescission, in Part, of the 2008-2009 Antidumping Duty Administrative Review, 76 Fed. Reg. 37321, 37323 (June 27, 2011).

[120] Final Remand Results AR 15, *supra* note 89, at 1.

[121] DAVID LINDGREN, IMP. ADMIN., ADMIN. REVIEW OF THE ANTIDUMPING DUTY ORDER ON FRESH GARLIC FROM THE PEOPLE'S REPUBLIC OF CHINA: SURROGATE VALUES FOR THE PRELIMINARY RESULTS 1 (Dec. 3, 2012).

different Ukrainian database. This caused the mandatory respondents' dumping margins to effectively become $0.00.[122] Prohibited by law from using *de minimis* margins to calculate the separate rate, the Commerce Department exercised its statutory prerogative to "use any reasonable method" and chose the $1.28 dumping margin from a new-shipper review two years earlier—still based on Indian data.[123]

In the 18th review, the Commerce Department selected the Philippines as the surrogate country and arrived at a preliminary dumping margin of $1.47 for separate rate entities.[124] The Commerce Department chose the Philippines even though that country produced only 9,056 metric tons of fresh garlic during the year in question, which was less than 0.04% of the worldwide production; consequently, an importer challenged the Commerce Department's determination that the Philippines was a significant producer of fresh garlic.[125] The Commerce Department insisted that it could define "significant" as "noticeably or measurably large" and that Policy Bulletin 04.1 expressly chose not to assign a minimum number or percentage to what could be considered significant.[126] The Court of International Trade rejected the Commerce Department's argument, noting that Policy Bulletin 04.1 indicates that the Commerce Department should judge whether production is significant by looking to the "characteristics of world production."[127] The Court held the Commerce Department's decision to be in error because its definition "involved no comparative analysis" whatsoever.[128] After having its first remand results—noting that the Philippines was forty-third out of ninety-five garlic producing countries—struck down, the Commerce Department reluctantly settled on Ukraine as the surrogate country in the second remand results.[129] This change, along with the determination that one of the mandatory respondents had not been fully cooperative, raised the ultimate separate rate dumping margin to $2.16.[130]

During this review, one respondent kept noting that Thailand produced eight times more garlic than the Philippines and, after India, was the "second

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[122]   Final Results AR 17, *supra* note 94, at 36169.

[123]   *Id.*

[124]   Fresh Garlic Producers Ass'n v. United States, 121 F. Supp. 3d 1313, 1317 (Ct. Int'l Trade 2015).

[125]   *Id.* at 1339.

[126]   Fresh Garlic Producers Ass'n v. United States, 180 F. Supp. 3d 1233, 1238 (Ct. Int'l Trade 2016).

[127]   *Id.*

[128]   *Fresh Garlic Producers Ass'n*, 121 F. Supp. 3d at 1340.

[129]   GILGUNN, *supra* note 98, at 18.

[130]   *Id.*

most significant producer [on the] record."[131] The respondent urged the Commerce Department to "properly weigh the relative [in]significance of the Philippines's garlic production."[132] The Commerce Department responded by essentially arguing that even when looking for a surrogate for the largest producer of garlic, greater production does not make a country a better surrogate. It correctly noted that the respondent "misreads section 773(c) [of] the Act; the criterion is significant production, not the most production. Consequently, not being the greatest producer of garlic does not preclude a country from being a significant producer."[133] Thus, the Commerce Department refused in this case to select Thailand over the Philippines simply because Thailand had greater production. This decision conforms with Policy Bulletin 04.1 when it states that "the Statute does not require that the Department use a surrogate country that is the most significant producer" and "the extent to which a country is a significant producer should not be judged against . . . the comparative production of the" other economically comparable countries.[134]

Considering the Commerce Department's reluctance in that administrative review of fresh garlic to look at significant production in terms of larger or smaller producers, the Commerce Department's rationale for choosing Thailand as the surrogate country in *Calgon Carbon Corp.* seems confusing at first.[135] *Calgon* dealt with an appeal of a dumping margin calculation for the antidumping duty on certain activated carbon products from China.[136] For its preliminary determination, the Commerce Department chose the Philippines as the primary surrogate country and found the separate rate dumping margin to be $3.13 per kilogram.[137] A party challenged that the merchandise being used to calculate the primary factor of production was not actually comparable.[138] For its final determination, the Commerce Department accepted that party's

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[131]   Brief for Shenzhen Xinboda Indus. Co. at 29, Fresh Garlic from the People's Republic of China, Case No. A-570-831 - Annual Review, Review Period: November 1, 2011 through October 31, 2012 (May 14, 2014).

[132]   *Id.* at 36.

[133]   U.S. DEPT. OF COM., INT'L TRADE ADMIN., A-570-831, ISSUES AND DECISION MEMORANDUM FOR THE FINAL RESULTS OF THE ANTIDUMPING DUTY ADMINISTRATIVE REVIEW: FRESH GARLIC FROM THE PEOPLE'S REPUBLIC OF CHINA: 2011-2012 ADMINISTRATIVE REVIEW 8 (2013).

[134]   POLICY BULLETIN 04.1, *supra* note 58.

[135]   Calgon Carbon Corp. v. United States, 190 F. Supp. 3d 1224, 1240–42 (Ct. Int'l Trade 2016).

[136]   *Id.* at 1224.

[137]   *Id.* at 1227.

[138]   By far the biggest factor of production is anthracite coal. *Id.* (citing Final Results of Redetermination Pursuant to Ct. Order, ECF Nos. 97-1 (conf. version) & 98-1 (pub. version) at 32–33). The party complained that 2013 Philippines reports, unlike any other countries' figures, included filtration anthracite within the category of anthracite coal. *Calgon Carbon Corp.*, 145 F. Supp. 3d at 1318.

arguments about the contemporaneous Philippines data and used the previous year's Philippines data.[139] This change produced a dumping margin of $0.04.[140] The Court of International Trade found the Commerce Department failed to convincingly explain its preference for the previous year's Philippine data over contemporaneous data from at least five other countries.[141] Upon remand, the Commerce Department chose to use Thai data, which produced a dumping margin of $0.52.[142]

In these remand results the Commerce Department explained how it ended up with Thailand as the surrogate country instead of South Africa or Ukraine.[143] It chose Thailand over the other options, "based on which [potential] surrogate country is the most significant producer of comparable merchandise."[144] The Commerce Department made this decision at the same time it was explaining its rejection of Thai data in *Fresh Garlic* with the justification that "the criterion is significant production, not the most production."[145] This contradiction is technically justifiable because of the difference in circumstances between the two calculations. Unlike in *Fresh Garlic*, the Commerce Department in *Calgon* decided to go with the largest producer only after first going through the entire sequential analysis and determining that three economically comparable countries who were significant producers all had equally reliable data sets.[146] That the Commerce Department would have found the data sets equally reliable in *Calgon* but not so in *Fresh Garlic* exemplifies how unpredictable the Commerce Department's process often is.

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[139]   Although the Commerce Department agreed, rather than switching to another country, it decided to use the 2012 Philippines report, which no party had challenged in the previous year's review. *Calgon Carbon Corp.*, 145 F. Supp. 3d at 1318–19. If the Commerce Department had reason to think why the 2012 Philippines report did not also have a broader definition of anthracite coal, the Commerce Department declined to state what it was, and instead seemed to have relied on the fact that the parties had waived their right to complain about its accuracy. *Calgon Carbon Corp*, 190 F. Supp. 3d at 1227–28.

[140]   *Calgon Carbon Corp*, 190 F. Supp. 3d at 1228.

[141]   *Id.* at 1233–34.

[142]   *Id.* at 1228–29.

[143]   Final Results of Redetermination Pursuant to Court Remand at 15, *Calgon Carbon Corp.*, 190 F. Supp. 3d 1224 (No. 14-00326).

[144]   *Id.* at 15–16

[145]   *See* U.S. DEPT. OF COM., INT'L TRADE ADMIN., A-570-831, *supra* note 133, at 8.

[146]   *Compare Calgon Carbon Corp.*, 190 F. Supp. 3d at 1228–29, *with* Fresh Garlic Producers Ass'n v. United States, 180 F. Supp. 3d 1233, 1243 (Ct. Int'l Trade 2016).

IV. ANTIDUMPING DUTY CALCULATIONS IN CANADA

The Commerce Department is not alone among the administering agencies of antidumping measures to use a questionable method. Canadian unfair trade remedy law is laid out in the Special Import Measures Act (SIMA).[147] Because it is also based on GATT Article VI, the substance of SIMA differs very little from that of the Tariff Act of 1930. The dumping margin assigned is equal to the normal value minus the export price of the goods.[148] In the context of non-market economies,[149] the Canadian Border Services Agency (CBSA) usually determines the normal value of the good by finding "the aggregate of the cost of production of [a] like good[], a reasonable amount for administrative, selling and all other costs, and a reasonable amount for profits."[150] These values are found in the same way they are in the United States—by looking to another country. This surrogate country can be "any country other than Canada designated by the President" of CBSA.[151] Furthermore, as with the Commerce Department in the United States, there exists very little substantive statutory or regulatory guidance for how the CBSA should choose the surrogate country[152] or how it should use the factors of production, costs, and profit numbers to create a surrogate value.[153]

Canadian law and practice does differ from that of the United States in two crucial ways. First, rather than require that respondents and petitioners provide data from a list of potential surrogate countries, the CBSA simply sends out a request for information to producers of other countries.[154] Unsurprisingly,

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[147]   Special Import Measures Act, R.S.C. 1985, c S-15 (Can.).

[148]   *Id.* c 30.2(1)–(2).

[149]   SIMA does not use the precise term "nonmarket economy country," instead referring more to export monopolies. *See id.* c 20(1). However, the situations for when the special procedures come in are quite similar. *Compare id.* c 20(1)(a) (referring to a country "where . . . domestic prices are substantially determined by the government of that country and there is sufficient reason to believe that they are not substantially the same as they would be if they were determined in a competitive market"), *with* 19 U.S.C. § 1677(18)(a) (2015) (referring to a country that "does not operate on market principles of cost or pricing . . . so that sales of merchandise in such country do not reflect the fair value of the merchandise").

[150]   Special Import Measures Act, R.S.C. 1985, c S-15, s 20(1)(c)(ii) (Can.).

[151]   *Id.* c 20(1)(c).

[152]   Technically, in certain circumstances, the CBSA's discretion is limited by a prohibition against choosing a country where the like good, in the opinion of the CBSA, is itself being dumped or whose price has been influenced by a non-market economy. *See* Special Import Measures Regulations, SOR/84-927 17.1 (Can.).

[153]   *Id.* c 14-17.2.

[154]   *See, e.g.*, CAN. BORDER SERV. AGENCY, 4214-31JAD/1390, Statement of Reasons, Certain PUP Joints Originating in or Exported from the People's Republic of China, at ¶ 102-03 (2012) (Can.), http://www.cbsa-asfc.gc.ca/sima-lmsi/i-e/ad1390/ad1390-i11-fd-eng.pdf.

these requests rarely produce viable information.[155] Once this happens, the CBSA's president can simply choose any country he or she wants.[156] This discretion is magnified by the absence in Canadian law of the requirement that the valuation be "based on the best available information."[157] Thus, the Canadian government actually has significantly more discretion than the Commerce Department in how to select a surrogate country. As the Federal Court of Appeal noted in a 2006 case,

> The questions of whether the President . . . properly calculated the margins of dumping draw on the President's expertise in international trade matters. These issues are technical and the statute [in establishing the factors of production method] . . . confers some discretion on the President. Were courts to become mired in all the minutia of detail informing a margin of dumping calculation, it is sure that they would not see the light of the day beneath the volumes of evidence that would assuredly be produced—as they were in this case—on judicial review. This factor points to more, and considerable, deference.[158]

Given the CBSA's administrative flexibility, companies have always been extremely hesitant to challenge CBSA's determination of a dumping margin.[159] This does not necessarily mean, though, that Canadian determinations are more accurate or even are more predictable in arriving at a surrogate country. Unfortunately, the CBSA does not publicly release the value of the antidumping duties it assesses. A joint study between the Commerce Department and the CBSA would shed additional light on the reliability of NME calculations more generally. Given China's dominance of the market and the obvious proximity of Canada to the United States, the antidumping duty assessed by Canadians and that assessed by Americans for the same product

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[155] *Id.*; CAN. BORDER SERV. AGENCY, 4214-22 AD/1379, Statement of Reasons, Certain Aluminum Extrusions Originating in or Exported from the People's Republic of China, at ¶ 32 (2009) (Can.), http://www.cbsa-asfc.gc.ca/sima-lmsi/i-e/ad1379/ad1379-i08-fd-eng.pdf; CAN. BORDER SERV. AGENCY, 4214-22 AD/1379, Statement of Reasons, Certain Aluminum Extrusions Originating in or Exported from the People's Republic of China, at ¶ 94 (2008) (Can.), http://www.cbsa-asfc.gc.ca/sima-lmsi/i-e/ad1379/ad1379-i08-pd-eng.html.

[156] Special Import Measures Act, R.S.C. 1985, c S-15, s 20(1)(d)(1) (Can.).

[157] *See* Shakeproof Assembly Components, Div. of Ill. Tool Works, Inc. v. United States, 268 F.3d 1376, 1382 (Fed. Cir. 2001).

[158] Uniboard Surfaces Inc. v. Kronotex Fussboden GmbH & Co. KG, [2006] FCA 398, para. 60 (Can. Fed. Ct. App.).

[159] *Cf.* ANDREW M. LANOUETTE & CHRISTOPHER KENT, CANADA: HIGH DEFERENCE, STARK REALITY 29 (Müslüm Yilmaz ed., Cambridge Univ. Press 2013) (noting that in the nineteen years between 1994 and 2013, only eight challenges to a dumping margin made it up to the Federal Court of Appeals).

should theoretically be the same. Any differences would be the result of the different methodologies used by each administering agency.

V.   A PATH FORWARD

China's status as a non-market economy is a highly contentious issue. China strongly contends that the 2001 agreement outlining China's accession to the WTO required other WTO members, including the United States, Canada, and the EU, to have granted China a market economy status on December 11, 2016.[160] For the first fifteen years after the agreement was ratified, Article 15 subparagraph (a)(ii) clearly allowed importing nations to use a methodology for antidumping duty cases that was "not based on . . . domestic prices or costs in China."[161] Sub-paragraph (d)'s language regarding what was supposed to happen after fifteen years is the source of the contention. U.S. and EU lawyers note that "the provisions of subparagraph (a) shall be terminated" only "[o]nce China has established, under the national law of the importing WTO Member[s] that it is a market economy."[162] As China points out, though, the following sentence reads, "[i]n any event, the provisions of subparagraph (a)(ii) shall expire 15 years after the date of accession."[163] When read together, the first sentence seems to be stating that, if China proves itself to be a market economy before the fifteenth anniversary, then WTO members must treat China as a market economy. The second sentence then explains what must happen, no matter what, once fifteen years have passed. At that point, WTO members must use Chinese domestic prices in their antidumping duty calculations. Others interpret the provision differently.[164] China feels so strongly that its interpretation is correct that it filed disputes in the WTO against both the United States and the EU on December 12, 2016.[165]

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[160]   World Trade Organization, Protocol on the Accession of the People's Republic of China of 10 November 2001, art. 15, WTO Doc. WT/L/432, http://www.wto.org/english/thewto_e/acc_e/completeacc_e. htm.

[161]   *Id.* ¶ (a)(ii).

[162]   *Id.* ¶ (d).

[163]   *Id.*

[164]   *Compare* Christian Tietje & Karsten Nowrot, *Myth or Reality? China's Market Economy Status under WTO Anti-Dumping Law After 2016*, 34 POL'Y PAPERS ON TRANSNAT'L ECON. L. 2, 7 (Dec. 2011) *and* Bernard O'Connor, *Market Economy Status for China is Not Automatic*, VOX (Nov. 27, 2011), *with* Helena Detlof & Hilda Fridh, *The EU Treatment of Non-Market Economy Countries in Anti-Dumping Proceedings*, 2 GLOBAL TRADE & CUSTOMS J. 265, 268 (2007).

[165]   *U.S. Set to Review China's Market-Economy Status Bid, WSJ Says*, s*upra* note 3; Request for Consultations by China, *European Union – Measures Related to Price Comparison Methodologies*, WTO Doc. WT/DS516/1 (Dec. 12, 2016).

While arguments will continue about the legality of the U.S. and EU decisions not to act, the fact remains that President Trump's rhetoric indicates that it is highly unlikely that the U.S. decision will grant China market economy status in the near future.[166] President Trump's rhetoric would be consistent with the recent EU rejection of a proposal to grant China market economy status.[167] Considering the control exerted and aid provided by the Chinese government in many sectors, this is, at the very least, an easily defensible position.[168] However, this does not mean that the Commerce Department or Congress should not seek to improve the current system.

The Commerce Department should consider promulgating a rule that sets forth a mathematical formula that makes arriving at a surrogate country more predictable. In effect, the Commerce Department could apply the hypotenuse/distance formula to countries' GNI per capita and good production data to see what country is closest to the NME in question. How similar a potential surrogate Nation ("N") is to an Exporting NME country ("E") in respect to a certain Dumped product ("D") can be reflected by a similarity score ("s-score" or "S") determined by the following formula where the lower the value of S, the more similar E is to N:

$$S = \sqrt{((G_E-G_N)^2+(Y_E-Y_N)^2)}$$

In the formula, the G represents each country's GNI per capita. The Y represents the yearly production of comparable merchandise to D for each country. Given how extensive the international classification systems already are, the term "comparable merchandise" should be defined as merchandise that would have the same eight-digit Harmonized Tariff System (HTS) code.

Because of the vast differences in scale between the GNI per capita numbers (G) and the production numbers (Y), for every set of s-score calculations made for D and E, the G and Y values would have to be normalized to the same scale.[169] To provide the desired predictability, the normalization process would have to be set as a part of the regulation. I would suggest normalizing production and GNI numbers, respectively, according to the per country and per capita numbers for the set of countries that individually

[166]   Bey, *supra* note 8.

[167]   Daniela Vincenti, *EU Lawmakers Reject Granting China Market Economy Status*, EURACTIV (May 12, 2016), https://www.euractiv.com/section/trade-society/news/eu-lawmakers-reject-granting-china-the-market-economy-status/.

[168]   Bulloch, *supra* note 3.

[169]   For instance, from the honey example, without normalization, if each countries' honey production were measured in metric tons, the s-scores would be different than if they were all measured in ounces.

make up at least 0.2% of the world's total production. More specifically, I would suggest comparing the z-scores generated from the G and Y numbers of countries with at least 0.2% of the world's production.[170] The general idea of this normalization process is, in effect, to set the scale of the axes on which the GNI and production data can be plotted so that their distance from the NME country's information can be measured. Setting a minimum threshold ensures that the production of the good is on a scale large enough to justify the assumption that the potential surrogate country's production practices are not unreasonably dissimilar from that of the NME country with its much greater economies of scale.[171]

Having calculated the s-score for all countries meeting the 0.2% threshold, the Commerce Department can remove NMEs, countries with information of insufficient reliability, and countries with merchandise that may be comparable but which the Commerce Department still determines differs from D and the values of its factors of production so as to significantly distort the calculation of D's cost of production. Here, the Commerce Department should keep the accessibility requirement but add that, unless accompanied by a full translation and step-by-step instructions for reproducing the information, data from non-English websites will be deemed unreliable.

This method can be summarized as a six-step process. Step 1: Create a list consisting of the GNI per capita and amount of goods produced for every country. Step 2: Remove all countries whose production is less than 0.2% of the world production. Step 3: For the remaining countries, transform their GNI per capita and production numbers into z-scores. Step 4: Calculate the s-scores from the z-scores. Step 5: Remove any NME country from the list. Step 6: Remove countries with unreliable data or data the Commerce Department believes are significantly distortive because of differences in factors of production. Whatever remaining country has the smallest s-score should be the surrogate country.

To provide a concrete example, the formula can be applied to the Vietnamese honey hypothetical from above to produce the following s-scores:[172]

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[170]   "A z-score . . . indicates how many standard deviations an element is from the mean." *Z Score*, STAT TREK, http://stattrek.com/statistics/dictionary.aspx?definition=z%20score (last visited Jan. 23, 2018).

[171]   Setting the minimum threshold would certainly require input during the rulemaking process.

[172]   For a list of other countries' s-scores, see Table 5 below.

TABLE 4			
Country	Honey Production "Y" (tonnes)	GNI per Capita "G" (USD)	S-Score
India	61,945	1,560	.700
Tanzania	30,905	920	.251
Romania	18,040	9,600	.452
Vietnam	**14,218**	**1,900**	**0**
Australia	13,198	64,860	3.668
Poland	12,836	13,360	.684
Uzbekistan	8,751	2,110	.081
Egypt	5,443	3,250	.151
Pakistan	4,371	1,390	.147
Morocco	3,800	3,040	.167
Nicaragua	560	1,890	Did not make 0.2% cutoff

From the outset, Nicaragua's red dye clearly does not count as comparable merchandise because it would have a different eight-digit HTS code. Without the dye, its production did not meet the 0.2% threshold, so it was not included in the s-score calculations. Of the countries for which an s-score was calculated, Uzbekistan had the lowest, but its status as an NME means it too is disqualified.[173] Pakistan has the next lowest s-score, so it would be the surrogate country, assuming the information did not come from an unreliable website and that translations and instructions were included. If not, the Commerce Department would instead use Egypt. Because Egypt's numbers are acceptable, the Commerce Department would not have to make a determination as to whether it thought that the difference between the medicinal honey in Morocco and the edible honey of Vietnam meant that cost of labor in Moroccan beehives differed enough from that of Vietnam so as to significantly distort the calculation of the cost of producing honey in Vietnam.

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[173]   *See supra* note 64; 19 U.S.C. § 1677b(c)(4) (2012) requires that the surrogate country be a market economy. However, it is preferable to have NMEs remain in the s-score analysis until the very end because of how beneficial additional data is to the calculations. More specifically, their inclusion helps make the z-scores more accurate by giving additional points to factor into the standard deviation.

This same methodology could be applied to determine what the best surrogate country would have been for each administrative review of Chinese fresh garlic imports discussed above. For example, in the 18th review, the most similar countries to China were India, Egypt, and Myanmar.[174] No questions were raised about the reliability or quality of India's data, so it would have been the surrogate country.

Given the divisive nature of free trade in today's political environment, any change to the method for calculating antidumping duties could only occur if it did not require Congressional action. In fact, adoption of such a framework should be possible under the current legislation. As noted above, the Tariff Act of 1930 does not set out many rules governing how the Commerce Department can select a surrogate country.[175] The statute simply mandates that the Commerce Department meet three requirements in going about such work. First, it must base its determination on "the value of [a good's] factors of production."[176] Second, it must base the valuation of the factors of production "on best information available."[177] Third, the Commerce Department must also ground the valuation of the factors of production in the NME on the factors' costs in a surrogate country that is "at a level of economic development comparable to that of the non-market economy, and significant producers of comparable merchandise."[178] The process suggested in this Comment easily meets those three requirements; it still uses the (1) best information available to calculate the (2) values of the product's factors of productions, and it relies (3) on economic and production information to find a surrogate country.

Adopting such a process would not only benefit companies by improving the predictability of the Commerce Department's determinations, but could also benefit the Department itself. Given the lack of boundaries placed on the Commerce Department and the fact that even small changes to the values given to the factors of production can cause the results to change dramatically, every   decision   the   Department   has   to   make   in   antidumping   duty

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[174]   These three countries are listed in order of their similarities to China. *See* Table 6. The data on that table comes from two sources: FOOD & AGRIC. ORG. OF THE UNITED NATIONS, http://www.fao.org/faostat/en/ #data/QL (last visited Jan. 23, 2018); *GNI per Capita Ranking Atlas Method (Current US$)*, WORLD BANK, https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?end=2015&name_desc=false&start=2014 (last visited Jan. 23, 2018).

[175]   *See supra* Parts II and III.

[176]   19 U.S.C. § 1677b(c)(1)(B).

[177]   *Id.*

[178]   19 U.S.C. § 1677b(c)(4).

determinations is an act of discretion which must be justified.[179] Because of the wide discretion it reserves for the Commerce Department, Policy Bulletin 04.1 is a general statement of policy which the "agency cannot . . . rely upon" to justify its decisions.[180] When implementing a new process, the Commerce Department should strive as much as possible to promulgate actual rules; doing so would make explaining the purpose behind its actions much easier.

How reliable is the United States' current method for finding a surrogate country and ultimately establishing a product's dumping margin? The preceding paragraphs suggest the answer is "not very." This says much more about the immense complexities of the assigned task than anything about the Commerce Department's abilities. It also explains why China is so eager for the United States and the EU to start treating it as a market economy for tariff purposes. Given the rising tensions between the United States and China over trade, adopting the method proposed here would be both a good way to demonstrate a willingness to work towards a solution as well as a way to make things easier for the Commerce Department and to reduce prices for American consumers.

ADAM WILLIAMS[*]

Country	GNI per Capita ($)	Honey Produced (tonnes)	Percent of World Production	S-Score	Rank
China	7,520	462,028	30.59%	6.5747	44
Turkey	12,590	103,525	6.85%	1.4501	33
United States	55,380	80,862	5.35%	3.2653	42
Iran	6,530	76,000	5.03%	0.9453	28
Russia	14,420	74,868	4.96%	1.1502	32
Ukraine	3,560	66,521	4.40%	0.7730	25
India	1,560	61,945	4.10%	0.7001	24
Mexico	10,190	60,624	4.01%	0.8345	26
Brazil	12,020	38,481	2.55%	0.6886	23
Canada	51,750	36,993	2.45%	2.9233	41
Spain	29,290	32,174	2.13%	1.6173	35
Tanzania	920	30,905	2.05%	0.2513	16
Angola	4,470	23,434	1.55%	0.2017	10
South Korea	26,800	23,131	1.53%	1.4565	34
Germany	47,680	20,195	1.34%	2.6685	39
Uruguay	16,230	19,600	1.30%	0.8386	27
Romania	9,600	18,040	1.19%	0.4521	19
New Zealand	41,530	17,608	1.17%	2.3093	37
Hungary	13,460	17,000	1.13%	0.6747	21
Vietnam	1,900	14,218	0.94%	0.0000	N/A
Australia	64,860	13,198	0.87%	3.6680	43
Poland	13,630	12,836	0.85%	0.6837	22
Taiwan	-	11,572	0.77%	N/A	N/A
Portugal	21,260	10,451	0.69%	1.1292	31
United Kingdom	43,760	9,546	0.63%	2.4397	38
Bulgaria	7,720	9,268	0.61%	0.3467	18
Uzbekistan	2,110	8,751	0.58%	0.0811	1
Thailand	5,750	8,736	0.58%	0.2383	14
Cuba	-	7,900	0.52%	N/A	N/A
Czechia	18,790	7,163	0.47%	0.9894	30
Croatia	13,150	6,269	0.42%	0.6657	20
Egypt	3,250	5,443	0.36%	0.1508	3

TABLE 5

Algeria	5,470	5,425	0.36%	0.2447	15
Guatemala	3,450	4,893	0.32%	0.1639	7
Serbia	5,840	4,383	0.29%	0.2711	17
Pakistan	1,390	4,371	0.29%	0.1474	2
Georgia	4,490	4,100	0.27%	0.2116	12
Slovakia	18,110	4,080	0.27%	0.9560	29
Austria	50,150	3,900	0.26%	2.8150	40
Moldova	2,560	3,896	0.26%	0.1562	4
Morocco	3,040	3,800	0.25%	0.1666	9
Tajikistan	1,340	3,715	0.25%	0.1574	5
Myanmar	1,240	3,573	0.24%	0.1608	6
Senegal	1,030	3,467	0.23%	0.1656	8
Tunisia	4,130	3,300	0.22%	0.2062	11
Israel	35,680	3,200	0.21%	1.9746	36
Albania	4,450	3,100	0.21%	0.2206	13
Nicaragua	1,890	560	0.04%	N/A	N/A
The World	7,520	1,510,568	100%	N/A	N/A

TABLE 6					
Country	GNI per Capita ($)	Garlic Produced (tonnes)	Percent of World Produc-tion	GNI Z-Score	Garlic Z-Score	S-Score
China	5,060	18,429,500	79.82%	0.364391319	-4.788842714	0
India	1,380	1,057,800	4.58%	0.682909147	-0.033114597	4.7664
Egypt	2,520	295,845	1.28%	0.584237863	0.175480464	4.9692
South Korea	22,540	295,002	1.28%	-1.148568362	0.175711246	5.1900
Russia	11,040	233,948	1.01%	-0.153200151	0.192425571	5.0081
Myanmar	1,020	212,601	0.92%	0.714068499	0.198269589	4.9994
Bangladesh	870	209,153	0.91%	0.727051563	0.199213523	5.0012
United States	50,460	190,690	0.83%	-3.565149271	0.204268009	6.3539
Ukraine	3,120	171,900	0.74%	0.532305608	0.209412015	5.0011
Argentina	10,610	145,791	0.63%	-0.115982035	0.216559692	5.0284
Brazil	11,010	143,293	0.62%	-0.150603538	0.217243552	5.0325
Spain	31,140	140,762	0.61%	-1.892930676	0.217936446	5.4921
Uzbekistan	1,530	127,633	0.55%	0.669926083	0.22153068	5.0197
Ethiopia	390	123,962	0.54%	0.768597366	0.222535664	5.0277
Peru	4,860	88,468	0.38%	0.38170207	0.232252607	5.0211
Turkey	11,230	79,203	0.34%	-0.169645365	0.234789021	5.0519
Taiwan	-	78,134	0.34%	0.802353332	0.235081673	5.0430
North Korea	-	77,000	0.33%	0.802353332	0.235392121	5.0433
Thailand	4,950	75,589	0.33%	0.373912232	0.2357784	5.0246
Iran	6,700	73,910	0.32%	0.222443157	0.236238048	5.0271
Romania	8,610	66,602	0.29%	0.05712548	0.238238708	5.0365
Mexico	9,170	58,065	0.25%	0.008655376	0.240575822	5.0420
Pakistan	1,150	55,308	0.24%	0.702816511	0.241330587	5.0415
Algeria	4,580	53,981	0.23%	0.405937123	0.24169387	5.0307
Nepal	600	41,183	0.18%			
Kyrgyzstan	880	30,592	0.13%			
Italy	37,680	30,585	0.13%			
Syria	-	30,543	0.13%			

Sudan	1,480	30,000	0.13%
Cuba	5,870	26,000	0.11%
Guatemala	2,850	25,883	0.11%
Kazakhstan	8,280	23,280	0.10%
Morocco	3,000	22,376	0.10%
Tunisia	3,980	21,720	0.09%
Other Countries	**N/A**	**321,883**	**1.39%**
The World	**N/A**	**23088185**	**100%**