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MALAYSIA'S WORLD TRADE ORGANIZATION CHALLENGE TO THE EUROPEAN UNION'S RENEWABLE ENERGY DIRECTIVE: AN ECONOMIC ANALYSIS

Michael W. Meredith[†]

Abstract: Recent negotiations between Malaysia and the European Union (“EU”), aimed at establishing a free trade agreement, have come to a standstill, due in part to a policy implemented by the EU known as the Renewable Energy Directive. The Renewable Energy Directive grants a tax credit to renewable fuel sources that emit at least 35% less greenhouse gas than traditional fossil fuels. Malaysian officials have criticized the 35% level included in the EU policy because it grants a tax credit to rapeseed oil biofuel, produced mainly in Europe (which emits 38% less greenhouse gas than traditional fossil fuels), but does not extend the credit to imported Malaysian palm oil biofuel (which emits about 19% less greenhouse gas than traditional fossil fuels). Malaysia asserts that the 35% standard is arbitrary and uses environmental policy to achieve unrelated protectionist ends at the expense of Malaysian producers. Malaysian officials have even gone so far as to threaten a lawsuit against the EU at the World Trade Organization (“WTO”), arguing that the policy’s differential treatment of rapeseed oil biofuel and palm oil biofuel violates the WTO’s policy of non-discrimination. The WTO policy of non-discrimination stands for the proposition that like products should not be taxed or sanctioned differently simply due to their nation of origin. Traditionally, to determine if two products are alike within the meaning of the non-discrimination principle, the WTO compares the physical characteristics of the products in question as well as their end use in the consumer market. Because both EU- and Malaysian-produced biofuels are used for the same purpose and look almost identical, many commentators have suggested that the two products should be considered alike and that a Malaysian suit challenging their differential taxation under the EU Renewable Energy Directive would be successful. Malaysia’s proposed suit, however, raises a number of questions for the international trading arena that cannot effectively be addressed by traditional methods of determining likeness. Therefore, this comment suggests that the WTO should use this opportunity to adopt an economic, market-based approach to its likeness determinations, which would not only more completely and correctly address the relationship between Malaysian and EU-made products, but also indicate that Malaysia’s proposed suit should fail.

I. INTRODUCTION

The stated goal of the World Trade Organization (“WTO”) is to protect comparative advantage and economic efficiency in the international trade market.¹ One of the WTO’s primary means to achieve these ends is the

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¹ Although the ultimate goals of the WTO are, among other things, to increase global standards of living, development, and reduced unemployment, the means to achieve those ends is the protection of comparative advantage. AMRITA NARLIKAR, *THE WORLD TRADE ORGANIZATION, A VERY SHORT INTRODUCTION* 2 (2005).

principle of “non-discrimination”—the concept that member countries should not discriminate against similar or “like” products, through taxation or tariff, simply because of their nation of origin.² Traditionally, the WTO analyzes whether two products are similar or alike by comparing the products’ physical characteristics.³ This method, however, excludes a careful consideration of the economic and competitive relationship between products in a given market.⁴ As a result, optimally efficient WTO trade policies remain the exception rather than the rule.⁵

Recent challenges to a number of allegedly discriminatory policies highlight these limitations to the WTO’s traditional methods of determining likeness. For example, Malaysia has criticized a European Union (“EU”) policy that grants a tax credit to certain environmentally-friendly renewable fuel sources as a violation of the WTO’s non-discrimination principles.⁶ Malaysia’s criticism stems from the perceived “likeness” of Europe’s domestically produced rapeseed oil biofuel to Malaysian palm oil. The EU’s policy grants domestically produced rapeseed oil a tax credit, but does not extend that credit to imported Malaysian palm oil due to the level of greenhouse gas it emits when burned.⁷

Palm oil and rapeseed oil are substantially different in terms of energy density, production costs, and environmental impact.⁸ However, because the two oils share similar physical characteristics, many commentators suggest that Malaysia would be successful in a discrimination claim at the WTO based upon traditional definitions of likeness.⁹ While Malaysia has not yet filed suit at the WTO, Tan Sri Datuk Dr. Yusof Basiron, the Malaysian Palm Oil Council’s Chief Executive Officer, has expressed his intention to do so in a number of public statements.¹⁰

² *Id.* at 15-16.

³ As will be discussed later in this comment, “physical characteristics” is one of two traditional methods used by WTO panels. A second method is a comparison of the “end use” of a product for the consumer. However, even this method often includes a consideration of the physical characteristics. Robert E. Hudec, “*Like Product*”: *The Differences in Meaning in GATT Articles I and III*, in *REGULATORY BARRIERS AND THE PRINCIPLE OF NON-DISCRIMINATION IN WORLD TRADE LAW* 101, 104 (Thomas Cottier et al. eds., 2000).

⁴ *Id.* at 106.

⁵ *Id.* at 104.

⁶ Hanim Adnan, *Malaysia Cries Foul Over EU Renewable Energy Directive on Palm Oil*, THE STAR, June 7, 2010, <http://deforestationwatch.org/index.php/Key-Papers/Malaysia-cries-foul-with-EU-Renewable-Energy-Directive-against-palm-oil.html>.

⁷ *Id.*

⁸ Ayhan Demirbas, *Fuel Conversional Aspects of Palm Oil and Sunflower Oil*, 25 *ENERGY SOURCES* 457-65 (2003). See also *infra* Appendix B.

⁹ Hanim Adnan, *Malaysia Has Strong Case Against EU RED*, THE STAR, Aug. 5, 2010, <http://biz.thestar.com.my/news/story.asp?file=/2010/8/5/business/6799755&sec=business>.

¹⁰ *Id.*

This comment suggests that, in order to both effectively address the issues raised by Basiron's proposed suit and to better achieve the WTO's stated goals, the organization should resist the impulse to apply mechanically the traditional physical characteristics model of "likeness" when considering Malaysia's claims. Instead, the WTO should analyze Malaysia's suit under an "economic likeness" standard, taking into account basic market indicators such as consumer demand, production cost, international market interactions, and the level of competition between products that traditional methods of determining likeness marginalize or exclude entirely.¹¹

Part II of this comment explores the political and economic relationship between Malaysia and the EU that has given rise to Malaysian threats of a WTO suit. Part III addresses why traditional methods of determining likeness fail in the context of Malaysia's potential suit. Finally, Part IV explains the benefits of the "economic likeness" analysis in the Malaysian case and proposes why the WTO should adopt the test in analogous cases.

II. BACKGROUND: A RECENT HISTORY OF THE TRADING RELATIONSHIP BETWEEN MALAYSIA AND THE EU

Neither Malaysia's current antagonistic position towards European trade efforts nor its interest in pursuing a WTO suit developed overnight. In fact, Malaysia's saber-rattling at the WTO reflects decades of stalled efforts at strengthening economic ties between Asia and the EU.¹² Thus, in order to assess more fully the relevance and validity of Malaysia's proposed suit, it is useful to consider briefly the major historical and economic events that have structured and informed the current relationship between these trading partners.

For years, European exporters have attempted to gain fuller access to Southeast Asian markets through trade agreements negotiated by the EU.¹³ The EU's efforts to increase trade and commercial engagement in the region have developed through: 1) failed multilateral negotiations aimed at securing a generalized trade agreement with the Association of Southeast Asian Nations ("ASEAN"), and 2) recent bilateral trading agreements established with individual Asian nations, including Malaysia.

¹¹ WON-MOG CHOI, "LIKE PRODUCTS" IN INTERNATIONAL TRADE LAW xix (2003).

¹² Javier Delgado Rivera, *The EU-Malaysia FTA: An Overdue Assignment*, NEW EUROPE, Aug. 29, 2010, <http://www.neurope.eu/article/eu-malaysia-fta-overdue-assignment>.

¹³ *Id.*

A. *Political Disputes Undermined the EU's Engagement with ASEAN*

In late 2010, the EU abandoned its attempts to forge an overall trade deal with Southeast Asia as a trading bloc through its negotiations with ASEAN.¹⁴ Publicly, the EU asserted that “different levels of economic development within the 10-member alliance” contributed to the stalemate.¹⁵ Many diplomats present at the negotiations, however, speculated that the breakdown in negotiations had more to do with the human rights record of military-ruled ASEAN member Myanmar.¹⁶ The EU maintains sanctions against Myanmar and requires that all signatories to any trade agreement with the European Community make commitments to uphold international human rights norms and enact certain democratic reforms as a precondition to trade.¹⁷ Disputes over either issue may have derailed negotiations.

In place of the failed ASEAN negotiations, the EU is attempting to reach Free Trade Agreements (“FTAs”) with the individual ASEAN member-nations. Already, the EU has signed an FTA with South Korea that many trade analysts are calling “the biggest bilateral deal in trade history”¹⁸ and has opened trade negotiations with both Vietnam and Singapore.¹⁹

B. *The EU Is Likely to Begin a Bilateral Trading Relationship with Malaysia*

Recently, the European Commission (“EC”) president has shifted focus towards establishing a trade agreement with Malaysia. Using the opportunity provided by the October 2010 Asia-Europe Meeting, Malaysian Prime Minister Mohd Najib Abdul Razak and EC President Jose Manuel Barroso announced the beginning of bilateral trade negotiations.²⁰

Most reports indicate optimism concerning the future of negotiations between Malaysia and the EU.²¹ Malaysia is heavily reliant upon trade with the EU, which accounts for 11.2% of all of Malaysia’s trade and an annual

¹⁴ Agence France-Presse, *EU, Malaysia to Start Free Trade Talks*, SYDNEY MORNING HERALD, Oct. 6, 2010, <http://www.smh.com.au/business/world-business/eu-malaysia-to-start-free-trade-talks-20101006-16617.html>.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*; J. ORSTROM MOLLER, EUROPEAN INTEGRATION: SHARING OF EXPERIENCES 350 (2008).

¹⁸ John W. Miller, *EU, Malaysia Launch Trade Deal*, WALL STREET JOURNAL, Oct. 5, 2010, <http://blogs.wsj.com/brussels/2010/10/05/eu-malaysia-announce-free-trade-deal/>.

¹⁹ France-Presse, *supra* note 14.

²⁰ Agence France-Presse, *EU, Malaysia Kick Off Free Trade Talks*, CHANNEL NEWS ASIA, Oct. 6, 2010, http://www.channelnewsasia.com/stories/afp_asiapacific_business/view/1085334/1/html.

²¹ Jackson Sawatan, *Malaysia and EU to Begin FTA Talks in December, Says Najib*, BERNAMA, Oct. 6, 2010, <http://www.bernama.com/bernama/v5/newsbusiness.php?id=532979>.

inflow of \$13.6 billion.²² The EU similarly desires a stable economic relationship with Malaysia to ensure competitive access to Southeast Asia, as compared to China, which has already signed a trade agreement with ASEAN.²³ Thus, both parties have an economic and political interest in a timely and successful conclusion to trade negotiations.

Despite the above-mentioned potential for a successful trade deal between Malaysia and the EU, a controversial policy threatens to derail the negotiations: the EU's Renewable Energy Directive ("RED").²⁴ The EU's RED policy mandates that 20% of all energy used in the EU come from renewable energy sources and grants an excise tax exemption to any energy source counted towards that 20% target.²⁵ It additionally mandates that by 2020, the EU must derive 10% of its energy from biofuels.²⁶ However, only biofuels that emit 35% less greenhouse gas than traditional fossil fuels count towards the 10% goal and thereby qualify for RED tax incentives.²⁷

The controversy surrounding the policy stems from the fact that European scientists indicate that rapeseed oil biofuel, most of which is produced domestically, qualifies to be counted towards the 10% target because it emits approximately 38% less greenhouse gas than fossil fuels.²⁸ In contrast, scientists have determined that palm oil biofuel, which the EU imports largely from Malaysia, emits about 19% less greenhouse gas than traditional fossil fuels, leaving it far below the level required to qualify for RED's excise tax exemption.²⁹ Malaysian palm oil producers argue that this determination renders palm oil "virtually unmarketable" within the EU member states because, without the RED tax benefit, palm oil would be more expensive than both fossil fuels and comparable domestically produced biofuels.³⁰

²² *Id.*

²³ *Id.*; Le Tian, *China, ASEAN Sign Trade Agreement*, CHINA DAILY, Jan. 15, 2007, http://www.chinadaily.com.cn/china/2007-01/15/content_783185.htm.

²⁴ In addition to resolving disputes concerning the EU's Renewable Energy Directive, several major issues will need to be addressed over the course of the negotiations between the EU and Malaysia. These will include issues such as intellectual property rights, government procurement, and sustainable development. International Center for Trade and Sustainable Development, *EU and Malaysia Kick Off FTA Talks*, BRIDGES WEEKLY TRADE NEWS DIGEST, Oct. 7, 2010, <http://ictsd.org/i/news/bridgesweekly/86149/>.

²⁵ FREDRIK ERIXON, GREEN PROTECTIONISM IN THE EUROPEAN UNION: HOW EUROPE'S BIOFUELS POLICY AND THE RENEWABLE ENERGY DIRECTIVE VIOLATE WTO COMMITMENTS 21 (Eur. Ctr. for Int'l Political Econ. ed., 2009).

²⁶ Alan Swinbank, *EU Policies on Bioenergy and Their Potential Clash with the WTO*, J. AGRIC. ECON. 60(3), 485-86 (2009).

²⁷ *Id.*

²⁸ ERIXON, *supra* note 25, at 29.

²⁹ *Id.*

³⁰ Rivera, *supra* note 12.

Due to the RED's one-sided effect, Malaysia considers the EU policy nothing more than an example of self-interested "green protectionism."³¹ Green protectionism, according to Fredrik Erixon, the father of the concept, is the practice of "adding non-environmental objectives that are discriminatory, or overtly trade restrictive in intent and/or effect, to environmental policy."³² Some Malaysian producers see the RED's 35% emissions reduction requirement as an example of an arbitrary environmental standard included in the policy only because of its benefit to domestically produced rapeseed at the expense of imported Malaysian palm oil.³³

Due to increasing accusations that the RED is being used in a protectionist manner, the Malaysian government has received a number of demands from palm oil producers to resolve the issue through a WTO suit.³⁴ While the Malaysian government often suggests it may file such a suit, it has not yet chosen to do so.³⁵ Nevertheless, commentators have predicted that a WTO panel will likely side with Malaysia if it does challenge the EU's measure.³⁶ The reasoning behind these predictions stems from a conventional understanding of the WTO's basic free trade tenets: that if a foreign product looks like a domestic product and serves the same purpose as a domestic product, then it ought not be sanctioned or taxed differently from that domestic product.³⁷ Because rapeseed oil and palm oil are virtually indistinguishable in terms of their physical characteristics and functions, some commentators conclude the WTO will attempt to allow Malaysian palm oil to compete openly and freely in Europe by demanding a repeal of the EU's RED. The WTO will likely deem the RED policy an arbitrary imposition into the functioning of the free market and a restriction on consumer choice.³⁸

This type of reasoning concerning "like products," which unrelentingly favors increased consumer choice and free competition in foreign markets, has historically functioned well for the WTO and its member nations as a firewall against protectionist policies that have threatened the global trading system and international stability.³⁹ The

³¹ ERIXON, *supra* note 25, at 2.

³² *Id.*

³³ *Id.* at 29.

³⁴ Adnan, *supra* note 9.

³⁵ Sawatan, *supra* note 21.

³⁶ Rivera, *supra* note 12.

³⁷ Adnan, *supra* note 9.

³⁸ *Id.*

³⁹ World Trade Organization, *The System Helps to Keep the Peace*, Sept. 18, 2011, http://www.wto.org/english/thewto_e/whatis_e/10ben_e/10b01_e.htm.

following section suggests, nevertheless, that it is time it be reconsidered. Today's international market is increasingly complex and deeply influenced by a host of social, environmental, political, and economic factors. Each of these market forces is, however, almost entirely overlooked by the WTO's conventional reasoning, which instead myopically focuses only on the consumer's perception of the product and the service it provides to that consumer. Such a focus not only fails to promote a modern and effective system of free trade, but is also counterproductive to the protection of comparative advantage.

III. TRADITIONAL "LIKENESS" DETERMINATIONS ARE INADEQUATE IN THE CONTEXT OF AN EU-MALAYSIA WTO SUIT

Since its inception, the WTO has concerned itself with protecting free and fair competition between "like" products in the international arena. It has never, however, explicitly laid out a definition of what constitutes "likeness." As a result, the organization historically has struggled to establish rational or consistent methods for determining "like products." Although a few methods of comparison now dominate the analysis, they are largely inappropriate for, and inapplicable to, an effective analysis of Malaysia's proposed suit.

A. *The WTO Panels Have Developed Two Primary Methods for Determining Likeness in Response to a Lack of Consensus or Guidance from International Trade Policymakers*

Following World War II, in an attempt to build safeguards into the international trading system to prevent unrestrained protectionism and the risk of another global economic downturn, the United States proposed to its major trading partners the establishment of a treaty on global tariff.⁴⁰ The United States' proposal became the basis for the General Agreement on Tariff and Trade ("GATT"), which twenty-three countries signed and implemented in 1948.⁴¹ The GATT then became the basis of the international trading system for nearly forty-seven years and is still included amongst the treaties that govern the WTO and its member nations. It is also the bedrock of one of the most basic premises of international trade law: "like products" in international commerce should not be treated differently

⁴⁰ NARLIKAR, *supra* note 1, at 10.

⁴¹ *Id.* at 15.

simply because of their nation of origin.⁴² Various formulations of this proposition are found throughout the text of the GATT itself.⁴³

However, soon after its creation, an increasingly globalized and complex international trading system demanded more than the GATT could provide. One element missing from the GATT, for example, was a means of enforcing its non-discrimination provisions.⁴⁴ A formal enforcement mechanism for GATT non-discrimination provisions would not exist until the creation of the WTO and its 1995 Understanding on Rules and Procedure Governing the Settlement of Disputes (“DSU”), which established, among other things, an international arbitration system to ensure compliance with international trade regulations among WTO members.⁴⁵

The DSU system provides that, if the principle of non-discrimination has allegedly been violated, a WTO member may file a complaint with the WTO Dispute Settlement Body (“DSB”).⁴⁶ The DSB makes the final decision concerning the outcome of the trade dispute.⁴⁷ However, the DSB does not actually hear or review the arguments presented by the parties in dispute.⁴⁸ Instead, it convenes a panel that engages in a type of hearing known as an examination.⁴⁹ Based on the examination results, WTO panels issue reports and recommendations to the DSB (which the DSB nearly always adopts).⁵⁰ Panel recommendations concerning a party found to be in violation of WTO policy range from a mandate requiring that a violating country alter its domestic policy (to come into compliance with the WTO’s non-discrimination principles) to authorization for the aggrieved WTO member to engage in trade retaliation (sometimes the panel gives authorization even for the imposition of sanctions).⁵¹ The WTO panel recommendations not only bind the disputing parties but also influence

⁴² Hudec, *supra* note 3.

⁴³ GATT, Article I, Paragraph I reads, for example, that “any advantage . . . granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties.” GATT, Article III, Paragraph 2 also explains that “[t]he products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products.” Similarly, Article III, Paragraph 4 mandates that “[t]he products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favorable than that accorded to like products of national origin.”

⁴⁴ NARLIKAR, *supra* note 1, at 50.

⁴⁵ *Id.* at 130.

⁴⁶ *Id.* at 135-36.

⁴⁷ *Id.* at 137.

⁴⁸ *Id.*

⁴⁹ *Id.* at 133-35.

⁵⁰ *Id.* at 50.

⁵¹ *Id.*

WTO trade policy and subsequent panel decisions through a form of *de facto* precedent.⁵²

Despite decades of precedent developed by WTO panels that have been tasked with interpreting and enforcing the GATT for its signatories, the concept of a “like product” remains poorly defined.⁵³ In fact, many WTO panelists and commentators agree that while the question of “likeness” arises in a majority of WTO panel decisions, “the definition of [a] like or directly competitive or substitutable product . . . is yet to be settled.”⁵⁴ Nevertheless, there are two dominant methods to determine “likeness” that the WTO would likely apply in Malaysia’s proposed suit.

The first approach compares the physical characteristics of the products.⁵⁵ In other words, if products look alike, then they are alike for the sake of a physical characteristics-based determination of “likeness.”⁵⁶ A WTO panel decision explored this method in the *Japanese Alcoholic Beverages* case. *Japanese Alcoholic Beverages* panel considered whether vodka could be considered “like” the Japanese distilled spirit *shōchū*.⁵⁷ In determining “likeness,” the panel reasoned that “products having no substantial noticeable differences in physical characteristics ought to be considered like.”⁵⁸ Thus, since vodka and *shōchū* are both “white/clean spirits made of similar raw materials,”⁵⁹ the panel held they are “like” and should be treated similarly.⁶⁰

The second dominant method of determining “likeness” focuses on products’ end uses when purchased by the consumer. Accordingly, if one product serves the same purpose as another, the products are considered substitutable and, therefore, “like” one another.⁶¹ For example, in *EEC-Measures on Animal Feed Proteins*, the panel found that “vegetable proteins and denatured skim milk powder were like”⁶² because they both shared a

⁵² MICHAEL LANG, JUDITH HERDIN & INEST HOFBAUER, *WTO AND DIRECT TAXATION* 62 (2005).

⁵³ Marco Bronkers & Natalie McWelis, *Rethinking the “Like Product” Definition in WTO Anti-Dumping Law*, 33 J. WORLD TRADE 73 (1999).

⁵⁴ CHOI, *supra* note 11, at xix; *see also* Hudec, *supra* note 3; Weihuan Zhou, *Non-Discrimination and the Accordion of ‘Like Product’*, July 15, 2007, <http://ssrn.com/abstract=1000173>.

⁵⁵ Hudec, *supra* note 3.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ Report of the Panel, *Japan – Customs Duties, Taxes and Labeling Practices on Imported Wines and Alcoholic Beverages*, L/6216 (Nov. 10, 1987), GATT B.I.S.D. (34th Supp.) at 83 (1988) [hereinafter *Japan Wine*].

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Hudec, *supra* note 3, at 103.

⁶² Report of the Panel, *EEC – Measures on Animal Feed Proteins*, L/4599 (Mar. 14, 1978), GATT B.I.S.D. (25th Supp.) at 49 (1978).

common use: a “protein source [used] . . . in feeding stuffs for animals.”⁶³ Similarly, in *Spanish Coffee*, the panel found that all varieties of coffee are “like” because they share a “well defined and single [end use] . . . drinking.”⁶⁴

Both of the above-described methods focus on the consumer of the good in question. A physical characteristics method considers how a product looks on a store shelf, while the end use method considers for what purpose the customer would purchase the product. As a result of the focus on the consumer, however, these traditional methods tend to exclude from consideration important differences in production methods and non-consumer-based market interactions.

B. Neither an “End Use” nor a “Physical Characteristics” Analysis Can Effectively Address the Relationship Between Palm Oil and Rapeseed Oil in the Context of a Malaysian Suit

An analysis using these traditional methods of determining “likeness” would indicate that Malaysia does indeed have a compelling case that two like products (palm oil and rapeseed oil) are being treated differently.⁶⁵ Applying a physical characteristics model, the two products are almost indistinguishable. Both are yellow vegetable oils that could easily be mistaken for each other or even for other types of vegetable oil such as corn oil. Further, both generally serve one of two purposes: energy production (in the form of biofuel) or food. Therefore, under either a physical characteristics or end use analysis, the two products should be considered “like.”

These analyses, however, mask real differences between the products that should interest and concern both the global trading system and national regulators.⁶⁶ Considering just the case of rapeseed and palm oil, both the physical characteristics and end use approaches ignore, among other things, the different levels of greenhouse gas emitted by the burning of the oils,⁶⁷ the different amount of land required to grow them, the differing costs of production, and their differing energy densities.⁶⁸ Each of these factors, however, clearly evidence important differences between the products that

⁶³ *Id.*

⁶⁴ Report of the Panel, *Spain – Tariff Treatment of Unroasted Coffee*, L/5135 (June 11, 1981), GATT B.I.S.D. (28th Supp.) at 102 (1981) [hereinafter *Spanish Coffee*].

⁶⁵ Rivera, *supra* note 12.

⁶⁶ *Id.*

⁶⁷ ERIXON, *supra* note 25.

⁶⁸ *Id.*

pertain to the development of an efficient system of international trade and competition.

Consider, for example, the land use factor. Two products that serve an identical function but require different levels of land for their growth, development, or production would be determined to be “like” under an “end use” analysis. Such a determination would make it impossible, within the WTO’s guidelines, for a nation to incentivize products that make effective, efficient, and sustainable use of land, thereby discouraging innovation and competition in that arena and instead encouraging a wasteful use of property.

Traditional “likeness” determinations thus preclude the WTO from achieving its goal of encouraging optimally efficient use of the world’s resources. Therefore, in the context of the presently proposed Malaysian suit, the WTO panel ought to consider “likeness” determinations that can more effectively address these potential vectors of comparison. The following section suggests that an economic likeness determination may be able to do so.

IV. AN ECONOMIC DETERMINATION OF “LIKENESS” SHOULD BE USED BY THE WTO IN CONSIDERING MALAYSIA’S PROPOSED DISCRIMINATION SUIT

In his text, *“Like Products” in International Trade Law*, Won-Mog Choi makes a compelling case for the proposition that the WTO should apply a “market-oriented analysis” when considering which products should be viewed as “like” or competitive within the meaning of the GATT.⁶⁹ An economic analysis, Choi argues, would not only coincide with the goals of the treaty but could provide “predictability and consistency”⁷⁰ to the decisions of WTO panels.

The following section provides: 1) a useful method of applying an economic or market-based “likeness” determination, 2) an application of an economic likeness determination to the facts of Malaysia’s proposed suit, concluding that palm oil and rapeseed oil are not “like” and, therefore, that Malaysia’s discrimination suit should fail before the WTO DSB, and 3) an overview of the benefits of an economic likeness determination in the proposed Malaysian suit.

⁶⁹ CHOI, *supra* note 11, at xxi.

⁷⁰ *Id.* at xix.

A. *A Useful Means of Employing an “Economic Likeness” Test Is to Calculate a Cross-Price Elasticity of Demand Between the Products in Question*

To some extent, the WTO panels have followed Choi’s recommendations for a more economically and market-focused “likeness” analysis.⁷¹ Recent panel decisions have included certain economic analyses in their decision-making.⁷² For example, in *Japanese Alcoholic Beverages*, the panel noted:

[T]he decisive criterion in order to determine whether two products are directly competitive or substitutable is whether they have common end-uses, inter alia, as shown by elasticity or substitution The panel noted that the extent to which two products are competitive in economics is measured by the responsiveness of the demand for one product to the change in the demand for the other product Ideally, one would like to see the test for the relationship between the price of one product and the demand for another, all things being equal.⁷³

The type of competition analysis provided by the *Japanese Alcoholic Beverages* panel is known as a “cross-price elasticity of demand analysis.”⁷⁴ Similarly, in *Korea Alcoholic Beverages*, the panel relied “heavily upon the merit of [a] Dodwell Study” that was “a cross-price elasticity of demand analysis” similar to the one used in *Japanese Alcoholic Beverages*.⁷⁵

The cross-price elasticity of demand between two goods is the level to which the demand for one product will increase due to the increased price of another product.⁷⁶ “Cross-price elasticity is [expressed mathematically by the following equation]:

$$\epsilon_{Q_i P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%}$$

where P_j denotes the initial price of good j and Q_i denotes the initial quantity of good i demanded.”⁷⁸ The result can be either positive or negative. If $\epsilon_{Q_i P_j}$ is positive, as a general matter, it indicates that “a higher price for good

⁷¹ *Id.* at 22.

⁷² *Id.*

⁷³ Japan Wine, *supra* note 58.

⁷⁴ CHOI, *supra* note 11, at 12.

⁷⁵ *Id.* at 26.

⁷⁶ DAVID BESANKO, RONALD BRAEUTIGAM & MICHAEL J. GIBBS, MICROECONOMICS 52 (2010).

⁷⁷ WILLIAM BOYES & MICHAEL MELVIN, MICROECONOMICS 107 (2011).

⁷⁸ BESANKO ET AL., *supra* note 76.

j increases the quantity of good i demanded [and, therefore,] goods i and j are demand substitutes.”⁷⁹ If $\epsilon_{Q_i P_j}$ is negative then, as a general matter, “a higher price for good j decreases the quantity of good i demanded [and, therefore,] goods i and j are demand supplements.”⁸⁰ A positive result, then, would indicate that the two products are competitive with one another and are “like” as far as the market is concerned, while a negative result would indicate just the opposite—“unlike” or non-competitive products.

The WTO has not, however, accepted that a positive ratio alone is sufficient evidence to indicate that two products are “like” or competitive. The panel in *Chilean Alcoholic Beverages*, for example, found “a cross-price elasticity of demand for *pisco* with respect to whisky . . . to be 0.26.”⁸¹ Such a ratio, they explained, was:

a “low” level of elasticity [but] not necessarily fatal to a claim of direct competitiveness or substitutability, although a high coefficient of cross-price elasticity would be important evidence to demonstrate that products are directly competitive provided that the quality of the statistical analysis is high.⁸²

Thus, while *Chilean Alcoholic Beverages* does seem to stand for the proposition that a 0.26 demand elasticity is too low, it does not provide an indication of what is “high enough” to indicate “likeness” or substitutability within the meaning of the GATT.⁸³

Two WTO Panel decisions, however, do offer some guidance as to what level of elasticity would be high enough. The first is *Japanese Alcoholic Beverages*.⁸⁴ The panel in *Japanese Alcoholic Beverages* indicated that “between 4 and 10[%] of consumers would switch from *shōchū* to whisky or vice versa respectively if one was not available any more.”⁸⁵ It went on to note that “a 10[%] switch is a significant substitution.”⁸⁶ Thus, an upper bound of at least a 10% switching rate has

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ CHOI, *supra* note 11, at 28.

⁸² Panel Report, *Chile – Taxes on Alcoholic Beverages*, WT/DS87/R, WT/DS110/R (Jan. 12, 2000), as modified by Appellate Body Report WT/DS87/AB/R, WT/DS110/AB/R, DSR 2000:I, 303 [hereinafter *Chilean Alcoholic Beverages*].

⁸³ *Id.*

⁸⁴ It is relevant to note that in *Japanese Alcoholic Beverages*, the panel did not, strictly speaking, engage in the above described cross-price elasticity of demand analysis. Instead, it relied on a market research study, which asked consumers whether they would purchase whiskey if *shōchū* were no longer available to them. This type of analysis is referred to as a “non availability analysis” and has been criticized by some as unlikely to occur in the real market and tending to exaggerate the switching rate. Japan Wine, *supra* note 58.

⁸⁵ *Id.*

⁸⁶ *Id.*

been found by one WTO panel to be meaningful in a “likeness” or “substitutability” analysis.⁸⁷ Similarly, although perhaps less helpfully, the panel in *Canada Periodicals* explained that “perfect substitutability [a ratio of 1.00] is not necessary” for a determination of “competition” or “likeness” between two products.⁸⁸

Based on this precedent, the WTO should adopt a cross-price elasticity of demand analysis as a means of determining whether two products should be considered “like.” The analyses should consider positive ratios lower than 0.26 to be inconsequential and those greater than 1.00 to be meaningful to an assessment of “likeness.” Such a method ensures that the WTO addresses discrimination between products that compete as a matter of empirical and economic reality, as opposed to those products that only appear to compete in the mind of a consumer or WTO panelist. The following section conducts such an analysis in the context of Malaysia’s proposed suit.

B. A Cross-Price Elasticity of Demand Analysis of Malaysian Palm Seed Oil and European Rapeseed Oil Indicates a Negative Demand Ratio

The following cross-price elasticity of demand analysis concerning Malaysian palm oil and European rapeseed oil only considers data from 2008 and 2009. Prior to these years, both the rapeseed and palm oil energy markets were still vastly out-competed by oil and natural gas and were in fledgling stages of development, making data from these years less predictive of future events in this market.⁸⁹ After December 2009, however, the RED had been adopted and was already in force.⁹⁰ Thus, including the 2010 data would fail to achieve the goal of considering the competitive relationship of the products outside the influence of the challenged policy (EU RED).⁹¹

⁸⁷ *Id.*

⁸⁸ Panel Report, *Canada – Certain Measures Concerning Periodicals*, WT/DS31/R and Corr.1 (July 30, 1997), as modified by Appellate Body Report WT/DS31/AB/R, DSR 1997:I, 481.

⁸⁹ JOSE GOLDEMBERG & OSWALDO LUCON, ENERGY, ENVIRONMENT AND DEVELOPMENT 170 (2010).

⁹⁰ CINNAMON PIÑON CARLARNE, CLIMATE CHANGE LAW AND POLICY: EU AND US APPROACHES 299 (2010).

⁹¹ Japan Wine, *supra* note 58.

In 2008, the EU imported the following levels of palm oil from Malaysia:

2008 EU IMPORTS OF MALAYSIAN PALM OIL (MILLION TONNES)⁹²

June 2008	156,080
July 2008	171,018
August 2008	197,181
September 2008	163,489
October 2008	232,106
November 2008	177,999
December 2008	244,189

During the same months, the following crude rapeseed oil prices were reported in U.S. dollars per metric ton:⁹³

2008 CRUDE RAPESEED OIL (U.S.D./TON)⁹⁴

June 2008	1,639.55
July 2008	1,736.46
August 2008	1,467.67
September 2008	1,352.99

⁹² *Monthly Palm Oil Trade Statistics*, MALAYSIAN PALM OIL COUNCIL, http://www.mpoc.org.my/Monthly_Palm_Oil_Trade_Statistics.aspx (last visited Feb. 10, 2012).

⁹³ It is perhaps relevant to note here that EU imports are reported in metric tons or 'tonnes' (a unit of mass equal to 2,205 lbs), a slightly different measurement than the U.S. price, which is reported in 'tons' (a unit of mass equal to 2,000 lbs). However, this is irrelevant to a cross-price elasticity demand analysis which does not compare price and demand in absolute terms.

⁹⁴ *Rapeseed Oil Monthly Price*, INDEX MUNDI, <http://www.indexmundi.com/commodities/?commodity=rapeseedoil&months=60> (last visited Feb. 10, 2012).

Thus, 2008 provides the following cross-price elasticity of demand ratios for palm oil and rapeseed oil:

DATES	ELASTICITY	RESULT
June-July	1.1619202892 ⁹⁵	Demand Substitute ⁹⁶
July-August	-0.988319566	Demand Supplement ⁹⁷
August-September	2.186766741	Demand Substitute
September-October	-2.796077705	Demand Supplement
October-November	3.5405759488	Demand Substitute

Because the elasticity of demand between palm oil demand and rapeseed price in 2008 vacillated so drastically month-to-month, these results are not terribly instructive. However, taken as a whole, the 2008 data points indicate a weak demand substitute of +0.140569088.

In 2009, the EU imported the following levels of palm oil from Malaysia:⁹⁸

2009 EU IMPORTS OF MALAYSIAN PALM OIL (MILLION TONNES)⁹⁹

January 2009	142,246
February 2009	114,973
March 2009	152,589
April 2009	177,412
May 2009	140,226
June 2009	148,183
July 2009	161,066

⁹⁵ Given by:

$$\epsilon_{Q_i P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(171018 - 156080) / 156080}{(1736.46 - 1639.55) / 1639.55} \times 100\% \rightarrow \frac{14938 / 15608}{96.91 / 1639.55} \rightarrow \frac{0.0957073296}{0.059107682}$$

For full cross-price elasticity calculations, see *infra* Appendix A.

⁹⁶ Because the result is positive, it indicates a “demand substitute” relationship. See BESANKO ET AL., *supra* note 76.

⁹⁷ Because the result is negative, it indicates a “demand supplement” relationship. See *id.*

⁹⁸ *Monthly Palm Oil Trade Statistics*, *supra* note 92.

⁹⁹ *Id.*

During the same months, the following crude rapeseed oil prices were reported in U.S. Dollars per metric ton:

2009 CRUDE RAPESEED OIL (U.S.D./TON)¹⁰⁰

January 2009	840.72
February 2009	767.78
March 2009	731.63
April 2009	802.12
May 2009	901.37
June 2009	910.48
July 2009	857.40
August 2009	875.75
September 2009	856.85
October 2009	885.83
November 2009	923.98

Using the above-discussed formula, this information provides the following cross-price elasticity of demand ratios for palm oil and rapeseed oil in 2009:

DATE	ELASTICITY OF DEMAND	RESULT
January-February	2.20993 ¹⁰¹	Demand Substitute
February-March	-6.94865777	Demand Supplement
March-April	16.8515229519	Demand Substitute
April-May	-1.69396	Demand Supplement
May-June	5.6144135	Demand Substitute
June-July	-1.491277723	Demand Supplement
July-August	-18.351817429	Demand Supplement
August-September	-22.62098045	Demand Supplement
September-October	7.064577396	Demand Substitute
October-November	2.704367613	Demand Substitute

¹⁰⁰ Rapeseed Oil Monthly Price, *supra* note 94.

¹⁰¹ Given by:

$$\epsilon_{Q_i P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(114973 - 142246 / 142246_i) \times 100\%}{(767.78 - 840.72 / 840.72) \times 100\%} \rightarrow \frac{-27273 / 142246}{-72.94 / 840.72} \rightarrow \frac{-0.19173123}{-0.08675897}$$

For full cross-price elasticity calculations, see *infra* Appendix A.

As in 2008, there is a fair amount of variation from month-to-month; however, the data from 2009 provides a stronger overall trend. Taken as a whole, the 2009 data points indicate a strong demand supplement of -1.666189732543077.

Overall, the data from June 2008 to December 2009 indicate a negative cross-price elasticity of demand ratio between palm oil and rapeseed oil. It seems, therefore, that two products that are commonly considered competitive in the European energy commodities market may actually supplement each other's demand.

How can this seemingly paradoxical result be understood? While a number of factors influence the relationship between these two products, researchers have identified "indirect land use change" as particularly significant, and it may explain the above results.¹⁰² Indirect land use change is a term used generally in the context of biofuel production and refers to "a different use [for land]—such as food or feed production—[that] took place on land used for energy crop cultivation and is thereby displaced."¹⁰³ Generally speaking, indirect land use change can occur because, "to the extent that demand remains for the food or feed previously produced on [the] land [in question], its production is likely to shift elsewhere."¹⁰⁴ However, according to a study conducted by E4tech,¹⁰⁵ because historic data indicate that the demand for food crops in the EU will remain relatively stable, it is a fair assumption that demand for biodiesel in Europe will result in more rapeseed production and planting, but that the traditional displacement of food cropland for energy production is not likely to occur.

The reason stems from the fact that "oilseed rape achieves low gross margins relative to cereal [or food] crops"¹⁰⁶ as demonstrated in the following chart:

CROP	GROSS MARGIN (£/HA) ¹⁰⁷
Feed Wheat	405
Feed Barley	248
Rapeseed	130
Field Beans	254

¹⁰² E4tech, Indirect Land Use Change Impacts of Oilseed Rape for Biodiesel (unpublished, 2010), available at http://www.ilucstudy.com/files%5CRapeseed_AnalysisV2.pdf.

¹⁰³ RENATE SCHUBERT ET AL., FUTURE BIOENERGY AND SUSTAINABLE LAND USE 172 (2010).

¹⁰⁴ *Id.*

¹⁰⁵ E4tech is an international business consultancy focused on sustainable energy. E4tech, *supra* note 102.

¹⁰⁶ *Id.* at 6.

¹⁰⁷ *Id.*

Thus, from a purely economic standpoint, the likelihood of rapeseed displacing mainstream food crops is quite low. However, the E4tech study indicates that rapeseed does compete well in the area of “break crop” selection.¹⁰⁸ A “break crop” is a crop grown in between fields of cereal and food to ensure a varied planting pattern and to replenish the soil.¹⁰⁹ Because rapeseed has “relatively higher nitrogen transfer . . . and [relatively better] . . . crop cover [to] . . . protect against soil erosion,” it is likely that “increasing demand for biodiesel . . . will lead to oilseed rape,” outcompeting other break crops such as sunflower, potatoes, sugar beet, peas, etc.¹¹⁰

The E4tech study’s authors took particular note of the effect that rapeseed competition would have on domestic soy production. For example, they concluded that every ton of rapemeal produced in Europe would result in the displacement of 0.605 tons of soybean.¹¹¹ When combined with a projected increase of rapeseed production of “3.3 million hectares of additional oil-seed rape,” it results in approximately “6.4 Mtonnes of [displaced domestic] soy” production.¹¹²

After this displacing effect of increased rapeseed on soy, however, the competition to fill the European demand is not limited only to foreign soy producers. In fact, according to E4tech predictions, “palm oil [is likely to] . . . replace the displaced soy” because it is less expensive as an import than soy.¹¹³ The “net result,” according to the study, “is that around 1.7 Mha of additional palm production will be required due to soy being displaced [by rapeseed demand for land and] it is assumed that this production will occur in Malaysia.”¹¹⁴ It is through this indirect benefit granted to palm oil producers via soy displacement that rapeseed oil’s negative elasticity of demand ratios for palm oil can be partially explained. It is also relevant to note that this effect is not unknown to palm oil producers. The Malaysian Oil Palm Board, for example, released a report predicting that “due to the competitive price of palm oil *vis-à-vis* other competing oils such as soy oil . . . [i]t is forecasted that about 10%-30% of the EU’s biodiesel requirement could come from palm oil by 2010.”¹¹⁵

¹⁰⁸ *Id.*

¹⁰⁹ SCHUBERT ET AL., *supra* note 103, at 172.

¹¹⁰ *Id.*

¹¹¹ E4tech, *supra* note 102.

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ Mohd Basri Wahi et al., *EU’s Renewable Energy Directive: Possible Implications on Malaysian Palm Oil Trade*, 8(2) OIL PALM INDUSTRY ECON. J. 3 (2008).

C. *Only an “Economic Likeness” Analysis Can Meaningfully Address the Impact of Indirect Land Use Change in the Malaysian Case and Achieve the Goals of the WTO*

Traditionally, a given product’s “likeness” to or substitutability for another product depends on the total set of products that could potentially substitute for the given product or the relevant market for comparison. For example, in *Korean Alcoholic Beverages*, the panel found it difficult to establish a meaningful or realistic competitive relationship between two vodka-style drinks because it felt that the government policy in question might significantly affect the likelihood of “switching” or would “crystallize” a preference for one product or another in a given market.¹¹⁶ Therefore, the panel suggested that an appropriate method of determining whether a product is “potential[ly] competitive or substitutab[le]” with another would be to “consider the nature of the competitive relationship in other markets . . . [or] a market that is relatively less affected by government policies.”¹¹⁷

In the case of palm and rapeseed oil, due to the high level of investment and political interest in both products, there are a significant number of data points available to the general public concerning the EU’s imports, Malaysian exports, and the relative price of the two products in the European market both before and after the implementation of RED. Thus, there is no need to analogize the EU to a foreign market. Nevertheless, the relationship between rapeseed oil and palm oil can meaningfully show how the market, used as a comparative data point, can significantly affect the outcome of a “likeness” analysis in a WTO lawsuit.

In analyzing Malaysia’s proposed suit, if one were to limit the “relevant market” to the EU, as demanded by traditional “likeness” comparisons that focus on protecting consumer choice in a domestic market, then a WTO panel would see rapeseed oil and palm oil as direct competitors.¹¹⁸ However, by expanding the relevant marketplace to the entire globe, the peculiar positive and synergistic effect that domestic EU rapeseed oil production has on imported Malaysian palm oil through Brazilian soy presents itself more clearly. In other words, a marketplace-oriented price-elasticity analysis will achieve a more nuanced and useful

¹¹⁶ *Japan Wine*, *supra* note 58.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

understanding of the economic relationship between the two products. It is only through an economic analysis of likeness that such a “de-bordering” of the WTO “likeness” comparisons can take place because market indicators, such as demand and price fluctuations in an increasingly globalized economy, are less and less concerned (if at all) with national boundaries or the “relevant market” as bounded and constituted by the minds or common sense of the WTO panelists.

The value of increased recognition of and reliance upon these market indicators by the WTO panelists addresses a fundamental aspiration housed in the GATT: protecting comparative advantage.¹¹⁹ The rapeseed-soy-palm oil interaction highlighted by a cross-price elasticity of demand analysis can aid in recognizing the benefits of a market-based “likeness” determination. Using a more traditional method of determining the “likeness” of palm oil to rapeseed oil, it is almost a foregone conclusion that “likeness” would be found. However, such a conclusion would encourage a European trade policy favoring the production of domestic soy functionally subsidizing, through international trade regulations, a crop that is more expensive and less energy efficient than its competitor—palm oil.¹²⁰ Traditional indicators of “likeness” determinations, thus, can function against the vision of the GATT and discourage the optimal use of the world’s resources.

Defenders of traditional methods of “likeness” determinations may, however, voice a number of legitimate criticisms of a market-based determination. While a market-based approach need not necessarily displace other types of analysis, it may be useful to address some potential concerns here.

The “end use” or “consumer choice” theory, for example, showed its usefulness in the WTO’s *Spanish Coffee* decision. *Spanish Coffee* concerned a 1979 Spanish decree, which established the following duties for unroasted non-decaffeinated coffee beans:¹²¹

PRODUCT DESCRIPTION	DUTY RATE
Colombian Mild	Free
Other Mild	Free
Unwashed Arabica	7% ad. val.
Robusta	7% ad. val.
Other	7% ad. val.

¹¹⁹ *Id.* at 26.

¹²⁰ ERIXON, *supra* note 25.

¹²¹ *Spanish Coffee*, *supra* note 64, at 2.4.

Because “Spain’s imports of unroasted coffee from Brazil were constituted almost entirely of unwashed Arabica,”¹²² the “representative of Brazil argued that [imposing] a 7[%] tariff on . . . unwashed Arabica and Robusta . . . while affording duty-free treatment to . . . other groups” was a violation of the WTO’s non-discrimination principles.¹²³ The panel in *Spanish Coffee* agreed with the representative from Brazil, finding that all “unroasted, non-decaffeinated coffee beans listed in the Spanish Customs Tariffs . . . [are] ‘like products.’”¹²⁴

The panel’s decision hinged largely on its observation that “unroasted coffee was mainly, if not exclusively, sold in the form of blends, combining various types of coffee.”¹²⁵ Thus, Spain’s tariff distinctions meant absolutely nothing to the end-user or purchaser of the coffee.¹²⁶ The “end-use [of coffee is] universally regarded as a well-defined and single product,” not five different products as explained by the *Spanish Coffee* decree.¹²⁷

Supporters of an “end use” or “consumer choice” theory of likeness might point to the *Spanish Coffee* decision as evidence that only through the eyes of a consumer can the true “likeness” of a product be determined. A market-based approach, in contrast, could inappropriately find competition between the unroasted beans in *Spanish Coffee* because of factors that are irrelevant to consumers in the market, such as the price of labor in the region where a particular bean is produced in or the comparative cost of crop insurance for different methods of coffee farming. While such a view is certainly not without merit, a market-based analysis would not entirely forgo consideration of consumer choice. In fact, consumer demand represents one of the major variables influencing the price of a product in a cross-price elasticity determination. However, a market-based model has the flexibility to consider not only consumer demand but also overall production costs.

While a critic might find error with a WTO panel finding that coffee beans ground and blended together are in fact not “like products” (to the consumer, it could be argued, they are literally the same product), it might still be the case that, because of the farming or production methods used to produce a particular type of product, similar financial or governmental regulations simply should not be applied across the board. In a similar vein, supporters of a “physical characteristics” method of determining “likeness” might criticize the tendency of a market-based analysis to fabricate

¹²² *Id.* at 2.11.

¹²³ *Id.* at 3.1.

¹²⁴ *Id.* at 4.9.

¹²⁵ *Id.* at 4.7.

¹²⁶ *Id.* at 3.8.

¹²⁷ *Id.* at 2.4.

competition by pointing to the simple fact that “virtually all products have at least a minimum cross-price elasticity with one another.”¹²⁸ For example, it has been well established that “the demand of sugar will be increased as a result of the rising price of tea Indeed, sugar is related to tea indirectly through coffee.”¹²⁹ An advocate of the physical characteristics method might argue that an economic likeness theorist would extrapolate from that interconnectedness to consider sugar and tea to be “like products.” A physical characteristics analysis simply could not allow such a determination.

Again, each of the above criticisms of a market-based approach is appropriate. However, the risk may be overstated. The WTO panelists have established a minimum level of price elasticity required for a finding of likeness. Recall, for example, the panel’s decision in *Chilean Alcoholic Beverages*, finding that +0.26 was simply too low of a ratio to indicate likeness.¹³⁰

Standards, such as the one hinted at in *Chilean Alcoholic Beverages*, would likely address the concern that a market-based analysis would be too likely to find economic connections between products that have no meaningful interaction.¹³¹ Should this eventuality result, however, the rewards outweigh the risk. It is a far lesser sin to take into account too much economic and market-based information when making a decision concerning international trade, with the result of finding competition and interactions that are not obvious to the average consumer, than to ignore meaningful information for the sake of a consumer’s common sense consideration.

Consider, for example, the way that a physical characteristics or consumer choice/end use trade analyst might approach the case of a challenge to differential treatment of organically-fed cruelty-free beef and traditionally-fed and raised beef products. Organically and traditionally fed ground beef have nearly imperceptible physical distinctions—certainly no more different than vodka and *shōchū*. Further, their end use is precisely the same—a protein rich food source. Thus, traditional methods of “likeness” determinations might find “likeness” between these two products despite the real differences that exist between them in calculating public health concerns, costs to the environment, land use requirements, and production costs. Each of these factors, however, significantly and meaningfully affects price and demand and, therefore, must necessarily be included in an economic market-based analysis.

¹²⁸ CHOI, *supra* note 11, at 14.

¹²⁹ *Id.* at 15.

¹³⁰ *Chilean Alcoholic Beverages*, *supra* note 82.

¹³¹ *Id.*

D. *The WTO Should Adopt Cross-Price Elasticity of Demand as a Means of Determining “Likeness” in Future Non-Discrimination Suits*

Although Malaysia’s proposed suit specifically highlights the ways in which a cross-price elasticity of demand analysis can enhance the efficiency of the international trading system by elucidating economic interconnections that might otherwise go unnoticed, the usefulness of such an approach extends beyond this particular case and, if adopted, would provide the WTO member states with a number of institutional and economic advantages.

First, it establishes a level of predictability in WTO rulings and the environment in which global trade occurs. Instead of simply deferring to the judgment of a hypothetical consumer concocted in the mind of a WTO panelist, potential trading partners and/or WTO claimants can predict, in advance, the outcome of a WTO challenge by applying a cross-price elasticity of demand formula themselves. Further, the objective cross-price elasticity of demand analysis allows domestic policymakers to craft legislation that meets their needs without fear of running afoul of the often unpredictable WTO jurisprudence concerning non-discrimination.

Second, this approach encourages faith in the institution of the WTO itself. Even in the international trading system, economic actors can engage in a certain amount of forum shopping concerning their preferred methods of regulation.¹³² If the WTO system ceases to function for more sophisticated market users, such as the EU, they may begin to seek alternative methods of engaging in and structuring international trade. The evolution of the trade partnership between Malaysia and the EU provides an example of this phenomenon. While the EU initially engaged with ASEAN as a bloc, it chose instead to form favorable trade relationships with ASEAN countries through individual FTAs after political disputes between the two organizations prevented an economically efficient partnership from forming.¹³³ While not a perfect analog to the institution of the WTO, the EU’s strategy *vis-à-vis* ASEAN countries indicates that it and other countries will find alternatives to WTO constraints if the WTO panels do not conform their decisions to the ideals and demands of the market participants, as expressed through basic market indicators such as price-demand ratios. Those users may instead avoid altogether the constraints of the WTO by negotiating their own trading rules through bilateral trade agreements. Such

¹³² Albert Fishlow, *Brazil: FTA or FTAA or WTO?*, in *FREE TRADE AGREEMENTS: US STRATEGIES AND PRIORITIES 277* (Jeffrey J. Schott ed., 2004).

¹³³ Miller, *supra* note 18.

a result could threaten the legitimacy of the WTO, reduce the efficiency of the global market, and decrease global productivity.

V. CONCLUSION

The danger of capitalism, as articulated by some of its critics, is a tendency to “reduce all human interactions to commodity-relations of universal equivalency.”¹³⁴ However, this unrelenting impulse to reduce all information and interactions to a market-useful value affords a market-oriented approach the ability to address effectively a host of human and economic concerns. The Malaysian case provides the WTO with a useful and appropriate opportunity to reconsider its traditional analysis concerning “likeness” and product comparison to confront more appropriately the challenges facing the international trading system.

¹³⁴ Martin E. Rosenberg, *Dynamic and Thermodynamic Tropes of the Subject in Freud and in Deleuze and Guattari*, in 4 POSTMODERN CULTURE 1 (1993).

APPENDIX A

2008 ELASTICITY OF DEMAND CALCULATIONS

June – July

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(171018-156080 / 156080) \times 100\%}{(1736.46-1639.55 / 1639.55) \times 100\%} \rightarrow \frac{14938 / 15608}{96.91 / 1639.55} \rightarrow \frac{0.0957073296}{0.0591076820}$$

July – August

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(197181-171018 / 171018) \times 100\%}{(1467.67-1736.46 / 1736.46) \times 100\%} \rightarrow \frac{26163 / 171018}{-268.79 / 1736.46} \rightarrow \frac{0.15298389600}{-0.1547919330}$$

August – September

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(163489-197181 / 197181) \times 100\%}{(1352.99-1467.67 / 1467.67) \times 100\%} \rightarrow \frac{-33692 / 197181}{-114.68 / 1467.67} \rightarrow \frac{-0.1708683900}{-0.078137456}$$

September – October

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(232106-163489 / 163489) \times 100\%}{(1149.9-1352.99 / 1352.99) \times 100\%} \rightarrow \frac{68617 / 163489}{-203.09 / 1352.99} \rightarrow \frac{0.419704078}{-0.150104583}$$

October – November

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(177999-232106 / 232106) \times 100\%}{(1074.19 - 1149.9 / 1149.9) \times 100\%} \rightarrow \frac{-54107 / 232106}{-75.71 / 1149.9} \rightarrow \frac{-0.23311331891}{-0.06584050800}$$

2009 ELASTICITY OF DEMAND CALCULATIONS

January – February

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(114973-142246 / 142246) \times 100\%}{(767.78-840.72 / 840.72) \times 100\%} \rightarrow \frac{-27273 / 142246}{-72.94 / 840.72} \rightarrow \frac{-0.19173123}{-0.08675897}$$

February – March

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(152589-114973 / 114973) \times 100\%}{(731.63-767.78 / 767.78) \times 100\%} \rightarrow \frac{37616 / 114974}{-36.15 / 767.78} \rightarrow \frac{0.3271692095}{-0.0470838000}$$

March – April

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(177412-152589 / 152589) \times 100\%}{(802.12-731.63 / 731.63) \times 100\%} \rightarrow \frac{24823 / 15289}{70.49 / 731.63} \rightarrow \frac{1.62358558440709}{0.09634651948307}$$

April – May

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(140226-177412 / 177412) \times 100\%}{(901.37-802.12 / 802.12) \times 100\%} \rightarrow \frac{-37186 / 177412}{99.23 / 802.12} \rightarrow \frac{-0.20960250715847}{0.12373460330125}$$

May – June

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(148183-140226 / 140226) \times 100\%}{(910.48-901.37 / 901.37) \times 100\%} \rightarrow \frac{7957 / 140226}{9.11 / 901.37} \rightarrow \frac{0.056744113074608}{0.010106837369782}$$

June – July

$$\epsilon_{Q,P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(161066-148183 / 148183) \times 100\%}{(857.40-910.48 / 910.48) \times 100\%} \rightarrow \frac{12883 / 148183}{-53.08 / 910.48} \rightarrow \frac{0.0869397974126590}{-0.058298919251384}$$

July – August

$$\varepsilon_{Q_i P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(97805-161066/161066) \times 100\%}{(875.75-857.40 / 857.40) \times 100\%} \rightarrow \frac{-63261/161066}{18.35/857.40} \rightarrow \frac{-0.392764456806520}{0.021411901983664}$$

August – September

$$\varepsilon_{Q_i P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(145854-97805 / 97805) \times 100\%}{(856.85-875.75 / 875.75) \times 100\%} \rightarrow \frac{48049 / 97805}{-18.9 / 875.75} \rightarrow \frac{0.4912734522774910}{-0.021581501570083}$$

September – October

$$\varepsilon_{Q_i P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(180332-145554 / 145554) \times 100\%}{(885.83-856.85 / 856.85) \times 100\%} \rightarrow \frac{34778 / 145554}{28.98 / 856.85} \rightarrow \frac{0.23893537793533}{0.033821555698197}$$

October – November

$$\varepsilon_{Q_i P_j} = \frac{(\Delta Q_i / Q_i) \times 100\%}{(\Delta P_j / P_j) \times 100\%} \rightarrow \frac{(201335-180332 / 180332) \times 100\%}{(923.98-885.83 / 885.83) \times 100\%} \rightarrow \frac{21003 / 180332}{38.19 / 885.83} \rightarrow \frac{0.116468513630415}{0.043066954155989}$$

APPENDIX B

COMPARATIVE ENVIRONMENTAL IMPACT OF VEGETABLE OILS
IN AGRICULTURE (AG) AND PRODUCTION (PROD) BY PERCENTAGE*

PLANT OIL	ENERGY CONSUMPTION		GLOBAL WARMING POTENTIAL		ACIDIFICATION POTENTIAL		EUTROPHICATION POTENTIAL		PHOTOCHEMICAL SMOG POTENTIAL	
	AG	PROD	AG	PROD	AG	PROD	AG	PROD	AG	PROD
PALM OIL	41	22	62	7	77	1	97	-	34	6
PALM KERNEL OIL	41	34	62	18	82	3	97	1	44	3
COCONUT OIL	27	41	68	15	68	5	95	1	14	20
OLIVE OIL	69	9	79	4	93	1	98	-	62	4
SOYBEAN OIL	40	30	48	22	50	12	82	5	21	60
RAPESEED OIL	55	33	70	21	93	5	97	2	24	67
SUNFLOWER OIL	56	30	78	14	87	5	98	1	25	61

* Erich E Dumelin, *The Environmental Impact of Palm Oil and Other Vegetable Oils*, PALM OIL DEVELOPMENTS, Dec. 2009, at 21, Table 1, <http://palmoilis.mpob.gov.my/publications/pod51-erich.pdf>.