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Legal and Economic Analysis on Findings and Implementations of WTO Trade Remedy Disputes

WTO 무역구제 분쟁의 판정과 이행 문제에 대한 연구

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ABSTRACT

Legal and Economic Analysis on Findings and Implementations of WTO Trade Remedy Disputes

Over the past 25 years, the WTO has brought considerable achievements as the principal institution of the world trading system. However, it now faces an unprecedented challenge to its fundamental reform since the paralysis of the Appellate Body (AB) function in December 2019. Among many other topics, the area for imperative reforms includes the existing rules associated with “unfair” trade. This study considers two main backgrounds underlying the need for newly refined rules on trade remedies in legal and economic contexts. The first one relates to widening the discrepancies among nation-states' trade policies, which is largely attributable to substantial discretion to Member states rendered by the ambiguity of the WTO legal texts. Furthermore, along with the criticism for “judicial activism”, the conflicts between the panels and the Appellate Body in understanding and interpreting the trade remedy laws of the WTO have certainly aggravated the integrity of the dispute settlement system expected to provide “security and predictability” to the multilateral trading system.

The other aspect to understanding the discussion for the refinement on trade remedies is that the existing trade remedy rules have not reflected adequately the profound changes to the degree of the economic integration across the world. Indeed, multilateral rules on unfair trade practices such as dumping and subsidization are regarded as one of the most long-standing trade norms. Anti-dumping and countervailing rules made more than one hundred years ago are still

the core framework at the WTO, but already conceptually outdated as national economies are inextricably interdependent with each other. Especially, proliferation of global value chains (GVCs) in the twenty first century calls for new thinking on invocation of traditional trade defense instruments and on reform of all disciplines, rules, and decisions governing trade remedies to incorporate such economic changes into the relevant regime.

In all this respect, this study aims to assess legal adequacy and economic reasonableness of existing WTO disciplines on unfair trade and to suggest possible areas for improvement and refinement. This study particularly examines two specific topics, namely, targeted dumping and input subsidies, which have many economic and legal problems in its national operation, but the WTO provides little disciplines regarding these matters. Although this study attempts to analyze the possibility of the WTO to embrace more reasonable disciplines on such specific issues legally and economically, the study lastly addresses the area of retaliation when it comes to non-compliance with WTO rulings in anti-dumping or countervailing disputes. The present study in conjunction with an examination of two contentious dumping and subsidies ultimately aims to contribute to effective function of the WTO's dispute settlement system.

Keywords: Targeted dumping, input subsidies, trade remedy system, WTO, DSU 22.6 Arbitration, *United States – Washing Machines*

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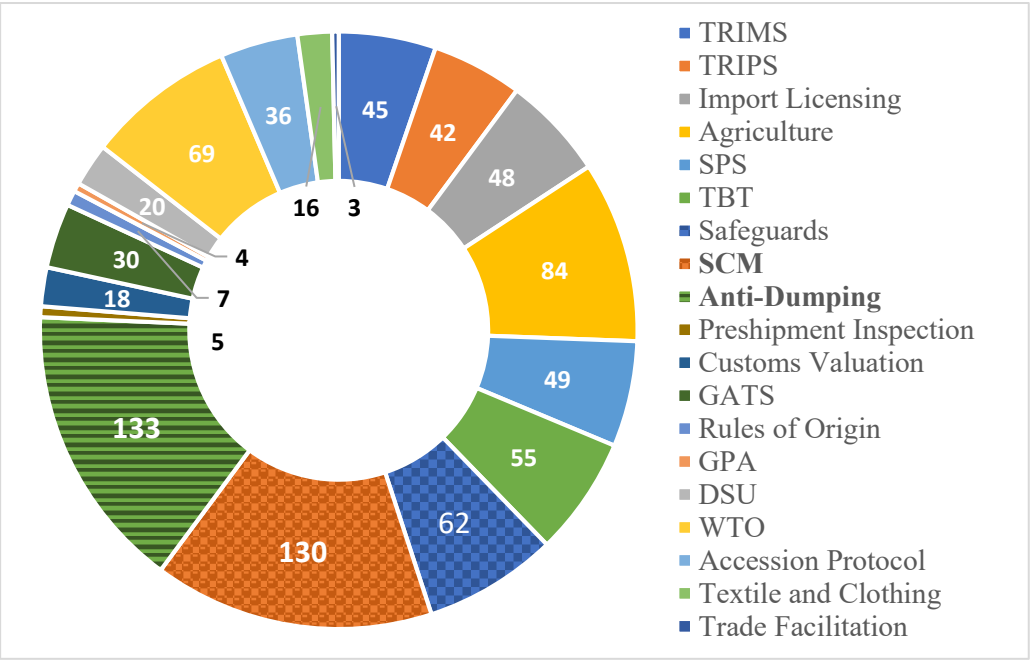
1. Purpose of the Study

Although the WTO has brought considerable achievements as the principal institution of the world trading system over the past 25 years, it now faces an unprecedented challenge to its fundamental reform since the paralysis of the Appellate Body function in December 2019. Many agendas for possible reforms have arisen from huge structural changes in international economic relations and from structural issues that were embedded in the institution itself. Among many other topics, the area for imperative reforms includes the existing rules associated with "unfair" trade[1]. These rules have been potentially one of the most critical matters that trigger the current crisis of the WTO. In fact, the number of disputes concerning unfair trade accounts for the largest portion on a single agreement basis, as shown in Figure 1. Moreover, trade remedy disputes including safeguards account for 52.9% when the scope of disputes concerned is limited to trade in goods only. Those figures demonstrate that Member states have actively resorted to the WTO dispute settlement system to urge the other trading partner to comply with the internationally agreed norms in relation to trade remedies. At the same time, the utmost sensitive issue has been the multilateral disciplines on

[1] While trade remedies generally refer to three types of contingent protection, namely, anti-dumping, subsidy and countervailing measures, and safeguards, the term "trade remedies" is used as an equivalent meaning with the disciplines on unfair trade – i.e. anti-dumping and countervailing measures – for the purpose of discussion in this study.

trade remedies, to the extent that Member states have fiercely continued to seek for clarification as to how the WTO Agreements on Anti-Dumping (AD) and Subsidies and Countervailing Measures (SCM) should be interpreted and applied.

Figure 1. Agreements cited in WTO disputes (1995–2020.6.30.)



Note: The total numbers in this figure exceed the total number of distinct disputes initiated because a single dispute may be subject to more than one agreement.
Source: WTO secretariat

This study considers two main backgrounds underlying the need for new rules on trade remedies in the legal and economic contexts. The first one has to do with widening the discrepancies among nation-states' trade policies, which is largely attributable to substantial discretion left to member states. As noted below, the WTO legal texts created due to the compromise of the negotiations among more than one hundred nation-states are sufficiently vague, which gives much leeway to administering authorities of each nation state. In particular, anti-dumping and

countervailing proceedings involve a technical complexity in calculating the amount of dumping and subsidies in conjunction with other substantive requirements relating to injury determination. Hence, it is understandable that unfair trade rules have higher possibilities of methodological bias than other trade policy options tilting against imports do. The US rules in connection with "targeted dumping" and "input subsidies," which will be addressed in Chapters II and III, are the tightly defined and developed rules based on single sentence or phrase set forth in the WTO agreements. Furthermore, some countries even adopt new laws and regulations to counteract dumped or subsidized imports effectively that are not considered or set out in the WTO at all. Inquiries on circumvention are a concrete example showing the absence of the multilateral norms, but drawing increasingly timely attention across the countries. In this regard, specific issues arising from "loosened" legal texts of the WTO should be meticulously examined.

The other aspect to understanding the discussion for possible reforms on trade remedies is that the existing trade remedy rules have not reflected adequately the profound changes in the degree of economic integration globally. Indeed, multilateral rules on unfair trade practices such as dumping and subsidization are regarded as one of the long-standing trade norms, dating back to 1947 where the General Agreement on Tariff and Trade was built. The framework of unfair trade rules was actually derived from the laws of nation-states that already had trade remedy rules in place in the late nineteenth or early twentieth century; hence, the history of unfair trade rules has been more than a century already. Although substantive and procedural criteria to impose anti-dumping or countervailing measures were elaborately developed through negotiations over time, the core framework of the anti-dumping and countervailing rules has still been maintained but already conceptually outdated as national economies are inextricably

interdependent with each other. Especially, proliferation of GVCs in the twenty first century calls for new thinking on invocation of traditional trade defense instruments and on reform of all disciplines, rules, and decisions governing trade remedies to incorporate such economic changes into the relevant regime.

In all this respect, this study aims to assess legal adequacy and economic reasonableness of existing WTO disciplines on unfair trade and to suggest possible areas for improvement and reform. After some brief introductory remarks about the historical policy background of and the increasing challenges to the WTO framework for dumping and countervailing actions, this study particularly examines two specific topics, i.e. targeted dumping and input subsidies, in which its national operation has several economic and legal problems, but the WTO provides little disciplines regarding these matters. Although this study attempts to analyze the possibility of the WTO to embrace more reasonable disciplines on such specific issues legally and economically, it lastly addresses the area of retaliation when it comes to non-compliance with WTO rulings in anti-dumping or countervailing disputes. The last study in conjunction with an examination of two contentious dumping and subsidies ultimately aim to contribute to effective function of the dispute settlement system of the WTO.

2. Historical and Policy Background of Unfair Trade Rules

Comprehending the historical and trade policy point of view in relation to anti-dumping and countervailing rules is fundamental to understanding the equivocacy problem of the WTO legal texts. Basically, the notion of “dumping” is economically sensible in that such price discrimination between domestic and

export markets can benefit the world and encourage competition. From a business standpoint, a firm seeking profit maximization has an incentive to engage in such discriminatory pricing to recover the fixed and sunk costs. In many cases, the provision of subsidies by governments is perceived as a legitimate trade policy to achieve a government policy objective or to promote positive externalities. However, those two trade practices are deemed to be "unfair trade" by the international trade system in certain circumstances where dumped or subsidized imports cause or threaten to cause "material injury" to domestic competing industries in the importing country. To be specific, the perception of "unfairness" about dumping and subsidies is likely derived from the concern that such practice may kick out import-competing industries from the market, reduce competition, and then raise prices by taking monopolistic position. However, as Viner (1923) aptly noted, this concern is doubtful because such predatory behavior will be very difficult to succeed in most cases[2]. Moreover, many other arguments are in favor of dumping and subsidy policies for political and non-economic reasons[3]. No matter what the ground is for justifying the policy of dumping and subsidies, it is clear that some major countries addressed these issues as a serious concern very long time ago. Taking the United States for example, a legislative attempt to deal with dumping was made in the nineteenth century and the anti-dumping statue was first enacted in 1916[4]. Moreover, in 1897, the United States introduced countervailing duty statue[5].

Given the nations' concern on "unfair" trade practices, GATT 1947 absorbed

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[2] Viner, Jacob. *Dumping: A problem in international trade*. (University of Chicago Press, 1923).

[3] Generally *see*, Jackson, John Howard. *The world trading system: law and policy of international economic relations*. (MIT press, 1997).

[4] For the history and origins of dumping and antidumping rules, see, Jackson, John H. *World Trade and the Law of GATT. Vol. 482*. (Indianapolis: Bobbs-Merrill, 1969).

[5] *Ibid.*

the national disciplines on those practices appropriately. For the multilateral trading system to persist, it would have been inevitable to meet the demand of import-competing sectors in each nation-state to secure protection in an accelerated and unavoidable trend of tariff liberalization since the world war II. While national attitudes toward free trade might be different depending on their social, cultural, economic, or political structures, all nation states have to deal with the more or less pressure from special interest groups seeking for protectionism.

As the first multilateral disciplines on dumping and subsidies, Article VI of the GATT 1947 allows the contracting parties to impose anti-dumping and countervailing duties based on certain substantive and procedural requirements. Meanwhile, Article XVI sets forth general rules on export subsidies. However, those disciplines contained in the original GATT 1947 are too insufficient; thus, extensive discussions on how to elaborate the rules are made subsequently through several multilateral negotiations. Looking back at the negotiating history and the outcomes made, such as the Anti-dumping Code and Subsidies Code resulting from the Tokyo Round negotiations, the current WTO legal texts has seemingly been much developed wherein the international obligation is clearly and elaborately imposed.

Nevertheless, the anti-dumping and countervailing rules enshrined in the WTO are still broad. Given the exceptional mechanism of trade remedies to ensure that Member states invoke protectionism measures in the GATT/WTO in pursuit of trade liberalization, these rules were unsurprisingly always a crucial, controversial subject in trade negotiations. In the Uruguay Round which resulted in the establishment of the WTO, more than 120 countries participated, of which 76 countries signed and ratified the UR Agreements. Given the number of countries involved in the negotiation, it is presumable that the level of

compromise would have been considerably limited.

From a national policy perspective, some extent of protectionism is inevitably embedded in the national administrative system, because political influence can be brought on administering authorities indirectly by shaping the rules that guide the decisions on anti-dumping and countervailing investigations[6]. Given the dynamics of contingent protection administered at the national level, nation states will readily accept the multilateral norms on dumping and subsidies only when those norms contain substantial ambiguity, thereby aptly addressing the political influence at the domestic level.

3. Contemporary Challenges to WTO Trade Remedy Rules

While a great room rendered by the legal text of WTO trade remedy rules gives rise to many legal and economic issues, WTO panels and the Appellate Body's interpretations concerning those issues are not flawless and sometimes subject to harsh criticism. In many trade remedy disputes, the Appellate Body's decisions were criticized because its effort to fill the gaps in legal text and to clarify ambiguity was often seen as invoking "judicial activism". The differences in understanding and approaching specific trade remedy issues even exist between the WTO panels and the Appellate Body. Such conflicts have certainly aggravated the integrity of the dispute settlement system that was expected to

[6] For a political economy's perspective on contingent protection, generally *see* Tharakan, PK Mathew. "Political economy and contingent protection." 105(433) *The Economic Journal* 1550 (1995); Stanbrook, Clive, Philip Bentley, and Joseph Cunnane. *Dumping and subsidies: Law and procedures governing the imposition of anti-dumping and countervailing duties in the European Community*. (Kluwer Law International BV, 1996); Finger, Joseph Michael, H. Keith Hall, and Douglas R. Nelson. "The political economy of administered protection." 72(3) *The American Economic Review* 452 (1982).

provide "security and predictability" to the multilateral trading system[7]. The issue of targeted dumping addressed in Chapter II, which originates from long-standing disputes concerning zeroing, exactly pinpoints this problem.

WTO trade remedy rules have many legal and economic problems, and one important point to take into account is the emergence of global value chains (GVCs). Proliferation of GVCs in recent decades has reshaped the landscape of international trade in a fundamentally different way. From the 1980s to which its origin was traced[8], GVCs now have become an overarching factor explaining today's global trade environment. Simultaneously, both national and international trade regimes face a challenge in adapting themselves to this changed environment. Indeed, having depended on a traditional form of international trade, the basic structure of the trade remedy laws, in which a product is made in one country and consumed in another[9], is conceptually outdated in this respect. For instance, the notion of "dumping" referred to as price discrimination between domestic and export markets or a "domestic industry" defined on the basis of a "territory" is often misplaced in the world of a complex value chain in which production crosses multiple borders[10]. The rise of GVCs also raises a question of whether the elements constituting a countervailable "subsidy" set forth in the SCM Agreement are invariable, particularly in the context of a "territory," which will be examined in Chapter III. An export of a finished product produced in one country using the input product subsidized in another is a highly plausible – or

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[7] Understanding on Rules and Procedures Governing the Settlement (DSU), Annex 2 to Marrakesh Agreement Establishing the World Trade Organization, Article 3.

[8] Mavroidis, Petros C. *The Regulation of International Trade: Volume 1.* (Cambridge: MIT Press, 2016), p.233.

[9] OMC, IDE-JETRO, OCDE, Research Center of Global Value Chains y Banco Mundial. "Global Value Chain Development Report 2019: Technological innovation, supply chain trade, and workers in a globalized world." (2019), p.1.

[10] *Ibid.*

already prevailing – strategy in the global business market. Overhauling what issues may arise from the GVCs perspective in relation to trade remedy rules and the related WTO dispute settlement procedure is therefore very timely and important for further discussion of possible reforms on trade remedies.

4. Structure of Contents

In Chapter II and III, the study begins with the issue of targeted dumping and input subsidies, revealing the difficulty of implementing an economically rational discipline within the existing legal framework of the WTO. Targeted dumping is a pivotal issue in modern trade remedy disputes, especially because it was expected to put an end to one of the most contentious issues in the history of WTO disputes, that is, zeroing. Specifically, the study examines the findings of the panel and the Appellate Body in *US – Washing Machines* on the interpretation and application of the second sentence of Article 2.4.2 of the Anti-Dumping Agreement (ADA). The study explores whether the AB's ruling on the targeted dumping provision makes the function of that provision substantively feasible, and if not, what other rule-making process is required on this issue.

In contrast to the case of zeroing, or targeted dumping, only a few cases address the issue of input subsidies in the WTO. This topic, however, deserves attention because nation-states increasingly recognize the need for disciplines on this issue in the GVCs prevalent world trade. In this chapter, the SCM Agreement if found to have no specific provisions or guidance on input subsidies despite the great importance and interest of this issue among nation-states. The study starts with the analysis on the US legislative history and the statue governing the imposition of countervailing duty against upstream subsidies and the

investigation cases initiated from 1994 to present. Then, it examines whether and to what extent the legal discussion or development on the disciplines on input subsidies have been made in the GATT and WTO. From the legal and economic perspectives, this chapter analyzes the possibility of disciplining input subsidies effectively within the current framework of the SCM Agreement along with an examination of the implementation issue in the GVCs context.

In Chapter IV, the study examines the retaliation under the DSU Article 22.6 arbitration, or the "last resort" as it is frequently referred to, against non-compliance with the WTO rulings on anti-dumping and countervailing measures. While Chapters II and III aimed to explore economically more rational disciplines on each issue concerned, improving the enforcement mechanism of the dispute settlement system is the utmost warrant for achieving such aim. Calculating the precise level of the retaliatory measure is therefore equally important. This study specifically delves into the methodology and the assumptions adopted to calculate the retaliatory level in *US-Washing Machines (Art. 22.6)*.

Finally, Chapter V puts forward a common implication from three separate analyses on anti-dumping and countervailing rules and non-compliance issues involved. The chapter also discusses future research agenda regarding the WTO trade remedy system in need of reform and development.

Chapter II. Disciplines for Targeted Dumping in the WTO Anti-Dumping Law

1. Introduction

1.1. Research Background

Targeted dumping[11] is a very interesting concept implied in the ADA, which has not been fully explored until the WTO dispute, *United States – Anti-dumping and Countervailing Measures on large residential washers from Korea* (*US – Washing Machines*). Targeted dumping, defined as a pattern of export prices that differ significantly among different purchasers, regions or time periods, seems to suggest a more dangerous kind of dumping activities. Despite such urgency or special feature of targeted dumping, the only provision that addresses this exceptional situation is the second sentence of Article 2.4.2 of ADA pertaining to the comparison methodologies for dumping margin calculation. If targeted dumping is truly believed to be more egregious practices that incur damages to importing countries, should it not be more reasonable to have separate rules for injury determination, causation or even punitive anti-dumping duties?

[11] The second sentence of Article 2.4.2 does not expressly refer to "targeted dumping". However, the notion of "targeted dumping" appears to be implied in the reference in the second sentence of Article 2.4.2 to "a pattern of export prices which differ significantly among different purchasers, regions or time periods". Thus, the second sentence of Article 2.4.2 is also called the "targeted dumping provision" thereinafter. See WTO Appellate Body Report, *United States — Anti-dumping and Countervailing Measures on large residential washers from Korea (US – Washing Machine)*, WT/DS464/AB/R (adopted September 26, 2016), para 5.17.

The Appellate Body in *US – Washing Machines* clarified the concept of targeted dumping and the way to apply the pertinent part of Article 2.4.2. It is noted that the Appellate Body clarified the long-standing principle to prohibit zeroing practice even for targeted dumping cases. This ruling, however, caused the very first dissenting opinion specifically to be included in the AB report.[12] Despite the AB's steadfast efforts to terminate zeroing practices, this unprecedented situation shows that the controversy over zeroing practices continues in the WTO jurisprudence.

Regarding the issue of zeroing in general, there has been voluminous literature explaining how zeroing affected dumping margins and why its application became one of the most contentious issues in the history of WTO disputes. (See, for example, Kim (2002), Ikenson (2004), Vermulst and Ikenson (2007), Nye (2009), Matsushita (2010), Bown and Prusa (2010)). In more specific terms, many prominent scholars have critically examined various aspects of the WTO rulings made in a number of disputes from both legal and economic perspectives. Bown and Sykes (2008) examined the Appellate Body decision in *United States –Softwood V (original and Art.21.5)* which dealt with the zeroing issue in "transaction-to-transaction (T-T)" calculations. Prusa and Vermulst (2009) discuss the permissibility of the zeroing practice under the ADA while criticizing the overreaching aspect of the AB's ruling in two disputes, *United States–Zeroing (EC)* and *United States–Zeroing (Japan)*. Hoekman and Wauters (2011) examine the costs incurred by non-compliance of the United States with the AB's rulings on zeroing by reviewing *United States–Zeroing (Art.21.5, EC)* and *United*

[12] This dissenting opinion is the first kind of the AB decision in that the ruling explicitly disagreed with the majority opinion. The previous dissenting opinions in the AB reports generally present different rationale for the same conclusion. Regarding systemic issues on the dissenting opinions of the WTO decisions, see Meredith K. Lewis, 'The Lack of Dissent in WTO Dispute Settlement', 9(4) *Journal of International Economic Law* 895 (2006).

States–Zeroing (Art.21.5, Japan). Some legal scholars address the specific issue of inconformity of the panel's rulings with the earlier Appellate Body decisions in the institutional context of the WTO and its dispute settlement system. Cho (2008) review all of the zeroing disputes in order to support the argument that the WTO tribunal has taken on the function of "constitutional adjudication." Saggi and Wu (2013) evaluate the implication of the panel's ruling in *United States–Orange Juice (Brazil)* which complied with the precedents in terms of preserving "stability and predictability" within the system. While the foregoing literature addresses a variety of issues related to zeroing disputes, it has a limited implication in a context of targeted dumping situations. Otherwise stated, it only serves its relevance in the circumstance in which normal comparison methodologies apply.

Certain legal literature touches upon the issue of targeted dumping in the zeroing context or in the methodological context. Voon (2007) envisaged the targeted dumping provision to be the last area in which zeroing might survive while clarifying the demise of zeroing in most contexts. Similarly, Ahn and Messerlin (2014) briefly mention a target-dumping situation when it focuses on the repeated non-compliance of the United States in zeroing disputes. Hartigan (2016) mostly criticize the panel's decision in *United States–Shrimp II (Vietnam)* by elucidating that discontinuing the use of zeroing enshrined in the Final Modification for Reviews announced by the US Department of Commerce (DOC) in 2012 does not pertain to a targeted dumping situation. Porter and Bidlingmaier (2012), Durling (2015), and McFarland, H. B. (2015) pinpoint the problems of the DOC's methodologies developed for targeted dumping analysis from the practical standpoint.

In spite of its excellent analysis on the targeted dumping provision and its application in the United States, the aforementioned literature is too focused on

the permissibility of zeroing under a targeted dumping situation or lacks sufficient consideration of whether the notion of targeted dumping is economically viable and how the targeted dumping provision of ADA should be interpreted. On top of that, no literature so far has encountered the WTO dispute attempting to interpret the targeted dumping provision rightfully.

1.2. Research Purpose and Structure of Contents

Instead of revisiting zeroing disputes, the study will focus on targeted dumping concept itself in ADA in order to highlight the dilemma posed and the risks involved of AB rulings in *US–Washing Machines*. The Appellate Body interpretation of Article 2.4.2 in relation to patterned export raises a concern for dealing with targeted dumping situation either by permitting abusive application of anti-dumping systems based on arbitrary and discretionary determination or by limiting remedial actions to insufficiently address greater risks of targeted dumping.

In the next section, the study analyzes whether targeted dumping is economically a viable concept that deserves a separate remedial action. Section III reviews how the current trade rules in the WTO as well as in the United States embrace targeted dumping provisions. Section IV explains the development of US anti-dumping practices concerning targeted dumping. The WTO jurisprudence concerning targeted dumping before *US–Washing Machines* is examined in Section V. Section VI analyzes the major AB rulings on targeted dumping. The study concludes with some systemic concerns in Section VII.

2. Economic Rationale of Targeted Dumping

From the perspective of economics, an anti-dumping system is hard to justify because it does not take social welfare into account properly.[13] Despite potentially larger benefits to consumers, AD duties are almost exclusively imposed on the basis of injury to domestic industries. It is noted that public interest consideration is not yet mandatory in the WTO ADA and rarely adopted in the AD system[14]. Thus, economic rationale on its own cannot sufficiently explain the concept of targeted dumping and its purposes.

Since the discussion on unfair competition began to appear in literature, the term "dumping" has been widely employed to signify price-discrimination between national markets[15]. Taking this approach, Viner, whose work has strongly influenced current antidumping policy[16], distinguishes three categories of dumping according to the motive of a dumper and the continuity of the dumping.[17] The first kind is sporadic dumping including unintentional dumping and disposal of casual overstock. The second is short-run or intermittent dumping which could last for months or years at a time and includes diverse behaviors such as dumping to develop trade connections and buyers' goodwill in a new market or to eliminate competition in the market dumped on, i.e. predatory dumping. This kind of dumping also occurs when the exporter forestalls the development of competition in the market dumped on or retaliates against

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[13] See generally Bruce A. Blonigen and Thomas J. Prusa, 'Dumping and Antidumping Duties', in *Handbook of Commercial Policy Volume 1B* (Amsterdam: North-Holland, 2016).

[14] Canada is currently the only country to adopt an independent public interest proceeding as a part of AD investigation. See Bowman, G., et al., *Trade Remedies in North America* (The Netherlands: Kluwer Law International, 2009).

[15] Viner Jacob (1923), *supra* note 2, p.3.

[16] Gunnar Niels, 'What is antidumping policy really about?', 14(4) *Journal of economic surveys*. 467 (2000), p. 473.

[17] *See* Viner Jacob (1923), *supra* note 2, p. 23.

dumping in the reverse direction[18]. The last one is long-run or continuous dumping for maintaining full production from existing plant facilities or one for obtaining the economies of larger-scale production without cutting domestic prices[19]. Viner suggests that anti-dumping could gain a strong support based on economic reasons from the importing country as a whole, only when there may be an injury to domestic industry greater than the gain to consumers.[20] In that regard, while sporadic dumping or long-run dumping cannot be of great significance, short-run dumping on a steady and systematic scale for several months or years at a time is objectionable because it can result in great injury to the domestic industry and at worst lead to monopolization of the importing market through "predatory" or "malignant" dumping[21].

A targeted dumping situation, as specified in the second sentence of Article 2.4.2 of ADA, is not designed to ascertain the relationship between the export price and the normal value, but rather the relationship between the export price for the targeted group and the export price for the non-targeted group. In other words, the second sentence of Article 2.4.2 puts particular emphasis on the exporter's pricing behavior regarding pattern transactions[22], irrespective of normal value, with regard to "purchasers, regions or time-periods". In this aspect, the "targeted dumping" concept itself does not fit into the classic definition of dumping as international price discrimination between different national markets. Instead, it would be the case of price discrimination within the same importing market. The fact that such a price discrimination within the same market can be feasible only with strict barriers to prohibit arbitrage even inside the importing

[18] *Ibid.*
[19] *Ibid.*
[20] *Ibid.,* p. 138.
[21] *Ibid.,* p. 26, 139-40.
[22] Appellate Body Report, *US – Washing Machine, supra* note 11, para 5.141.

market makes "targeted dumping" economically by far more difficult to sustain in any reasonably operating markets. In addition, even "normal" dumping may be categorized as "targeted" dumping in case non-targeted export prices are significantly high compared to targeted dumping prices. This is because dumping is considered "targeted" exclusively on the basis of the relative differences among export prices.

The most convincing economic reason to treat "targeted dumping" differently from ordinary dumping may be a higher risk for targeted segment of the domestic industry. Given that the most plausible economic basis for the AD system is to guard against predatory pricing[23], "targeted" dumping seems to require special treatment due to heightened risks of "targeted" predatory pricing. But how to define economically "targeted dumping" raises an exceptionally difficult question. For example, when a manufacturer of electric appliance from a small country introduces a new product to a market, it would have strong economic incentives to price more competitively – or, "dump" – to a larger exporting market that tends to have a larger price elasticity. This rational economic pricing behavior may well be understood as "targeted dumping" to the extent that such aggressive pricing is confined only to the newly introduced product model. This situation is, however, not covered by the "targeted dumping" situation stipulated under Article 2.4.2 of ADA because it deals only with targeting of "purchasers, regions or time periods", but not of "products." So, it is puzzling why the concept of "target" in terms of dumping should work merely for the criteria listed in the ADA – "purchasers, regions or time periods", but not for others such as "product" or "volume or amount".

[23] Nye, William W., 'Competitive Advocacy Opportunity: Zeroing in U.S. Antidumping Enforcement', (2008). Available at SSRN: https://ssrn.com/abstract=1313172 or http://dx.doi.org/10.2139/ssrn.1313172.

In addition to the criteria for discerning "targeting", there are another dimensions of the problems of determining the pattern of export prices so that "targeted dumping" can be found. In fact, practically no economic theory or principle can provide any intelligent standards to measure the magnitude of significant differentials forming a "pattern" in export prices. For example, it seems impossibly difficult to suggest any economic principle for determining specific "pattern" of export prices among numerous prices charged to many different purchasers. How much price differences over how long period of times to how many purchasers should be qualified for "pattern" to constitute "targeted dumping" is an issue requiring not economic analyses but policy judgment.

Moreover, since the main risk of "targeted dumping" lies in a greater potential of injury, any rule concerning targeted dumping needs separate standards for injury determination. In other words, if targeted dumping is considered especially injurious, there should be a special injury standard under which AD may be permitted, although the regular injury standards may not justify AD duties. The complete disregard of "targeted dumping" in the injury determination and application of special rules for dumping margin calculation only under Article 2.4.2 of ADA may not be explained with any reasonable economic rationale[24]. This problem is particularly worrisome because the injury determination is typically based on three-year period data; whereas the dumping margin calculation is normally undertaken with one-year data. The current practice for injury determination to use three-year industry trends is very likely to dilute – if not entirely dismiss – "targeted" injury from the overall injury determination.

[24] Although Article 4.1(ii) of the ADA deals with the possibility of domestic injury in exceptional circumstances where the domestic territory is divided into competitively separate markets and there is a concentration of dumped imports into one of those markets which is isolated from others, the existence of a regional industry mentioned in that article is not conceptually paralleled by the region where targeted dumping may occur as specified in Article 2.4.2.

Another fundamental question for targeted dumping is whether targeted dumping necessitates targeted remedy or not, and if so, how to establish targeted remedy. For example, suppose that during the twelve months period, dumping took place only in March, April and November. If dumpings in March and April are alleged to be "targeted dumping" and dumping in November is non-targeted dumping, it is uncertain whether AD duty based exclusively on targeted dumping can be a remedial measure to effectively counteract the targeting behavior. In addition, it is also controversial whether AD based on targeted dumping should be imposed on the whole exports by the manufacturer or exports only for March and April. This issue is directly related to a more fundamental question of what is the purpose of determining targeted dumping. If that is to decide the nature of the whole exportation, any detection of targeted dumping will be the basis of more severe punishment under special remedial systems. Alternatively, if the purpose of finding targeted dumping is to rectify a peculiar kind of dumping problems while avoiding excessive protection, a limited scope of remedial actions may be more desirable. From the economics point of view, the latter approach is obviously more reasonable. But that will be practically very difficult to implement with any AD investigation and collection procedures.

According to the economic theories explaining why dumping occurs, discerning the behavior of targeted dumping as a category distinguished from normal dumping activities is very difficult. The explanation for dumping focusing on pricing below cost also does not provide a new economic ground for targeted dumping. Therefore, from an economic standpoint, the distinction between the concept of targeted dumping and that of [normal] dumping we usually refer to may not be necessary nor relevant to addressing industry injuries caused by dumping activities. In the next section, the study examines the drafting intent of the targeted dumping provision of the WTO ADA by reviewing the

Uruguay Round (UR) negotiation history in which the provision was first introduced as well as the history of US laws and regulations that have developed the pertinent provisions.

3. History of Legal Development of Targeted Dumping

3.1. Historical Development of Targeted Dumping in GATT/WTO

While the general rules for calculation of dumping margins had developed over negotiations since the 1960s, a major discussion on the specific comparison method between the export price and the normal value began at the UR negotiations. In fact, Article 2.6 of the 1979 Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade (AD Code), which provided detailed criteria for fair comparison, did not even stipulate the use of weighted-average in calculating export price and normal value[25]. During the UR negotiation, however, Japan, Hong Kong, Korea, and Nordic countries proposed that the margin calculation be made by the symmetry principle, i.e. the W-W comparison or the T-T comparison, denouncing the practice of certain signatories to ignore negative dumping margins resulting from the W-T comparison. Initially, Japan made proposals that the normal value calculated on a weighted-average basis should not be compared to individual export prices in order to assure fairness of the comparison between two prices[26]. Hong Kong also proposed that the practice of zeroing in the calculation of dumping margins by the W-T

[25] Original text of Article 2.6 of the AD Code only refers to as the "two prices" as following:
"… the *two prices* shall be compared at the same level of trade, normally at the ex-factory level, and in respect of sales made at as nearly as possible the same time." (emphasis added).

[26] GATT, Submission of Japan on Amendments to the Anti-Dumping Code, MTN.GNG/NG8/W/48, August 3, 1989.

comparison should be discontinued and that the AD Code be amended for the price comparison to be made exclusively on weighted-average basis[27].

Each argument by negotiators in the UR negotiation basically predicates on the common perception that the W-T comparison always involves the disregard of negative dumping margins. In other words, they were fully aware that the W-T comparison can be asymmetric only when zeroing is employed in the comparison. In response to these arguments, the United States countered that the zeroing practice is necessary to address "targeted dumping" on a particular account, on a particular product line, in a particular region, or a particular time-period[28]. In addition, the United States, believing that the W-W comparison might otherwise mask dumping, insisted on allowing an exception to the preference for the W-W comparison.

Reflecting both perspectives, the draft of Carlisle I in July 1990 provided that, as a rule, dumping margins would be determined by the W-W comparison and the export price could be compared individually "when significant amount of exporting transactions occurred below the X% of weighted-average export price, or the price of exporting transactions for specific customer, region or period varies to a significant degree[29]." Since then, the proposals in so-called "New Zealand I" and "New Zealand II" similarly enshrined certain conditions[30] so that

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[27] GATT, Addendum to Communication from the Delegation from Hong Kong: Amendments to the Anti-Dumping Code, MTN.GNG/NG8/W/51/Add.1, December 22, 1989.

[28] Stewart, Terence P. *The GATT Uruguay Round: a negotiating history (1986-1992) Volume II: Commentary*. (Deventer: Kluwer Law and Taxation Publishers, 1993), p.1540.

[29] GATT, Report of the Acting Chairman of the Informal Group on Anti-dumping, MTN.GNG/NG8/W/83/Add5, July 23, 1990.

[30] The original text of the second sentence of Article 2.4.2 in New Zealand II is as following:
"A weighted-average normal value may be compared to individual export transactions only when the export prices vary to a significant degree between or to customers during the period of investigation, provided that the authorities ensure that no margins of dumping are found when there are similar movements in levels of prices at the same time in the two markets, and provided that the authorities give an explanation of the reasons for using such a comparison."

the exceptional comparison methodology could be applied. Even though the proposals by that time seem to formulate the principle of comparison methodologies more visible, the Brussels Draft Anti-Dumping Commentary released in December 1990 described that negotiations had revealed continuously the different position regarding the answer to the question of "if averaging is used to establish a home market price, should averaging also be used to establish the export market price in all cases?[31]". It is notable that no official document published throughout the negotiating process is found to contain any specific discussions among countries regarding under what circumstances an investigating authority might use the W-T methodology. Considering the lack of specific discussion on this issue, it would be unreasonable to presume that negotiating countries seriously contemplated the function of what would become the second sentence of Article 2.4.2 to identify and address "targeted dumping". Rather, it seems more plausible that the second sentence allowing the use of the W-T comparison methodology as an exception was derived from a mere compromise between one group of negotiators, i.e. proponent of zeroing, and another group, i.e. opponent of zeroing, based on implicit understanding that the W-T methodology is asymmetric in terms of zeroing. Therefore, when the Dunkel draft in 1991 elaborated the provisions as in the current text of Article 2.4.2 in the ADA[32], it inevitably embraced the potential source of disputes regarding when and how to use the targeted dumping provision.

Clearly, the drafters did not specifically envision a particular situation of targeted dumping that demands special remedial measures, rather presented the

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See Terence P. Stewart (1993), *supra* note 28, p.1541.

[31] GATT, Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations – Revision, MTN.TNC/W/35/Rev.l, December 3, 1990.

[32] *See* Terence P. Stewart (1993), *supra* note 28, p.1543. For the Dunkel Draft, see MTN.TNC/W/FA, p.F.4, December 20, 1991.

targeted dumping concept simply to permit the W-T calculation methodology. Thus, the targeted dumping provision first introduced in the ADA did not provide proper definitions nor criteria for finding "targeting" activities. Similarly, despite the urgency of industry injury caused by "targeted" dumping, the ADA did not stipulate pertinent injury determination rules or causation standards. This is contrasted with the prohibited subsidy rule in the SCM Agreement that deems "specificity" and does not require injury finding.[33] On the other hand, the lack of any other special rules concerning a targeted dumping implies the importance of the W-T calculation methodology, which is essentially the only remedial measure to address this extraordinary dumping activity. If the drafters agreed somehow to separately discipline special circumstances of dumping activities, i.e. targeted dumping, the pertinent remedial measures stipulated in the ADA should have a proper meaning to serve the intent of the legislative process. Therefore, whether and how the W-T calculation methodology alone can deal with targeted dumping remain a critical issue for the application of Article 2.4.2 in the ADA.

3.2. Evolution of US Laws and Regulations for Targeted Dumping

As mentioned above, the fact that the concept of "targeted dumping" had not been addressed properly at the multilateral level even including the UR negotiation is equally observed in the US legislative history concerning the anti-dumping laws until the early 1990s. The term "targeted dumping" appears for the first time in the Statement of Administrative Action (SAA), which constitutes a part of the Uruguay Round Agreements Act (URAA) enacted on December 8,

[33] The countervailing case for a prohibited subsidy demands both material injury finding and causation analysis, as in a targeted dumping case. But a "targeted" dumping is distinguishable in the manner of injurious dumping concentrated in particular kind of exportation.

1994[34]. In other words, it was not a legally conceptualized term in the US anti-dumping system before the URAA, because the US Department of Commerce (DOC) had preferred to compare the average normal value to individual export prices[35] as a normal practice in determining dumping margins.

Recognizing this traditional practice, the SAA noted that the reluctance to use an average-to-average methodology has been based on the concern that targeted dumping might be concealed by that methodology[36]. While forming the notion of targeted dumping in the very early stage, the SAA also noted that targeted dumping may occur when an exporter sells at a dumped price to particular customers or regions, while selling at higher prices to other customers or regions[37]. The SAA provided further explication for the targeted dumping provision. For instance, it clarified that the DOC would proceed on a case-by-case basis in determining a pattern of significant price difference because small difference may be significant for one industry or one type of product, but not for another[38]. More importantly, it provided that the use of the W-T comparison methodology serves as an exception to normal methodologies only in investigation proceedings[39]. By doing so, the SAA allowed the DOC to stick to the traditionally preferred practice, i.e. the W-T methodology, in review proceedings.

After holding a number of public hearing processes, the DOC revised its antidumping regulations pursuant to the SAA in 1997[40]. Looking into the textual contents of the SAA and the revised regulation, it is evident that targeted dumping

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[34] Retrieved from <https://www.congress.gov/bill/103rd-congress/house-bill/5110>
[35] US Federal Register 74930, December 10, 2008.
[36] Retrieved from <http://enforcement.trade.gov/regs/uraa/saa-ad.html>
[37] *Ibid.*
[38] *Ibid.*
[39] *Ibid.*
[40] US Federal Register 27296, May 19, 1997.

itself was not the main concern of the United States at the UR negotiating process. If the United States had really intended to address a special risk of targeted dumping when insisting on the use of the W-T methodology, it would have focused more on potential injury incurred by greater risks of "targeted" predatory pricing. Furthermore, it would also have considered as to whether and how the remedial actions against "targeted dumping" should be taken as a consequence of dumping and injury determination on "targeted dumping". In this aspect, it is noted that the US AD statute only specifies criteria to apply the W-T methodology, in the absence of any pertinent considerations for targeted injury or targeted remedy measures. This finding also gives more weight to the view that the second sentence of Article 2.4.2 of the ADA was the product of compromise concerning the use of zeroing, not the result of relevant discussions or proposals on targeted dumping as such.

Turning to the US history of more specific AD regulations, Section 19 CFR 351.414(f) revised in 1997 specifies the criteria of targeted dumping as following[41]:

> (f) Targeted dumping. (1) In general, Notwithstanding paragraph (c)(1) of this section, the Secretary may apply the average-to-transaction method, as described in paragraph (e) of this section, in an antidumping investigation if:
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> (i) As determined through the use of, among other things, standard and appropriate statistical techniques, there is targeted dumping in the form of a pattern of export prices (or constructed export prices) for comparable merchandise

[41] US Federal Register 27416, May 19, 1997.

that differ significantly among purchasers, regions, or periods of time; and

(ii) The Secretary determines that such differences cannot be taken into account using the average-to-average method or the transaction-to-transaction method and explains the basis for that determination.

(2) Limitation of average-to-transaction method to targeted dumping. Where the criteria for identifying targeted dumping under paragraph (f)(1) of this section are satisfied, the Secretary normally will limit the application of the average-to-transaction method to those sales that constitute targeted dumping under paragraph (f)(1)(i) of this section.

(3) Allegations concerning targeted dumping. The Secretary normally will examine only targeted dumping described in an allegation, filed within the time indicated in §351.301(d)(5). Allegations must include all supporting factual information, and an explanation as to why the average-to-average or transaction-to-transaction method could not take into account any alleged price differences.

It is noteworthy that the DOC initially set forth more specific criteria in a manner that tries to restrict the application of the targeted dumping provision. In other words, 19 CFR 351.414(f) reveals the US's cautious approach to application of the provision. For example, the regulation stipulates the “use of standard and appropriate statistical techniques” to find targeted dumping. In addition, the DOC limits the W-T method only to pattern transactions or examines only targeted

dumping "described in an allegation" that must include all supporting factual information and proper explanation. The DOC's approach is also confirmed in the preamble to the proposed regulations. The preamble states that "it would be "unreasonable and unduly punitive" to apply the W-T approach to all sales where, for example, targeted dumping accounted for only one percent of a firm's total sales"[42].

Despite the specific regulations, the DOC had hardly performed targeted dumping analyses. In fact, during eleven years from 1995 to 2006, while the DOC initiated 288 AD cases, there had been only one case that the petitioner alleged the existence of targeted dumping[43]. It was not until 2007 that the DOC adopted a brand-new methodology for targeted dumping. The DOC determined that it had to rethink its entire approach to targeted dumping in the case "Coated Free Sheet Paper from the Republic of Korea" in 2007[44]. After reviewing various comments on how the analysis should be undertaken to find targeted dumping, they adopted a newly designed methodology in the post-preliminary determinations of the "Certain Steel Nails from the United Arab Emirates and the People's Republic of China" cases, which was more widely known as the "Nails test".[45]

In December 2008, the DOC decided to withdraw its existing targeted dumping provisions, announcing that they would return to a case-by-case adjudication[46]. The DOC continued to develop its analytic methodology for targeted dumping by making significant changes to the original Nails test. In March 2013, the DOC

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[42] US Federal Register 27375, May 19, 1997.

[43] US Federal Register 30326, June 14, 1996. See Porter, D. L. and R. Bidlingmaier, "Targeted Dumping: The Next Frontier in Trade Remedy Litigation", 21 *Tulane Journal of International and Comparative Law*. 485 (2012), p. 491.

[44] US Federal Register 60630, October 25, 2007. *See* Porter, D. L. and R. Bidlingmaier (2012), *supra* note 43, p.492.

[45] *See* Porter, D. L. and R. Bidlingmaier (2012), *supra* note 43, p.493.

[46] US Federal Register 74930, December 10, 2008.

adopted a new methodology[47], differential pricing methodology (DPM), which is currently employed in analyses for targeted dumping.

As will be examined in the next section, the DOC now analyzes the existence of targeted dumping for all ongoing investigations. As a result, the DOC calculates dumping margins by applying the W-T comparison methodology with zeroing for 57 individual exporters or producers out of 249 original anti-dumping investigations initiated from January 2008 to December 2017[48]. Although this figure may not be numerically very significant, the application of the DPM itself is crucial for exporters in that the analysis for targeted dumping may become more regular parts of AD investigations as a tool to increase margins of dumping.

4. US DOC's Analysis of Targeted Dumping

The DOC's practice to apply targeted dumping provisions has become one of the major trade remedy issues in the WTO system. The below section explains the analysis currently adopted by the DOC.

4.1. Targeted Dumping Analysis in the Washers AD Investigation[49]

In order to determine whether the conditions for the application of the W-T comparison methodology in the context of the second sentence of Article 2.4.2

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[47] DOC, Less Than Fair Value Investigation of Xanthan Gum from the People's Republic of China: Post-Preliminary Analysis and Calculation Memorandum for Neimenggu Fufeng biotechnologies Co., Ltd. and Shandong Fufeng Fermentation Co., Ltd., March 4, 2013.

[48] Retrieved from <http://enforcement.trade.gov/stats/inv-initiations-2000-current.html> and <http://enforcement.trade.gov/frn/index.html > (visited January 14, 2018). This data includes preliminary as well as final determinations when the case is withdrawn or terminated before a final decision is made, or the case is now being in progress.

[49] The Nails II methodology and its problems mostly referred to Issues and Decision Memorandum for the Antidumping Duty Investigation of Large Residential Washers from the Republic of Korea, A-580-868, December 19, 2012.

are met, the DOC relies on its targeted dumping analysis called the Nails II methodology. The first step of the Nails II methodology is "standard-deviation test". The DOC calculates the standard deviation on a product-specific basis using the period of investigation (POI)-wide weighted-average sales price for the allegedly targeted group and the non-targeted groups. Then, it determines whether the weighted-average sales price for the allegedly targeted group is more than one standard deviation below the weighted-average price of all sales. If that volume of the allegedly targeted group's sales exceeds 33% of the total volume of an exporter's sales of the product under consideration for the allegedly targeted group, it proceeds to the second stage of the Nails II methodology.

In the second stage, the DOC examines all sales of identical merchandise sold to the allegedly targeted group which passed the standard-deviation test. Then, it determines the total volume of sales for which the difference between the weighted-average price of sales to the allegedly targeted group and the next higher weighted-average price of sales for a non-targeted group exceeds the average price gap (weighted by sales volume) between the non-targeted groups. If the volume of the sales that meets this test exceeds 5% of the total sales volume of the product under consideration, then the DOC considers the weighted-average price to the allegedly targeted group to differ significantly[50] and finds that targeting occurred.

In the final stage, the DOC considers whether the W-W comparison methodology can take into account the observed price differences. For this analysis, it compares the difference between the weighted-average dumping margin calculated using the W-W comparison methodology and the weighted-average dumping margin calculated using the W-T comparison methodology.

[50] *See* Porter, D. L. and R. Bidlingmaier (2012), *supra* note 43, p.497.

Where there is a meaningful difference between the results of the W-W comparison and the W-T comparison, the W-W comparison is regarded as not being able to take into account such price differences. In that case, the W-T comparison is used to calculate the dumping margin.

Application of the Nails II methodology to uncover the targeted dumping, however, evoked strong opposition from exporters. Exporters advanced various arguments regarding the targeted dumping analysis applied in the Washers AD investigation.

First of all, exporters asserted that the DOC's one-standard-deviation threshold is arbitrarily defined and in nowhere does the DOC identify the statistical theory underlying its analysis. In addition, by using weighted-average sales price rather than actual market prices in the standard-deviation test, they contended that the DOC artificially lowered single standard deviation threshold, thereby finding more pervasive targeted dumping.

Moreover, exporters contended that the DOC's analysis is inherently flawed because it did not consider any element of washing machine industry that might impact pricing, such as strong seasonal pricing, time pattern of new model introduction, differences in quantities sold for different models, or differences in sales volume by customer.

In addition, exporters blamed the use of zeroing in the W-T comparison methodology. Another claim was concerned with the DOC's practice to apply the W-T comparison to all US sales, not just to those sales where targeted dumping is found to have occurred[51].

[51] *See supra* note 49, p. 25.

4.2. The DOC's Current Analytic Framework for Targeted Dumping

Since the Xanthan Gum AD investigation in March 2013, the DOC developed a new method to analyze targeted dumping, i.e. differential pricing methodology (DPM).[52] While the DOC previously had tested alleged targeted dumping transactions specifically filed by domestic producers, it now tests all export sales transactions by comparing different average prices charged to various arbitrarily defined groups[53].

The DPM is mainly comprised of three stages. In the first stage, the "Cohen's *d* test" is applied to determine significance of price differences. For each comparable product category (i.e. CONNUM), the DOC splits data into subgroups by a region, a period, and a purchaser. Geographical regions are defined by census regions, and periods are defined by quarters[54]. Subgroups are aggregated into test groups over two of three characteristics and then tested for targeted dumping based on the target characteristics.

Therefore, each subgroup is tested for targeted dumping three times, on the basis of region, quarter, and purchaser, respectively[55]. The Cohen's *d* test is applied when the test and comparison groups each have at least two transactions, and when the sales quantity for the comparison group accounts for at least five percent of the total sales of the product category[56]. Then, the Cohen's *d* coefficient

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[52] DPM and its problems mostly referred to DOC, Less Than Fair Value Investigation of Xanthan Gum from the People's Republic of China: Post-Preliminary Analysis and Calculation Memorandum for Neimenggu Fufeng biotechnologies Co., Ltd. and Shandong Fufeng Fermentation Co., Ltd., 4 March 2013; Curtis Mallet-Prevost, Colt & Mosle LLP, LG Electronics' Case Brief for the First Administrative Review on Large Residential Washers from Korea, A-580-868, 8 April 2015; McFarland, H. B., 'The US Department of Commerce's approach to targeted dumping: the wrong test and the wrong response', 18(4) *Journal of Economic Policy Reform* 293 (2015).

[53] *See* Mcfarland (2015), *supra* note 52, p.1.

[54] *See* Mcfarland (2015), *supra* note 52, p. 2.

[55] *Ibid.*

[56] DOC, Less Than Fair Value Investigation of Xanthan Gum from the People's Republic of

is calculated to evaluate the extent to which the net prices to a particular purchaser, region or time period differ significantly from the net prices of all other sales of comparable merchandise. The extent of these differences can be quantified by one of three fixed thresholds defined by the Cohen's *d* test. And the difference is considered significant if the calculated Cohen's *d* coefficient is equal to or exceeds the large (i.e. 0.8) threshold[57].

In the second stage, the DOC applies a ratio test to assess the extent of the significant price differences for all sales as measured by the Cohen's *d* test[58]. If the ratio of the value of sales that pass the Cohen's *d* test to the value of all sales accounts for 66% or more, the DOC uses the W-T comparison methodology with zeroing for all transactions as it considers targeted dumping to be pervasive[59]. On the other hand, if that share is 33% or less, it uses the W-W comparison methodology for all transactions. If that share is between 33% and 66%, it uses the W-T comparison methodology only for transactions which pass the Cohen's *d* test.

In the last stage, if the analyses of the previous stages demonstrate the circumstantial evidence of targeted dumping, then the DOC applies a meaningful difference test by comparing dumping margins calculated by the W-W comparison methodology and those calculated by the alternative comparison methodology. If the difference is meaningful, the DOC considers that the W-W comparison methodology cannot take into account such a price difference appropriately. As a criterion to determine "meaningful" difference, the DOC suggests two conditions: (i) there is a 25% relative change in the weighted-

China: Post-Preliminary Analysis and Calculation Memorandum for Neimenggu Fufeng biotechnologies Co., Ltd. and Shandong Fufeng Fermentation Co., Ltd., March 4, 2013.

[57] *Ibid.*

[58] *Ibid.*

[59] *See* Mcfarland (2015), *supra* note 52, p.9.

average dumping margin between the average-to-average method and the alternative method, or (ii) the resulting weighted-average dumping margin moves across the *de minimis* threshold.

The DPM, in spite of a statistical technique underlying for its analysis, has also been condemned by critics due to various structural problems[60].

First, the DPM is problematic in that the group definitions are arbitrary. There is no factual or legal basis upon which groups can be divided by census regions or quarterly periods.

Second, the Cohen's *d* test is not an appropriate method for investigating targeted dumping because the test is difficult to interpret, particularly considering the fact that the effect size measured by Cohen's *d* statistic depends on standard deviations crucially affected by the definition of groups[61]. Moreover, since it is not an accepted measure of significance, it does not ensure that a difference is in fact significant in a particular factual context. In other words, the use of the 0.8 threshold is not suitable to a test of targeted dumping[62].

Third, there are two computational issues in calculating Cohen's *d* statistic. One is related to the pooled standard deviation, and the other is small-sample bias. The DOC measures the pooled standard deviation of the test and comparison groups by calculating the variance of each group, adding the two variances,

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[60] A number of issues were raised in the comments that the DOC requested on the DPM on May 9, 2014. The comments are available at: http://enforcement.trade.gov/download/dpa/diff-pricing-analysis-cmts-062014.html.

[61] Cohen's *d* is an effect size used to indicate the standardized difference between two means. Thus, standardized measures including Cohen's *d* are useful when comparing the results measured in different units or in units that are difficult to comprehend. However, they are not appropriate tools to analyze the results measured in consistent, readily intelligible units such as US dollars. Cohen himself admits that, when comparing groups on a variable measured in dollar, the actual unit is desirable to analyze the difference between two groups. *See* Mcfarland (2015), *supra* note 52, p.3.

[62] *See* Mcfarland (2015), *supra* note 52, p.9.

dividing by two, and then taking the square root, without any consideration of quantity of each group. Because the DOC in effect assumes the same weight to each group, it skews the result by putting less weight on the observation in the larger groups. Given that the comparison groups are generally larger, the DOC's formula is likely to underestimate the pooled standard deviation and lead to overestimation of the Cohen's *d* test. Moreover, when based on only a few quantities, the estimated value tends to be farther away from zero than the true value. Therefore, if the DOC bases test groups on narrowly defined products, test and comparison groups may have very few quantities. Consequently, it tends to result in substantial bias[63].

Fourth, the DOC improperly aggregates the separate results of its differential pricing analysis and thereby fails to identify a proper "pattern" of export prices which differ significantly.

Finally, the use of zeroing in the DPM is inconsistent with the WTO jurisprudence in certain circumstances. The DOC uses zeroing for transactions found not to involve targeted dumping when more than 66% of sales pass Cohen's *d* test. In addition, when the ratio of sales that pass Cohen's *d* test is between 33% and 66%, any negative dumping margin calculated by the W-W methodology is increased to zero.

US–Washing Machines addresses many of these flaws intrinsic in the Nails II methodology and the DPM mentioned above. Yet, the issues not brought to the WTO reveal how difficult it is for the WTO dispute settlement to restrict the regulatory leeway of investigating authorities in application of the targeted dumping provision.

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[63] *See* Mcfarland (2015), *supra* note 52, p.6.

5. WTO Decisions on Targeted Dumping Before *US – Washing Machines*[64]

5.1. *US – Softwood Lumber V (Art. 21.5)* Case

The first WTO dispute in which the W-T comparison methodology was discussed is the *US – Softwood Lumber V (Art. 21.5)* case[65]. More precisely, as both the Panel and the Appellate Body in *US – Softwood lumber V* prohibited zeroing in the context of the W-W comparison, the DOC applied zeroing under the T-T comparison in its administrative reviews in order not to violate the rulings in *US – Softwood Lumber V*. This practice, however, newly ignited a legal dispute on zeroing in the T-T context. In the dispute over implementation, the Panel was of the view that prohibiting zeroing in W-W cannot be automatically extended to T-T[66]. In other words, the finding that margins of dumping must be established for the product as a whole should not necessarily be applied in the same manner outside W-W. Permitting zeroing in the T-T context, the Panel confirmed its view by a number of broader contextual considerations which highlight the difficulty

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[64] In order to understand why the second sentence of Article 2.4.2 became an issue relatively late and to explain the background how the current dispute was litigated, it is inevitable to discuss the case law on zeroing so far. This Section, however, rather than addressing the whole case law on zeroing, narrowly addresses the case law which provides some guideline in interpretation of the targeted dumping provision, and which includes the zeroing issue under the W-T. With regard to the analysis of the current dispute in terms of WTO jurisprudence on zeroing, *refer* to Mavroidis, Petros C., and Thomas J. Prusa, "Die another day: zeroing in on targeted dumping: did the AB hit the mark in US–Washing machines?"(Robert Schuman Centre for Advanced Studies Global Governance Programme-290, 2018).

[65] In *EC – Bed Linen*, the Appellate Body regards the second sentence of Article 2.4.2 as addressing three kinds of "targeted" dumping, noting that nowhere in the sentence indicates dumping targeted to certain "models" or "types" of the subject merchandise. It does not address the W-T comparison methodology in terms of the permissibility of zeroing. Meanwhile, in *US – Softwood Lumber V* as well, the Panel mentions it does not intend to express any view as to the permissibility of zeroing when the W-T comparison methodology is used.

[66] WTO Panel Report, *United States – Final Dumping Determination on Softwood Lumber from Canada – Recourse to Article 21.5 of the DSU by Canada (US – Softwood Lumber V (Art. 21.5))*, WT/DS264/ RW, adopted September 1, 2006, para 5.30.

that would result from simply extending zeroing under the W-W comparison to other methodologies[67]. One of these contextual considerations was the so-called "mathematical equivalence" argument[68]. In other words, when zeroing is prohibited outright, the Panel explained that the results of W-W comparison and W-T comparison are always identical. Therefore, the claim on zeroing under the W-T comparison was presented for the first time in terms of this "mathematical equivalence" argument that zeroing should be permitted in order to validate the second sentence of Article 2.4.2.

In *US – Softwood Lumber V (Art. 21.5),* the Appellate Body, while relying most of its reasoning on the term "margin of dumping", found that because "all of the results of the transaction-specific comparisons should be included in the aggregation for purposes of calculating the margins of dumping[69]", "the transaction-specific comparisons cannot be considered "margins of dumping" within the meaning of Article 2.4.2[70]". More specifically, the grammatical construction of this sentence strongly confirms "that the term "margins of dumping" could not have different meanings for each of the two calculation methodologies to which it applies[71]", and thus "it would be illogical to interpret the transaction-to-transaction comparison methodology in a manner that would lead to results that are systematically different from those obtained under the weighted average-to-weighted average methodology[72]."

In respect to the mathematical equivalence argument, the Appellate Body

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[67] *Ibid.,* para 5.31.
[68] *Ibid.,* para 5.52.
[69] *Ibid.,* para 88.
[70] WTO Appellate Body Report, *United States – Final Dumping Determination on Softwood Lumber from Canada – Recourse to Article 21.5 of the DSU by Canada (US – Softwood Lumber V (Art. 21.5))*, WT/DS264/AB/RW, adopted September 1, 2006, para 94.
[71] *Ibid.,* para 89.
[72] *Ibid.,* para 93.

criticized that the Panel falsely extended the interpretation of "margins of dumping" to an exception to the two normal methodologies, namely, the W-T methodology, given that the United States had never applied that methodology[73]. The Appellate Body further noted that it had not been proven that mathematical equivalence would always exist in the result of the W-W comparison and the W-T comparison. Moreover, even assuming that there might be a mathematical equivalence, the Appellate Body found that prohibition of zeroing under the T-T comparison would not make the second sentence of Article 2.4.2 ineffective[74]. To the contrary, the Appellate Body noted that the use of zeroing under the two "normal" comparison methodologies would enable the authority to address pricing pattern constituting "targeted dumping", thereby "rendering the third methodology *inutile*[75]."

5.2. *US – Zeroing (EC)* Case

After *US – Softwood Lumber V (Art. 21.5)*, the zeroing issue under the W-T comparison was examined with respect to Article 9.3 (relating to duty assessment review) as well as Article 2.4 in *US – Zeroing (EC)*. In this case, the Appellate Body ruled that the zeroing practice incorporated in the US administrative reviews violated Article 9.3 of the ADA and Article VI:2 of the GATT 1994 because the total amount of AD duties exceeded the exporter's margins of dumping for the product as a whole[76]. On the other hand, the Appellate Body did not express any view as to whether Article 2.4.2 is applicable to administrative

[73] *Ibid.,* paras 96-97.
[74] *Ibid.,* para 99.
[75] *Ibid.,* para 100.
[76] WTO Appellate Body Report, *United States — Laws, Regulations and Methodology for Calculating Dumping Margins (Zeroing) (US – Zeroing (EC))*, WT/DS294/AB/R, adopted May 9, 2006, paras 127-33.

reviews under Article 9.3[77]. In other words, the European Communities argued that, while the asymmetric comparison methodology defined in the second sentence of Article 2.4.2 only applies to the so-called "targeted dumping" circumstances, the DOC falsely applied it to "not targeted dumping" circumstances[78]. The Appellate Body did not make any finding on this appeal.

Although the Panel does not directly address the issue of targeted dumping, it is noteworthy that the Panel particularly draws attention to the asymmetric comparison methodology permitted in Article 2.4.2. Put differently, the Panel infers that the rationale of Article 2.4.2 does not proscribe asymmetry, i.e. zeroing, in all circumstances, on the basis of the facts that Article 2.4.2 allows for the third and asymmetrical method as an exception to normal methodologies and Article 2.4.2 does not extend beyond the "investigation" stage articulated in Article 5.[79] If zeroing is prohibited in all circumstances including "targeted dumping", such interpretation would render the provision without an effect because it would yield the mathematically same result regardless of the comparison methodologies. Therefore, the Panel concluded that "zeroing cannot be considered to be unfair under all circumstances *per se*, and the Article 2.4 requirement to make a fair comparison does not therefore prohibit zeroing[80]."

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[77] More strictly, as the Appellant, the EC includes the condition that it does not appeal the Panel's finding on Article 2.4.2 in case that the Appellate Body finds the use of zeroing in the US administrative reviews is violation of Article 9.3 or Article 2.4, the issue regarding Article 2.4.2 was automatically excluded from the scope of the AB's analyses. See WTO Appellate Body Report, *US – Zeroing (EC)*, *supra* note 76, paras 160-64.

[78] Appellate Body Report, *US – Zeroing (EC)*, *supra* note 76, para 17.

[79] WTO Panel Report, *United States — Laws, Regulations and Methodology for Calculating Dumping Margins (Zeroing) (US – Zeroing (EC))*, WT/294/R, adopted May 9, 2006, para 7.220-64.

[80] *Ibid.,* para 7.266.

5.3. *US – Zeroing (Japan)* Case

US – Zeroing (Japan) lays a more direct, concrete foundation for the application of the second sentence of Article 2.4.2. This case addresses the full range of zeroing issues: model zeroing based on the W-W comparison in original investigations and simple zeroing based on the T-T comparison both in original investigations and periodic reviews[81]. Contrary to the Panel's finding[82], the Appellate Body clarified that all kinds of zeroing procedures addressed in the dispute are prohibited regardless of types of anti-dumping proceedings[83]. In particular, the Appellate Body clearly enunciated the exceptional use of the W-T methodology for the purpose of addressing "targeted dumping". It referred to the applicable scope of the W-T methodology as being "limited than the universe of export transactions to which the symmetrical comparison methodologies would apply[84]." To be specific, the Appellate Body took a view opposite to the Panel's assumption that the universe of export transactions to which the T-T comparison and the W-T comparison methodologies apply is the same[85]. Instead, the Appellate Body noted that the emphasis in the second sentence of Article 2.4.2 is

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[81] WTO Panel Report, *United States — Measures Relating to Zeroing and Sunset Reviews (US – Zeroing (Japan))*, WT/322/R, adopted January 23, 2007, paras 7.258-59.

[82] The Panel proceedings of *US – Zeroing (Japan)* overlapped with the AB proceedings of *US – Zeroing (EC)*. Accordingly, the Panel requested interested parties to submit additional comments on the AB's finding of *US – Zeroing (EC)* even though the time for commenting on the interim report had already expired. To conclude, the Panel, opposite to the AB's finding, considered that it was "permissible" to interpret Article 2.1 and 2.4.2 of the ADA to mean that "there is no general requirement to determine dumping and margins of dumping for the product as a whole". Therefore, the Panel found that prohibition of zeroing should be read in a narrow manner and there was nothing inherently unfair about zeroing. See Mavroidis, Petros C., Patrick A. Messerlin, and Jasper M. Wauters, *The law and economics of contingent protection in the WTO*, (Cheltenham: Edward Elgar Publishing, 2008).

[83] WTO Appellate Body Report, *United States — Measures Relating to Zeroing and Sunset Reviews (US – Zeroing (Japan))*, WT/322/AB/R, adopted January 23, 2007, para 190.

[84] *Ibid.,* para 135.

[85] *Ibid.,* para 134.

on a "pattern"[86]. Therefore, the Appellate Body first enunciated that the phrase "individual export transactions" in that sentence refers to the transactions that fall within the relevant pricing pattern. It also found that an investigating authority may limit the application of the W-T comparison methodology to the prices of export transactions falling within the relevant pattern for the purpose of unmasking targeted dumping[87]. On the other hand, as to the issue of mathematical equivalence repetitively raised in previous cases, it did not perform any analysis, merely quoting the rationales of the AB's finding in *US – Softwood Lumber V (Art. 21.5)*.

5.4. Summary Remarks

The foregoing case laws have established a clear rule that zeroing is a WTO-inconsistent practice. Surely, an unwavering jurisprudence developed from the successive anti-zeroing decisions might be appreciated as a form of constitutional adjudication[88]. Strictly speaking, however, the Appellate Body abstained from making any rulings regarding the permissibility of zeroing in the application of the W-T comparison because they had never faced with the exact case in which the W-T comparison should have applied. In addition, considering that the Appellate Body has taken a very narrow, piecemeal approach in zeroing decisions whenever a number of similar disputes occur[89], the WTO jurisprudence prior to the *US – Washing Machines* case may leave the room for permissibility of zeroing

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[86] *Ibid.,* para 135.
[87] *Ibid.,* para 135.
[88] Cho, Sungjoon, 'Constitutional Adjudication in the World Trade Organization' (Society of International Economic Law (SIEL) Inaugural Conference 2008 paper), p.46.
[89] Behind such an approach of the Appellate Body, there is an attempt to reduce accusations of 'judicial activism' and to limit infringement on member countries' sovereign rights. See Bown, Chad P. and Thomas J. Prusa, "US antidumping: much ado about zeroing", 5352 *World Bank Policy Research Working Paper Series* (2010), p.28.

under "targeted dumping" circumstances. But it should be noted that the "targeted dumping" concept itself was not squarely addressed due to the lack of the dispute directly dealing with such dumping cases. Taking into account the discussion above, the next section aims to critically examine legal findings regarding the targeted dumping provision in *US – Washing Machines.*

6. Structural Issues of Targeted Dumping from *US-Washing Machines*

Following the consistent line of reasoning of the Appellate Body in *US – Zeroing (Japan),* the *US – Washing Machines* case provides more concrete interpretations on the second sentence of Article 2.4.2. The main finding deals with whether the DOC's analyses for targeted dumping based upon by the Nails II methodology in the original AD investigation and the DPM in subsequent administrative reviews meet the requirements articulated in the second sentence of Article 2.4.2. The case also addresses whether the DOC's use of zeroing in the context of the W-T comparison methodology is inconsistent with Articles 2.1, 2.4, 2.4.2 and 9.3 of the ADA[90]. The Panel divides the second sentence of Article 2.4.2 into three parts in order to examine the related legal issues: methodology clause, pattern clause, and explanation clause as follows;

> (1) A normal value established on a weighted-average basis may be compared to prices of individual export transactions (methodology clause) (2) if the authorities find a pattern of export prices which differ significantly among different purchasers,

[90] WTO Panel Report, *United States — Anti-dumping and Countervailing Measures on large residential washers from Korea (US – Washing Machine),* WT/DS464/R, adopted September 26, 2017, paras 2.2- 3.1.

regions or time periods (pattern clause), and (3) if an explanation is provided as to why such differences cannot be taken into account appropriately by the use of a weighted-average to weighted-average or transaction to transaction comparison (explanation clause).[91]

6.1. Interpretation of What Constitutes a "Pattern"

The legal findings in *US – Washing Machines* can be regarded as a remarkable step forward to validation of the targeted dumping provision by clarifying the applicable scope of the W-T comparison methodology. The Panel and the Appellate Body reaffirmed the limited scope of application of the W-T comparison methodology ruled by the Appellate Body in *US – Zeroing (Japan)*, finding that the W-T comparison methodology should only be applied to "pattern" transactions[92]. In particular, the Appellate Body begins its analysis by defining the pattern on the basis of the assumption that the identification of the pattern is the trigger for the application of the W-T comparison methodology[93].

Although the word "pattern" is not explicitly defined in the ADA, the Appellate Body agreed with the Panel that, in the context of Article 2.4.2, a "pattern" can be defined as "a regular and intelligible form or sequence discernible in certain actions or situations". In the AB's point of view, a "pattern" as a regular and intelligible form means that there must be regularity to the sequence of "export prices which differ significantly" and this sequence must be understood[94]. Moreover, a pattern of "prices which differ" enshrined in Article

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[91] The second sentence of Article 2.4.2 (numbers and parenthesis added).
[92] Panel Report, *US – Washing Machines*, *supra* note 80, para7.29. Also, see Appellate Body Report, *US – Washing Machines, supra* note 11, para 5.56.
[93] Appellate Body Report, *US – Washing Machines, supra* note 11, para 5.24.
[94] *Ibid.,* para 5.25.

2.4.2 is understood as the pattern on the prices that are found to be different, not on all prices[95]. In this regard, the Appellate Body interpreted the term "pattern" to encompass only those prices that differ significantly from other prices in the light of the intent and function of the second sentence of Article 2.4.2.[96]

Neither the Panel nor the ADA explicitly specified whether the prices constituting a pattern need to differ significantly because they may be higher or lower than other prices[97]. On the other hand, the Appellate Body defined the relevant "pattern" more narrowly as comprising prices that are significantly "lower" than other export prices among different purchasers, regions or time periods[98]. Such a definition is predicated on the assumption that investigating authorities would not identify and address "targeted dumping" when considering significantly "higher" export prices[99].

Lastly, in regards to the definition of the pattern, the Appellate Body considered that some transactions that differ among purchasers, taken together with some transactions that vary among regions or time periods, cannot form a single pattern[100]. In short, it clarified that three categories, i.e. purchasers, regions, and time periods, work independently; thus, a pattern constituting "targeted dumping" can be identified among different purchasers, regions, or time periods.

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[95] *Ibid.,* para 5.26.
[96] *Ibid.,* para 5.28.
[97] *Ibid.,* paras 5.21-29.
[98] *Ibid.,* para 5.29.
[99] While the Panel in *US – Anti-Dumping Methodologies (China)*, like the Panel and the Appellate Body in *US – Washing Machines*, expresses the view that the W-T methodology will apply only to certain "individual export transactions" forming the relevant pattern, it rejects the argument that the W-T methodology should be applied to high export prices as well as low export prices, because this argument is based on the wrong assumption that zeroing is allowed under the W-T methodology. See WTO Panel Report, *United States — Certain Methodologies and their Application to Anti-Dumping Proceedings Involving China (US – Anti-Dumping Methodologies (China)*), WT/DS471/R, adopted May 22, 2017, paras 7.174-7.181.
[100] Appellate Body Report, *US – Washing Machines, supra* note 11, para 5.33.

This follows the same logic of the Appellate Body in *EC – Bed Linen* when they noted that there are "three kinds of "targeted" dumping, namely dumping that is targeted to certain purchasers, regions, or time periods"[101].

To sum up, the W-T comparison methodology should only be applied to "pattern" transactions in the context of the second sentence of Article 2.4.2. The "pattern" here comprises all the export prices to one or more particular purchasers, which are significantly lower than the export prices to the other purchasers, or all the export prices in one or more particular regions which are significantly lower than the export prices in the other regions, or all the export prices during one or more particular time periods that are significantly lower than the export prices during the other time periods[102]. These rulings by the Appellate Body seem to require substantial revision of the current analytic methodology adopted by the DOC.

Indeed, it is the very first notion introduced in the WTO jurisprudence that a pattern consists of only low-priced export transactions. While acknowledging that the second sentence itself does not expressly specify whether or not export prices constituting a pattern are significantly lower than other export prices, the Appellate Body interprets a pattern in such a contrived way based on the purpose of the ADA, which is concerned with "injurious dumping"[103]. The Appellate Body also notes that Article VI:1 of the GATT 1994 and Article 2.1 of the ADA refer to export prices that are *lower* than normal value as "dumped" prices.[104] These lines of reasoning indicate that the Appellate Body has a particular regard to heightened risks of "targeted" predatory pricing. As compared to the earlier

[101] *Ibid.,* para 5.33.
[102] *Ibid.,* paras 5.36-56.
[103] *Ibid.,* para 5.29.
[104] *Ibid.*

dispute, *US – Softwood Lumber V (Art. 21.5)* in which the Panel notes that the second sentence merely allows the investigating authority to compare the investigated data differently than in the first sentence[105], the interpretation on the targeted dumping provision has definitely "evolved". This "evolutionary" interpretation[106] in regards to the meaning of a "pattern" correctly reflects the common notion of targeted dumping shared by the negotiating parties in the UR including the United States in terms of particularly low-priced transactions as compared to others.

6.2. Interpretation of the Assessment Criteria for a "Pattern"

In addition to the rulings discussed above, the AB's interpretation on the pattern clause may exert substantial influence on practical feasibility of the targeted dumping provision. The Appellate Body finds that, while the investigating authority is required to assess both quantitatively and qualitatively the price differences at issue, it is not required to consider the cause of the price differences in the context of the second sentence of Article 2.4.2[107]. In particular, reversing the Panel's finding that "a pattern of export prices which differ significantly among purchasers, regions or time periods" can be established "on

[105] Panel Report, *US – Softwood Lumber V (Art. 21.5)), supra* note 66, para 5.42.

[106] This term has been referred to in the legal literature on treaties interpretations, particularly on the interpretations of the Appellate Body on WTO Agreements. The literature notes that while traditional doctrine has viewed the date of the treaty's conclusion as the relevant date, WTO Appellate Body used the concept of 'evolutive interpretation' as opposed to 'static' interpretation in AB report of the *United States – Shrimp* case. An 'evolutionary' or 'dynamic' interpretation is understood to take account of changes in a political, social, historical, or legal context. For a detailed account of the term, see Dupuy, Pierre-Marie. "Evolutionary interpretation of treaties." In *The law of treaties beyond the Vienna Convention*.(Oxford University Press, 2011); Marceau, Gabrielle. "Evolutive Interpretation by the WTO Adjudicator." 21(4) *Journal of International Economic Law* 791 (2018).

[107] Panel Report, *US – Softwood Lumber V (Art. 21.5)), supra* note 66, para 5.66.

the basis of purely quantitative criteria"[108], the Appellate Body acknowledges the qualitative aspect which the term "significantly" entails[109]. In other words, the circumstances of an individual case such as the nature of the product at issue or the intensity of competition in the markets may be the relevant for qualitative assessment on the significance of differences[110].

Although the Appellate Body attempts to enhance the required assessment in regards to the pattern clause by forcing the investigating authority to consider qualitative criteria, problems remain in respect of the quantitative criteria. Crucially, the intent of the second sentence of Article 2.4.2, i.e. identifying "targeted dumping", is achieved or not depending on the strictness of the quantitative criteria rather than the qualitative criteria. As discussed in the section IV, the Cohen's *d* test, as a quantitative criterion used in the current methodology, receives criticism in that its intrinsic flaws hinder precise identification on the significance of the price differences. Depending on the case at hand, it may misconstrue the normally dumped export prices as "targeted" ones, resulting in the abuse of the provision. It is not just a matter of the Cohen's *d* test. More fundamentally, it remains quite questionable whether it is possible to develop the analytic tool with the objective, reasonable criteria by which the investigating authority can identify a "pattern" of export prices which differ "significantly"

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[108] *Ibid.*

[109] Regarding the qualitative issue, in *US – Anti-Dumping Methodologies (China),* China again claimed that the distinction between how and why prices differ is meaningless in a qualitative analysis. The Appellate Body, however, reiterated that while the pattern clause requires both a quantitative analysis and a qualitative analysis, it does not require that an investigating authority ascertain the cause of the price or the motivation for the price differences. The Appellate Body distinguished between the objective market factors which affect the significance of price differences and the reasons for such price differences. See WTO Appellate Body Report, *United States — Certain Methodologies and their Application to Anti-Dumping Proceedings Involving China (US – Anti-Dumping Methodologies (China)*), WT/DS471/AB/R, adopted May 22, 2017, paras 5.57-5.71.

[110] *Ibid.,* para 5.63.

from the quantitative perspective at all times[111].

6.3. Obligation of Investigating Authorities in the Explanation Clause

Pursuant to the explanation clause, an investigating authority is required to explain why significant differences in prices cannot be appropriately taken into account by the use of the W-W comparison or the T-T comparison methodologies. Two issues were raised in respect of the explanation clause. One is how to determine "appropriateness" when the investigating authority explains that the W-W or the T-T comparison methodologies cannot take "appropriate" account of such price differences. The other is whether an explanation needs to be provided with respect to 'both' the W-W and the T-T comparison methodologies[112].

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[111] In *US – Anti-Dumping Methodologies (China),* the Appellate Body examines several quantitative flaws of the Nails II methodology claimed by China and shows a propensity to be receptive to the form of method that an investigating authority wish to use insofar as it identifies a pattern of export prices which differ significantly from the prices not in the pattern. For example, China claims that the standard deviation test depends on the assumption that the export price data in terms of statistics were either, normally distributed, or at least single-peaked and symmetric around the mean, and that the DOC does not verify that the data were so distributed. It also argues that this test allows large quantities of sales to fall below the one standard deviation threshold, thereby leading to arbitrary conclusions as to the existence of a pattern. The Appellate Body, however, rejected the claims, noting that a large number of export prices may fall below the one standard deviation threshold do not necessarily preclude an investigating authority from finding the pattern of export prices with significant difference. In the AB's view, several criteria such as significant difference in export prices or explanatory obligation will help incarnate the exceptional nature of the W-T methodology, i.e. identifying targeted dumping, if an investigating authority properly identified the pattern of price differences which are regular and intelligible. *See* Appellate Body Report, *US – Anti-Dumping Methodologies (China)*, *supra* note 109, paras 5.13-45.

[112] In *US – Anti-Dumping Methodologies (China),* two similar issues in regards to the explanation clause were raised before the Panel. One is whether the DOC's explanation in the three challenged investigations is qualitatively insufficient to meet its obligation under the explanation clause. The other is whether the investigating authority is required to provide an explanation with respect to both the W-W and the T-T methodology, not either of them. Regarding the first issue, the Panel found that because the explanation provided by the DOC is premised on the use of the W-T methodology with zeroing which is inconsistent with Article 2.4.2, such an explanation cannot be consistent with Article 2.4.2 as well. As for the second issue, the Panel agreed with the Appellate Body's finding in *US – Washing Machines. See*

In regards to the first issue, based on the AB's ruling in the *US – Anti-Dumping and Countervailing Duties (China)*, the Panel considers "appropriateness" to reflect proper consideration of attendant factual circumstance[113]. In other words, the Panel is well aware of the fact that there may be factors other than targeted dumping to cause export prices to differ significantly among different purchasers, regions or time periods. In light of the object and purpose of the second sentence of Article 2.4.2, the Panel finds it necessary to distinguish other factors from "targeted dumping" in order to apply the W-T comparison methodology in "targeted dumping" cases only. The almost simultaneous decline in both domestic prices and export prices due to the volatility of costs is the sole example that the Panel refers to as an illustration of the other factor that has nothing to do with targeting conduct[114].

Although the Panel provides the specific guidance for determining "appropriateness" in the context of the explanation clause, what constitutes 'targeted dumping' behavior still remains an imprecise concept. Indeed, defining the scope of targeted dumping behavior was a controversial issue even when the DOC revised its anti-dumping regulations in 1997. Several commenters suggested that certain common commercial patterns of pricing—including different pricing for larger or smaller orders, seasonal pricing, or downward price changes pursuant to lower costs—do not constitute targeted dumping. In contrast, others contended that such behavior should not be excused or ignored simply because it is considered to be a common commercial practice[115]. Given that the intent of producers engaging in ordinary "dumping" is irrelevant in the

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Panel Report, *US – Anti-Dumping Methodologies (China)*, *supra* note 99, paras 7.141-157.

[113] Panel Report, *US – Washing Machines, supra* note 90, para 7.71.

[114] *Ibid.,* para.7.75.

[115] US Federal Register 27296, May 19, 1997

determination of dumping under the ADA,[116] it is understood that the consideration on the intent of producers or the normal business practices is needed to identify the distinguishing feature of targeted dumping. The problem is there is no established standard to define exactly to what extent what kinds of common commercial practices can be treated as targeted dumping. For example, a seasonal sales pattern for a product may be determined by a large number of factors, including changes in temperature across the seasons, social customs, and conventions, demand stimulation by business firms[117]. While a seasonal sales pattern is globally prevalent in the competitive business environments, the time-period on which such a behavior is concentrated may vary by country. As exporters contended in the Washers investigation, annual promotional events involving all market participants in the United States coincide with holidays, including Columbus Day, Independence Day, Earth Day, and especially Black Friday, which is the day after Thanksgiving[118]. The timing for each promotional event in the export market does not directly match to that for similar events in the domestic market, which implies prices in the domestic market and the export market do not necessarily drop nearly at the same time. The scenario that the panel solely presented as something other than targeted dumping does not further elucidate whether this circumstance should be regarded as targeted dumping or disregarded as usually done in the determination of dumping. In case such a seasonal pricing is considered targeted dumping by an investigating authority's discretion, and an authority explains appropriately as required by the Panel's interpretation, the seasonal pricing pattern that all market participants have

[116] Peter Van den Bossche and Werner Zdouc, *The law and policy of the World Trade Organization,*3rd ed. (Cambridge: Cambridge University Press, 2013), p.683.
[117] Rink, David R., and John E. Swan, 'Product life cycle research: A literature review', 7(3) *Journal of business Research* 219 (1979), p.220.
[118] *See supra* note 49, p.15.

repeated routinely every year may degenerate into a continuing threat of alleged targeted dumping.

In addition to the common commercial practices such as a seasonal pricing pattern, it is very complicated to designate the scope of targeted dumping for a variety of factual circumstances like markets' own attributes and exogenous factors which may differ country by country. For instance, the product life cycle (PLC), which has the intuitive logic of the product birth, growth, maturity and decline[119], is now a familiar concept in the business strategy. A study on the PLC points out that there are numerous underlying factors to influence the sequence, duration of the stages, the shape of curve, and the magnitude of sales at each transition to a new stage[120]. These factors include changes in the relationship with substitute products, the influence of repeat buying, changes in social or economic trends influencing needs of products or competitive turbulence[121]. Accordingly, even for the same product model introduced globally nearly at the same time, the PLC may appear differently in each local market, depending on the markets' intrinsic circumstances, which will finally result in different pricing patterns and sales volumes for the domestic market and the export market at the same time-period. As such, it would be practically unfeasible for an investigating authority to consider the appropriateness of factual circumstances as suggested by the Panel.

[119] Day, George S. "The product life cycle: analysis and application issues', 45 *The Journal of Marketing* 60 (1981), p.60.
[120] *Ibid.,* at 63.
[121] *Ibid.*

Table 1. Example of the W-W, T-T and W-T Comparison Methodologies[122]

Sales date	Export transaction	Home Mkt transaction	W-W comparison	T-T comparison	W-T comparison	Remark
02-Jan	75	90	1	15	19	targeted dumping
04-Feb	75	95	1	20	19	targeted dumping
08-Mar	95	95	1	0	-1	
10-Apr	100	95	1	-5	-6	
12-May	105	95	1	-10	-11	
16-Jun	105	105	1	0	-11	
18-Jul	110	105	1	-5	-16	
20-Aug	115	110	1	-5	-21	
24-Sep	120	110	1	-10	-26	
26-Oct	70	85	1	15	24	
02-Nov	50	80	1	30	44	
04-Dec		60				
Total	1,020	1,125	11	45	11	
Wtd Avg. Price	93	94				
Dumping Margin			1.1%	4.4%	1.1%	3.7%

With regard to the second issue, the Appellate Body newly requires the investigating authority to provide an explanation with respect to the T-T comparison methodology as well as the W-W comparison methodology. By pointing out that the possibility that the W-W and T-T comparison might yield different results and might impact differently the potential use of the W-T comparison should not be entirely excluded[123], the Appellate Body enunciates more stringent condition for the use of the W-T comparison under the second

[122] The example reconstructs the table 1 – An example of Zeroing in Bown, Chad P. and Thomas J. Prusa, *supra* note 89, p.17 and for the convenience of analysis, it supposes that Home Mkt transactions are all made in the ordinary course of trade.

[123] Appellate Body Report, *US – Washing Machines, supra* note 11, para 5.74.

sentence. Indeed, Table 1 illustrates how different comparison methodologies work in reality to produce different results. Suppose that export transactions in January and February are indicative of "targeted dumping" in the context of the pattern clause. When applying the W-W comparison methodology to all transactions, total dumping margin is calculated as 11, i.e. 1.1%, constituting no dumping case due to *de minimis* rules. In contrast, the T-T comparison methodology establishes the total dumping margin of 45, i.e. 4.4%, producing a positive dumping. It should be noted that the W-T comparison methodology applied to the whole transactions also produces 1.1%, the same dumping margin as the one calculated under the W-W methodology.[124]

To be sure, while the W-W comparison methodology may mask dumping of individual export transactions, the T-T comparison methodology can unmask dumping depending on case-specific circumstance such as the distribution of sales transactions. Sometimes, it may generate even bigger dumping margins by aggregating all kinds of positive margins including targeted transactions, as shown in Table 1[125]. From this perspective, the obligation to explain that how T-T comparison can take into account the significant price differences is likely to limit, at least in part, the use of the W-T comparison. Even though the W-W and T-T comparison methodologies may yield substantially different results, and thereby affect the use of the W-T comparison methodology, the consideration of the T-T comparison to fulfill the explanation clause raises huge difficulties in practice. The T-T comparison is generally used in establishing margins of dumping for large capital goods made to order[126] where the comparison of prices

[124] This is essentially how the mathematical equivalence issue is raised between the W-W and W-T methodologies.

[125] According to the findings made in *US – Washing Machines*, dumping margins calculated by the W-T comparison for pattern transactions only is 3.7% (=38/1020).

[126] DOC, 2015 Antidumping Manual, Chapter 6.

on an average-to-average basis is unfeasible given the order-based production process. Bearing this practice in mind, it is inferred that the Appellate Body requires an investigating authority to apply the W-T comparison methodology in a more exceptional and strict manner by imposing the obligation to explain with respect to the T-T comparison as well as the W-W comparison.

6.4. Limiting the Calculation of Dumping Margins to "Targeted" Sales

The Appellate Body in *US – Washing Machines* filled in the perceived gaps found in the second sentence of Article 2.4.2. At the same time, it came up with quite an unprecedented finding that the second sentence of Article 2.4.2 permits establishing margins of dumping by comparing normal value only with "pattern transactions". This ruling may cause a difficult legal problem to reasonably interpret Article 2.4.2 as well as complicated economic issue to apply "targeted dumping" provisions.

First of all, the Appellate Body recalled that it has consistently regarded the concepts of "dumping" and "margins of dumping" as the same throughout the ADA and clarified that the definition of "dumping" must be interpreted throughout the ADA in a coherent manner[127]. Next, the Appellate Body noted that, in establishing dumping and margins of dumping for each exporter or producer and for the product under investigation "as a whole" under the first sentence of Article 2.4.2, an investigating authority is required to consider the entire "universe of export transactions"[128]. In the same vein, the Appellate Body found that, under the second sentence of Article 2.4.2, an investigating authority is also under the obligation to consider the applicable "universe of export transactions"

[127] Appellate Body Report, *US – Washing Machines*, *supra* note 11, para 5.90.
[128] *Ibid.,* paras 5.93-97.

when establishing "dumping" and "margins of dumping" for a given exporter or foreign producer. As stated in *US – Zeroing (Japan)*, the applicable "universe of export transactions" under the W-T comparison methodology is more limited than those under the W-W and T-T comparison methodologies[129], which is consistent with the function of the second sentence of Article 2.4.2, i.e. identifying "targeted dumping".

To summarize, once the applicable "universe of export transactions" is determined under the second sentence of Article 2.4.2 for the purposes of the application of the W-T comparison methodology, "dumping" and "margins of dumping" pertaining to an exporter or foreign producer and to the product under investigation are established on the basis of this identified "universe of export transactions", i.e. the "pattern transactions"[130]. In addition to the finding that the second sentence of Article 2.4.2 should be applied to "pattern transactions" only, the Appellate Body now presents a more controversial interpretation that the second sentence of Article 2.4.2 permits establishing margins of dumping by comparing normal value only with "pattern transactions"[131].

It is also notable that, in calculating the margin of dumping in a percentage form under the second sentence of Article 2.4.2, the denominator is composed of all export transactions of a given exporter or producer of the like product[132]. Based on Article 6.1 of the ADA[133], the Appellate Body interpreted the margin of dumping under the second sentence of Article 2.4.2 to be determined for each exporter or producer, not just for the "targeted sales" by that exporter or

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[129] *Ibid.,* para 5.104.
[130] *Ibid.,* para 5.105.
[131] *Ibid.,* para.5.106.
[132] *Ibid.,* para 5.117.
[133] Article 6.10 of the ADA states that the authorities shall, as a rule, determine an individual margin of dumping for each known exporter or producer concerned of the product under investigation.

producer[134]. Therefore, it found that, for the purpose of determining the margin of dumping and the corresponding AD duty for the exporter or producer, the net amount of dumping based on the "targeted" sales should be divided by all the export sales of a given exporter or producer[135].

Turning to the issue of "systemic disregarding", the Appellate Body found that the second sentence of Article 2.4.2 does not mention whether or not to include non-pattern transactions in establishing margins of dumping[136] and thus it does not permit the combining of comparison methodologies, rendering the issue of "systemic disregarding" moot[137].

Furthermore, the above reasoning supports the AB's view that the "mathematical equivalence" argument does not arise. This argument arises when combining comparison methodologies in calculation of dumping margin. Obviously, the margin of dumping based on the pattern transactions only under the W-T comparison is not mathematically equivalent to those based on the all export transactions under the W-W comparison[138].

The establishment of dumping margins for only "targeted" sales also affects the issue of zeroing under the W-T comparison methodology. With regard to the

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[134] Appellate Body Report, *US – Washing Machines*, *supra* note 11, para 5.115.

[135] *Ibid.*

[136] *Ibid.,* para 5.109.

[137] In *US – Anti-Dumping Methodologies (China)*, the Panel points to the possibility of combining comparison methodologies and zeroing the negative dumping margins which might be calculated from non-pattern transactions in order to give full meaning to the second sentence of Article 2.4.2. The Panel in *US – Anti-Dumping Methodologies (China)* issued its report on 19 October, 2016 after the AB report on *US – Washing Machines* had been issued on 7 September 2016. Therefore, the *US – Anti-Dumping Methodologies (China)* Panel would have known that combining of comparison methodologies was not allowed under the second sentence of Article 2.4.2 and "systemic disregarding" issue had no legal effect by the Appellate Body. The *US – Anti-Dumping Methodologies (China)* Appellate Body again declared moot the Panel's statement on this matter as it did in *US – Washing Machines*. *See* Appellate Body Report, *US – Anti-Dumping Methodologies (China)*, *supra* note 109, paras 5.102-5.108.

[138] Appellate Body Report, *US – Washing Machines*, *supra* note 11, para 5.125.

US claim for mathematical equivalence, the Appellate Body reiterates that there is no possibility of mathematical equivalence because two comparison methodologies of the W-W and the W-T are applied for different "universe of export transactions", i.e. the non-pattern transactions and the pattern transactions, respectively. Even if the application of the W-T comparison to pattern transactions yields the equivalent result with the application of the W-W comparison to the same group, this result itself does not undermine the effect of the second sentence of Article 2.4.2[139].

Regarding the permissibility of zeroing under the W-T comparison methodology, the Appellate Body began its analysis by clarifying that the concepts of "dumping" and "margins of dumping" are same throughout the ADA and should be applied to the product as a whole, not to sub-group levels[140]. Then, it was of the view that the term "individual export transactions" refers only to "targeted" sales, irrespective of whether these export prices are above or below normal value[141]. The Appellate Body focused on the function of the provision, i.e. allowing the investigating authority to identify and address "targeted dumping"[142]. To put it differently, there is no more dumping to be "unmasked" once the dumping is established for pattern transactions to the exclusion of non-pattern transactions based upon the use of the W-T comparison methodology. Therefore, the Appellate Body concludes that zeroing is neither necessary to address "targeted dumping" nor permissible under the second sentence of Article 2.4.2[143].

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[139] *Ibid.,* para 5.165.
[140] *Ibid.,* para 5.149.
[141] *Ibid.,* para 5.151.
[142] *Ibid.,* para 5.155.
[143] *Ibid.,* paras 5.155-56.

6.4.1. New Issues Arising from the AB's Findings

The *US – Washing Machines* case puts an end to the zeroing issue and makes the argument of "mathematical equivalence" *inutile*. It, however, raises the other significant issues on the following two aspects.

Firstly, the AB rulings require to ignore the dumping in non-pattern transactions for an exporter or producer concerned of the product under investigation. The exporter's dumping behavior can be divided into two types, i.e. when targeted dumping occurs exclusively and when targeted dumping for pattern transactions and normal dumping for non-pattern transactions coexist during the POI. But the AB ruling clearly mandates to treat these cases identically by disregarding non-patterned dumped transactions in dumping margin calculation. When applying the above-mentioned findings to the example of Table 2, the dumping calculated for "targeted dumping" transactions is 52(=26+26), i.e. 5.07% (=52/1,020). On the other hand, the findings do not consider how the non-pattern transactions exported from March to December should be treated. The average export price of those transactions is 97 which is below the average normal value, i.e. 101, and thus there is "dumping" in non-pattern transactions. Notably, the dumping calculated for all export transactions regardless of "targeted dumping" by use of the W-W comparison methodology is 89, i.e. 8.7% (=89/1020), which is bigger than the magnitude of dumping margin for "targeted dumping" transactions only, i.e. 5.07%, by use of the W-T comparison methodology.

Table 2. Example of coincidence of "dumping" and "targeted dumping"

Sales date	Export transaction	Home Mkt transaction	W-W comparison	T-T comparison	W-T comparison	Remark
02-Jan	75	90	8	15	26	targeted dumping

04-Feb	75	95	8	20	26	targeted dumping
08-Mar	95	95	8	0	6	
10-Apr	100	95	8	-5	1	
12-May	105	95	8	-10	-4	
16-Jun	105	105	8	0	-4	
18-Jul	110	105	8	-5	-9	
20-Aug	115	110	8	-5	-4	
24-Sep	120	110	8	-10	-19	
26-Oct	70	100	8	30	31	
02-Nov	50	110	8	60	51	
04-Dec		100				
Total	1,020	1,210	89	90	89	
Wtd Avg. Price	93	101				
Dumping Margin			8.7%	8.8%	8.7%	5.07%

Apparently, the legal interpretation for Article 2.4.2 distorts the AB's well-established interpretation that ADA "contemplates *the aggregation of all the comparisons* made at the transaction-specific level in order to establish *an individual margin of dumping for each exporter or foreign producer examined*" [144]. The Appellate Body treats the concepts of "dumping" and "margins of dumping", which have been consistently considered same throughout the ADA, separately and independently pursuant to the "universe of export transactions" applicable for the first and the second sentence. As no provision other than Article 2.4.2 has any reference to "targeted dumping" or elaborates the universe of export transactions in terms of targeted dumping, such an exceptional treatment of "dumping" and "margins of dumping" within Article 2.4.2 necessarily results in contradiction instead of coherence and harmony among other provisions. Given that the Appellate Body has consistently

[144] Appellate Body Report, *United States – Zeroing (Japan)*, *supra* note 83, para 127.

supported its understanding on the term "margins of dumping" enshrined in Article 2.1, 2.4.2, 6.10 and 9.2 to encompass the product as a whole[145], the matter of how to establish "margins of dumping" for the product under investigation as a whole when dumping is calculated for both non-pattern transaction and pattern transactions will be likely to be addressed under other provisions such as Article 6.10, not under Article 2.4.2[146]. If so, it would be unavoidable to resurrect the long-standing controversy on "mathematical equivalence" and "zeroing".

In addition to this, the findings cast a doubt as to why the second sentence of Article 2.4.2 stipulated the asymmetric W-T methodology. Once the relevant pattern of export transactions is identified, the application of the W-T comparison to that pattern always yields the same result as the application of the W-W comparison to the same pattern[147]. In this regard, the findings in *US – Washing Machines* can spark harsh criticisms in that they did not properly examine the whole process in establishing margins of dumping in practice when analyzing the second sentence of Article 2.4.2.

Secondly, the AB rulings may cause practically abusive application of the targeted dumping provision. Under the circumstance where there is no specific guide on how to set up the quantitative and qualitative criteria to identify the relevant pattern, the rulings still provide the investigating authority with ample

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[145] See Mavroidis, Petros C., Patrick A. Messerlin, and Jasper M. Wauters , *supra* note 82, p.70.

[146] In *US – Anti-Dumping Methodologies (China),* the Appellate Body, in line with the finding in *US – Washing Machines*, clarifies that Article 2.4.2 does not permit the combining of comparison methodologies to establish dumping margins. Based on two successive findings on this matter, it seems that the consideration of both pattern transactions and non-pattern transactions in establishing "margins of dumping" cannot be the relevant issue under Article 2.4.2 any longer.

[147] $\mathrm{W-W} = \frac{\Sigma_{i=1}^{N} p_i q_i}{\Sigma_{i=1}^{N} q_i} - \frac{\Sigma_{i=1}^{N} p_i^* q_i}{\Sigma_{i=1}^{N} q_i} = \frac{\Sigma_{i=1}^{N}\left[\left(\frac{\Sigma_{i=1}^{N} p_i^* q_i}{\Sigma_{i=1}^{N} q_i}\right) - p_i^*\right] q_i}{\Sigma_{i=1}^{N} q_i} = W - T$, see Thomas J. Prusa and Edwin Vermulst, "A one-two punch on zeroing: US–zeroing (EC) and US–zeroing (Japan)", 8(01) *World Trade Review* 187 (2009), p.236.

opportunities to unduly identify normal transactions as pattern transactions. In an extreme case, it may be possible for the investigating authority to identify all export transactions that are priced below normal value as constituting the relevant pattern. Going back to the example in Table 2, suppose that export transactions are determined to constitute the relevant pattern under the targeted dumping provision if those export prices are lower than the weighted average normal value, i.e. 101. In this case, all export sales transactions except those made from May to September are included in the relevant pattern. Then the dumping margin calculated by the W-T comparison methodology for pattern transactions is 140, i.e. 13.7% (=140/1,020). In another example, in case the investigating authority decides to designate targeted dumping as the export that is priced at 10% or lower level than the weighted average of normal value, the W-T methodology will be applied only to transactions for January, February, October and November, producing 13.1% dumping margin. In other words, depending on the scope of the targeted dumping transactions, it is very likely that much higher dumping margins than normal dumping situations may be generated. In fact, this risk is by far greater when volume effects are considered in the dumping margin calculation because export volumes tend to be bigger for "targeted dumping" transactions.

Looking back at the US trade remedy history, the withdrawal of its own regulation for targeted dumping and the creation of the DPM have demonstrated the willingness of the DOC to reflect targeted dumping as a normal part of the AD margin calculation[148]. Despite the effort that the Appellate Body interprets the second sentence of Article 2.4.2 to be applied in a very narrow and strict manner, an investigating authority may still continue to evade from such restriction, which eventually lead to calculation of punitive dumping margin.

[148] See Porter, D. L. and R. Bidlingmaier (2012), *supra* note 43, p.494.

6.4.2. Rethinking "Zeroing" Under the W-T Comparison Methodology

It appears that the AB's finding to prohibit zeroing under the targeted dumping provision in *US – Washing Machines* finally consummates anti-zeroing jurisprudence as constitutional norms in the WTO. Yet, it may be premature to make such a conclusion on zeroing in that the rulings concerning targeted dumping seem to demand further clarification. Moreover, considering the first ever dissenting AB opinion expressed in the WTO dispute settlement history, it seems obvious how controversial the zeroing issue for targeted dumping has been, and will be.

In this regard, there still needs to rethink about permissibility of zeroing under the W-T comparison methodology in terms of the UR negotiating history and the AB's previous jurisprudence.

Firstly, the negotiation history of the UR provides that negotiators had clearly acknowledged the asymmetry of the W-T comparison as incurred by zeroing practice. Countries which had preferred the use of weighted-average prices resisted the US's long-standing practice of employing the W-T comparison 'with zeroing' during the negotiation. Thus, it is possible to infer that drafters inserted the exceptional comparison methodology in order to distinguish from the normal symmetrical comparison methodology, having kept in mind that zeroing is allowed under the W-T comparison. In this regard, the W-T methodology's own nature would function properly when it is applied with the use of zeroing.

Furthermore, as expressed in the dissenting opinion, previous Appellate Body jurisprudence has not prohibited zeroing under the W-T comparison methodology in the context of the targeted dumping provision. Indeed, the exceptional nature of the W-T comparison methodology has been perceived since *Softwood Lumber V (Art. 21.5).* When the Appellate Body encounters the mathematical equivalence

issue, it notes that "the use of zeroing under the two "normal" comparison would enable an authority to capture pricing pattern constituting "targeted dumping", thus rendering the third methodology *inutile"*[149]. Conversely, it might imply that zeroing can be applied to the third methodology, not to two normal methodologies.

In case of accepting the permissibility of zeroing inferred from the jurisprudence and the UR negotiation history, however, zeroing is unlikely to work properly in order to unmask "targeted dumping" in the present interpretation for Article 2.4.2. Because the Appellate Body already clarified that the W-T comparison should only be applied to "pattern" transactions which comprise only "low-priced" ones, there is no marked effect on margins of dumping by use of zeroing. In conclusion, even if the Appellate Body finds that zeroing is allowed under the W-T comparison, it is uncertain whether it makes the second sentence an exception to correctly identify and unmask "targeted dumping", without full consideration of both patterned and non-patterned export transactions.

7. Concluding Remarks

The AB rulings in *US – Washing Machines* provide specific interpretations on targeted dumping in the second sentence of Article 2.4.2. First, the Appellate Body limits the applicable scope for the second sentence of Article 2.4.2 to "pattern transactions" which consist of only low-priced export transactions. By extension, it clarifies that the remedial action for targeted dumping is to limit the calculation of dumping margins in respect of patterned exportations only by use

[149] Appellate Body Report, *US – Softwood Lumber V (Art.21.5)*, *supra* note 70, para 100.

of the W-T methodology. It also emphasizes that the qualitative criteria are needed in explaining "significantly" along with other precedent rulings[150]. It enhances the liability for explanation of investigating authorities by requiring the consideration of attendant factual circumstances concerning targeted dumping and by requiring the consideration of both the T-T and W-W methodology. Clearly, all these rulings put particular stress on the exceptional nature of targeted dumping and demonstrate the resolute effort of the Appellate Body to discipline investigating authorities' discretions in applying the pertinent ADA provision.

The AB rulings, however, raise more fundamental questions about the reason and purpose for the targeted dumping provision in ADA. In fact, many key issues were overlooked in the drafting history, including what might fall within the meaning of targeted dumping in the context of Article 2.4.2, how it should be addressed, or whether normal AD requirements need to be modified. Despite the AB rulings, it is still vague how to define "patterned export" whose prices are significantly lower than those for other transactions. Given that the designation of targeted dumping critically hinges on the arbitrary policy of investigating authorities, such ambiguities may seriously impugn the second sentence's feasibility in terms of its own function, i.e. unmasking "targeted dumping".

The most striking AB finding in *US – Washing Machines* is that the second sentence of Article 2.4.2 permits establishing dumping margins in terms of only "pattern transactions". Although the W-T methodology can be applied only to the pattern transactions and zeroing is not allowed even for the W-T calculation, the interpretation that the dumping margin calculated based only on the targeted dumping should be applied to all of the exports involved raises both economic and legal problems explained above. While the controversy regarding zeroing

[150] Appellate Body Report, *US – Washing Machines, supra* note 11, para 5.64.

practices under the W-T comparison methodology is resolved by the AB ruling[151], another convoluted issue of how to deal with targeted dumping in the future seems to demand more analyses and further clarification. Completely disregarding other non-pattern transactions that may be imported at dumping prices, the AB ruling appears to set forth an important exception to the well-established jurisprudence that the ADA "contemplates the aggregation of all the comparisons made at the transaction-specific level in order to establish an individual margin of dumping for each exporter or foreign producer examined".[152]

Despite the fact that it was neither necessary nor relevant to distinguish targeted dumping from the general concept of dumping from the economic point of view, the targeted dumping provision was included in the ADA as a result of compromise between whether to use a symmetric comparison methodology or not. This compromise has given rise to a controversial issue in the WTO over the past few years as the Dispute Settlement Body (DSB)'s anti-zeroing jurisprudence has been firmly established for normal comparison methodologies. In light of the historical development toward extensive use of targeted dumping regulations in all US anti-dumping proceedings, it is quite clear that the US' insistence on zeroing made the application of the targeted dumping provision and

[151] Academics have also debated about the legitimacy of zeroing in the W-T methodology. While Edwin Vermulst, Daniel Ikenson, and Thomas J. Prusa predicted that zeroing would be at least implicitly sanctioned under the W-T comparison methodology, Tania Voon considered the possibility of either allowing zeroing practices, or counteracting targeted dumping without zeroing. *See* Edwin Vermulst and Daniel Ikenson, "Zeroing Under the WTO Anti-Dumping Agreement: Where Do We Stand?", 2(6) *Global Trade and Customs Journal* 231 (2007); Thomas J. Prusa and Edwin Vermulst (2009), *supra* note 147; Tania Voon, "The End of Zeroing? Reflections Following the WTO Appellate Body's Latest Missive", 34(3) *University of Melbourne Legal Studies Research Paper, Legal Issues of Economic Integration* 211 (2009).

[152] Appellate Body Report, *United States – Zeroing (Japan)*, *supra* note 83, para 127.

the implementation of the WTO recommendation too complicated[153]. In this regard, it remains to be seen whether the targeted dumping provision, especially with the AB interpretation in *US – Washing Machines*, can be applied as intended by drafters as well as by the WTO jurisprudence.

[153] According to Arbitration under Article 21.3(c) of the Understanding on Rules and Procedures Governing the Settlement of Disputes, the reasonable period of time for the US to implement the recommendations and rulings of the DSB in this case is 15 months, having taking account the complexity and scope of certain issues concerning the anti-dumping measures, which expires on December 26, 2017. *See* WTO Arbitration Report, *United States — Anti-dumping and Countervailing Measures on large residential washers from Korea (US – Washing Machines),* WT/DS464/RPT, April 13, 2017, para 3.4.4.

Appendix II-1. Structure of the Nails II Methodology[154]

General information for identical model (i.e. identical CONNUM)

Transaction No.	Customer	Net Price	Qty
1	A	320.00	1.00
2	A	320.00	1.00
3	A	320.00	1.00
4	B	400.00	1.00
5	B	300.00	1.00
6	B	200.00	1.00
7	C	280.00	1.00
8	C	270.00	1.00
9	C	250.00	1.00

Weighted Average Price for CONNUM/ Customer A	320.00	: (A)
Weighted Average Price for CONNUM/ Customer B	300.00	: (B)
Weighted Average Price for CONNUM/ Customer C	266.67	: (C)
Weighted Average Price for CONNUM	295.56	: (D)

Standard Deviation

Customer	Average Price	Difference between Price and the mean	Difference Squared	
A	320.00	24.44	597.31	
B	300.00	4.44	19.71	
C	266.67	-28.89	834.63	
Mean	295.56		1,451.66	: Sum of Squares (SS)
			725.83	: SS / (n-1) = Variance
			26.94	: (E), Square root of Variance = Deviation

Pattern Test (Standard-Deviation Test)

Pattern Test Threshold (Wt.Avg Price less one Std Dev.) 268.62 : (G)=(D)-(E)

Volume Satisfying Threshold

Customer	Average Price	Higher than Pattern Test Threshold?	Higher than Volume Satisfying Threshold?	Pattern Test
A	320.00	Yes	N/A	N/A
B	300.00	Yes	N/A	N/A
C	266.67	No	Pass	Pass
Mean	295.56			

GAP Test

Price Gap Between Non-Targeted Customer A and B	20.00	: ((A)-(B))
Price Gap Between Lowest Non-Targeted Customer and Targeted Customer	33.33	: ((B)-(C))
Does the share of the sales that meets GAP test exceed 5% of the total sales volume?	Yes	

[154] Reconstructed from the LG Case Brief. See Sidley Austin LLP, Antidumping Investigation of Large Residential Washers from the Republic of Korea: LG's Case Brief, A-580-868, November 1, 2012.

The example given in Appendix II-1 assumes that Customer C is alleged to have been targeted. In the pattern test, the weighted-average price of sales to Customer C is lower than the threshold, i.e. the weighted-average price of all sales less one standard deviation. As the volume of sales to Customer C exceeds 33% of the total volume of an exporter's sales, the DOC proceeds to the second stage for the GAP test. The price gap between the weighted-average price of sales to Customer C and the next higher weighted-average price of sales for a non-targeted group, i.e. Customer B, exceeds the average price gap between non-targeted Customer A and B. Furthermore, the volume of the sales that meet this test exceeds five percent of the total volume of an exporter's sale. Then, the DOC determines that targeting occurs.

Appendix II-2. Structure of Differential Pricing Methodology[155]

Cohen's d test

Transaction No.	Customer	Net Price	Qty	Net Price * Qty	Weighted Average Price	Standard Deviation	Cohen's d test			
							$STDEVP^2$	Denominator	Numerator	Effect Size
1	A	320.00	1.00	320.00	320.00	0	0	42.95	36.67	0.85
2	A	320.00	1.00	320.00						
3	A	320.00	1.00	320.00						
4	B	400.00	1.00	400.00	283.33	60.74	3,688.89			
5	B	300.00	1.00	300.00						
6	B	200.00	1.00	200.00						
7	C	280.00	1.00	280.00						
8	C	270.00	1.00	270.00						
9	C	250.00	1.00	250.00						

Transaction No.	Customer	Net Price	Qty	Net Price * Qty	Weighted Average Price	Standard Deviation	Cohen's d test			
							$STDEVP^2$	Denominator	Numerator	Effect Size
4	B	400.00	1.00	400.00	300.00	81.65	6,666.67	61.06	6.67	0.11
5	B	300.00	1.00	300.00						
6	B	200.00	1.00	200.00						
1	A	320.00	1.00	320.00	293.33	28.09	788.89			
2	A	320.00	1.00	320.00						
3	A	320.00	1.00	320.00						
7	C	280.00	1.00	280.00						
8	C	270.00	1.00	270.00						
9	C	250.00	1.00	250.00						

Transaction No.	Customer	Net Price	Qty	Net Price * Qty	Weighted Average Price	Standard Deviation	Cohen's d test			
							$STDEVP^2$	Denominator	Numerator	Effect Size
7	C	280.00	1.00	280.00	266.67	12.47	155.56	42.36	-43.33	-1.02
8	C	270.00	1.00	270.00						
9	C	250.00	1.00	250.00						
1	A	320.00	1.00	320.00	310.00	58.59	3,433.33			
2	A	320.00	1.00	320.00						
3	A	320.00	1.00	320.00						
4	B	400.00	1.00	400.00						
5	B	300.00	1.00	300.00						
6	B	200.00	1.00	200.00						

[155] Reconstructed from the LG Case Brief. See *supra* note 154.

Ratio test

	Cohen's d	Result	% of Total Sales Value
Purchaser A	0.85	Too high	36.09%
Purchaser C	-1.02	Too Low	30.08%
Total			66.17%

Meaningful difference test

(1) Weighted average dumping margin calculated by the W-T comparison methodology

Transaction No.	Customer	Net Price	Qty	Net Price * Qty	Weighted Average Normal Value	Unit Dumping Margin	Unit Dumping Margin * Qty	Dumping Margin with Zeroing
1	A	320.00	1.00	320.00	300.00	-20.00	-20.00	0.00
2	A	320.00	1.00	320.00	300.00	-20.00	-20.00	0.00
3	A	320.00	1.00	320.00	300.00	-20.00	-20.00	0.00
4	B	400.00	1.00	400.00	300.00	-100.00	-100.00	0.00
5	B	300.00	1.00	300.00	300.00	0.00	0.00	0.00
6	B	200.00	1.00	200.00	300.00	100.00	100.00	100.00
7	C	280.00	1.00	280.00	300.00	20.00	20.00	20.00
8	C	270.00	1.00	270.00	300.00	30.00	30.00	30.00
9	C	250.00	1.00	250.00	300.00	50.00	50.00	50.00
Total			9.00	2,660		Total Dumping Margin:		200.00
						Dumping Rate:		7.52%

(2) Weighted average dumping margin calculated by the W-W comparison methodology

a) weighted average export price	295.56
b) weighted average normal value	300.00
c) unit dumping margin	4.44
d) dumping rate	1.50%

Appendix II-2 illustrates the structure of the DPM by using the same example described in Appendix II-1. Unlike the Nails II Methodology, the DOC tests for targeted dumping whether or not it has been alleged by domestic petitioners. In the first stage, the Cohen's *d* coefficients calculated for Customers A and C exceed 0.8, thereby passing the Cohen's *d* test. Then, as the value of sales to Customers A and C accounts for more than 66% of the value of total sales, the DOC decides to use the W-T comparison methodology with zeroing for all transactions. Lastly, the DOC compares dumping margins calculated by the W-W comparison methodology and the W-T comparison methodology. In this example, the dumping rate calculated by the W-T comparison methodology moves across the *de minimis* threshold. Accordingly, the DOC calculates the dumping margin by applying the W-T comparison methodology for all transactions.

Chapter III. Disciplines for Input Subsidies in the WTO Countervailing Duty Law

1. Introduction

1.1. Research Background

This chapter examines the possibility of disciplining input subsidies under the framework of the SCM Agreement, particularly in the context of countervailing duty (CVD) investigations. Although input subsidies have long been the subject of conflicts among nation-states, they have remained largely unexploited in practice and academics. Multilaterally, the reason may be explained partly by the lack of pertinent provisions to serve the basis for the possible debates concerning input subsidies in the current WTO law and jurisprudence. As will be examined in Section 3 and 4, the GATT and WTO have established few legal standards but the "pass-through" principle in examining the imposition of countervailing duties on the product produced by purchasing the subsidized input from another producer. At the national level, in contrast to the GATT or the WTO, the law governing the so-called "upstream subsidies" in the Omnibus Tariff and Trade Act of 1984 was introduced by the United States. Despite a host of literature[156]

[156] For a general background and early applications for the upstream subsidies provision under the US countervailing duty law, *see* Giesen, Hans-Michael. "Upstream Subsidies: Policy and Enforcement Questions after the Trade and Tariff Act of 1984." 17 *Law and Policy in International Business*. 241 (1985); Barsy, Janet Zoe. "Upstream Subsidies and US Countervailing Duty Law: The Mexican Ammonia Decision and the Trade Remedies Reform Act of 1984." 16 *Law and Policy in International Business* 263 (1984); Salonen, Eric P.

affirming the application of the "upstream subsidies" provision with some frequency in the 1980s, the provision turned out to be not utilized well in actual cases from 1994 to present. Rather, it is observed that some of nation-states, including the United States, have occasionally inflated dumping margins by dealing with input subsidies in the context of the AD law. For instance, in 2015, the United States enacts the Trade Preferences Extension Act of 2015 authorizing the DOC to use "another calculation methodology"[157] in establishing the constructed value where the particular market situation (PMS) is found to exist[158]. Since then, the practice has been firmly placed such that the DOC made an upward adjustment by the CVD rate imposed on hot-rolled coils, that is, the major input of the products subject to AD investigations, for more than 12 AD cases[159] involving steel pipes and tube products. Observing this peculiar practice to redress the effect of input subsidies under the anti-dumping law, this chapter

"Against the current: countervailing duties, upstream subsidies and the trade remedies Reform Act of 1984." 7 *Journal of Comparative Business and Capital Market Law* 37 (1985); Hsu, Shi-Ling. "Input Dumping and Upstream Subsidies: Trade Loopholes Which Need Closing." 25 *Columbia Journal of Transnational Law.* 137 (1986).; Barshafsky, Charlene, and Nancy B. Zucker. "Amendments to the Antidumping and Coutervailing Duty Laws under Omnibus Trade and Competitiveness Act of 1988." 13 *North Carolina Journal of International Law and Commercial Regulation*. 251 (1988); Alexander, Pieter Matthijs. "The Specificity Test Under US Countervailing Duty Law." 10 *Michigan Journal of International Law* 807(1989); Lehmann, Christoph. "The Definition of Domestic Subsidy under United States Countervailing Duty Law." 22 *Texas International Law Journal* 53 (1987).

[157] 19 U.S. Code §1677 b(e).

[158] For a legal and economic analysis on the application of the PMS provision concerning the distortion in input markets, see Crowley, Meredith A., and Jennifer A. Hillman. "Slamming the Door on Trade Policy Discretion? The WTO Appellate Body's Ruling on Market Distortions and Production Costs in EU–Biodiesel (Argentina)." 17(2) *World Trade Review* 195 (2018); Yun, Mikyung. "The Use of 'Particular Market Situation' Provision and Its Implications for Regulation of Antidumping." 21(3) *East Asian Economic Review* 231 (2017); Zhou, Weihuan, and Andrew Percival. "Debunking the Myth of 'Particular Market Situation' In WTO Antidumping Law." 19(4) *Journal of International Economic Law* 863 (2016); Shadikhodjaev, Sherzod. "Input Cost Adjustments and WTO Anti-Dumping Law: A Closer Look at the EU Practice."18(1) *World Trade Review* 81 (2019).

[159] Compiled final (preliminary) determination of the DOC on anti-dumping investigations(reviews) from U.S. Federal Register as of June 30, 2020.

attempts to discover why input subsidies are not or cannot be effectively addressed under the countervailing duty law.

More fundamentally, the definition of "input subsidies" is complicated compared with that of an ordinary "subsidy". While Articles 1 and 2 of the SCM Agreement enunciates the criteria for qualification of a "subsidy", it is not clear as to what extent such criterion is applicable or required for input subsidies "indirectly" bestowed on a recipient. Although a subsidy can be expressly defined as the provision of a financial contribution that confers a benefit to a specific or group of enterprises or industries[160], whether or not an indirect recipient of input subsidies should also form a specific enterprises or industry is uncertain. Designating the scope of "input" products to be deemed subsidized is also critical in determining imposition of countervailing measures on imported products. If we are to accept the pass-through analysis as the only obligation associated with the "indirect" subsidies, as established in the WTO case laws, even the almost complete processed product possibly becomes the input product as long as a subsidy granted to the producer of that product was found to confer a benefit on the final product's producer.

Earlier analyses have been conducted on the disciplines on upstream subsidies in the United States in the 1980s and early 1990s. They mostly focus on the introduction of the statue itself and case studies based on early experiences. However, the extensive analysis on how this provision has been applied and what sort of issues has been raised since the 1990s is not available. Apart from a rare frequency with which input subsidies were addressed in the countervailing measures system, input subsidies have consistently been the subject of debates.

[160] Francois, Joseph. "3 Subsidies and Countervailing Measures: Determining the Benefit of Subsidies." in *Law and Economics of Contingent Protection in International Trade* (2009), p.104.

Hence, some studies examined how input subsidies can be effectively addressed under the WTO. For instance, Meredith and Hillman (2018) recognizes that the WTO law is not well-suited for analyzing distortions that are one or two degrees removed from the internationally traded good. Thus, they anticipate that the WTO agreement will continue to face not only challenges arising from the "Non-Market Economy" status of some WTO members, but also with issues that could arise for vertically integrated global firms and those in vertically-structured industries. Furthermore, they assess whether existing subsidy disciplines would be more effective in addressing the distortion problem in an input market and conclude that they would not[161].

Several studies address the issue of subsidy pass-through when a subsidy was conferred on the production of input used to produce an imported product. Shadikhodjaev (2012) centers on the concept of "arm's length" test embedded in the pass-through principle, arguing that the legal basis for input subsidy pass-through goes beyond the scope of Part V of the SCM Agreement. Moreover, he argues that the pass-through test for all elements of input subsidies should be made at the level of both direct and indirect subsidizations. More broadly, Prusa and Vermulst (2013) examined the path-through effect of export and domestic subsidies based on the AB's finding in *US – Antidumping and Countervailing Duties (China)*. Of the same dispute, Kelly (2014) reconsiders the theory concerning the subsidy pass-through, refines the existing literature and extends the theory to the case of subsidized fixed factors of production. Notwithstanding a thorough analysis on the pass-through effect of subsidies, these studies lack the consideration on the potential issues that might arise in measuring the pass-through effect of input subsidies.

[161] Crowley, Meredith A., and Jennifer A. Hillman (2018), *supra* note 158.

1.2. Research Purpose and Structure of Contents

Although many existing studies have criticized the abuse of trade policy discretion given to each WTO Member in anti-dumping and countervailing proceedings, little attention has been devoted to the question of what exactly "input subsidies" are, and whether, how and to what extent input subsidies should be addressed under the subsidy and countervailing duty regime.

With this in mind, the main questions of this study are as follows: What is the scope of input subsidies?; How different is the rule of "input subsidies" formulated in the United States and in the WTO?; Should something be done for disciplining input subsidies in the framework of the SCM Agreement, in particular in the countervailing duty system? In so doing, how and to what extent should input subsidies be disciplined?

This chapter first examines how the US law governing the upstream subsidies has been developed and interpreted. Various research sources, such as the legal literature, US statue and regulations, and actual investigation cases initiated from 1994 up to present are obtained. Based on the legal and economic ground, the critical issues raised are examined, and the factors affecting the utilization of the upstream provision are assessed.

Further, this chapter examines whether and to what extent the legal discussion and development on the disciplines on input subsidies have been made in the GATT/WTO. The analysis mainly relies on the GATT/WTO negotiation documents and panel/Appellate Body reports.

Lastly, the chapter examines the issue of defining the scope of input subsidies and measuring the benefit pass-through attributable to the product subject to the countervailing duty investigation and thereby attempts to delineate the limitation in enunciating the disciplines on input subsidies under the WTO.

2. Rules on Upstream Subsidies in the United States

2.1. Legislative History and the Framework of the Statue and the Regulation

2.1.1. Prior to the Omnibus Tariff and Trade Act of 1984

When the Trade Agreements Act (TAA) of 1979 incorporated the Subsidies Code resulting from the Tokyo Round negotiation into the US law, a significant portion of the subsidy definition has changed or elaborated. Compared to the previous norm that considered only export subsidies countervailable, the TAA 1979 expanded the scope of actionable subsidies to certain domestic ones and advanced the elements and the criterion of such subsidies along with the illustrative list[162]. One of the crucial elements to meet the definition of actionable subsidy is the so-called "specificity test." In other words, a domestic subsidy is countervailable only if it targets at a specific enterprise or industry[163]. As disciplines on domestic subsidies appeared at this time, allegations on domestic subsidies would necessarily have led to, or in part involved, the allegation on upstream subsidies as well. However, the TAA 1979 gives no accurate guidance toward the upstream subsidies because the upstream subsidies, apart from the final product, are addressed only at a prior stage of manufacture. Accordingly, while many questions arose, for instance, under what circumstance is a component of a processed good an "input," or whether the subsidized input should be provided to "specific" enterprises or industries, those remained

[162] The list contains several examples like (i) The provision of capital, loans or loan guarantees on terms inconsistent with commercial considerations, (ii) The provision of goods or services at preferential rates, (iii) the grant of funds or forgiveness of debt to cover operating losses sustained b y a specific industry, and (iv) the assumption of any costs or expenses of manufacture, production or distribution. For general description on the TAA 1979, see Giesen, Hans-Michael (1985), *supra* note 156, p.250.

[163] Tariff Act of 1930, § 771(5), as amended, 19 U.S.C. § 1677(5) (1982).

unresolved until the new provisions to countervail upstream subsidies were introduced in the Trade and Tariff Act of 1984.

Among several cases, the 1982 steel cases are considered to primarily represent the initial approach to upstream subsidies in practice prior to 1984, which eventually contributes to formulating the rule of upstream subsidies in the United States[164]. In the face of a great concern on steel import surge from eleven countries in the early 1980s, the US steel producers filed the petition that Belgian steelmakers benefited from the subsidies provided to both the Belgian coal industry and German coking coal[165]. The subsidies to coking coal concerned three programs, but the DOC's standpoint on the price support program draws a particular attention. The program was devised by the Belgian government to assist the coal industry in trouble where the longer coal owners maintain their operations and worse their profitability. Regarding the coal subsidy provided by Belgium, the DOC found no upstream subsidies based on two essential reasons: first, such price support to the coal industry did not benefit the steel industry exclusively. However, it benefitted a bunch of industry other than steelmaking on one hand, and most of the aid did not reduce the coal price below the competitive price, i.e. the world price, on the other hand[166]. For the coal subsidy provided by Germany, the DOC commented that in the case where there was no import restriction and thus steelmakers could purchase cheaper non-German coal,

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[164] With regard to the earlier cases relating to upstream subsidies prior to the 1982 steel case, *see* Giesen, Hans-Michael (1985), *supra* note 156, p.241.

[165] The eleven countries were Belgium, France, Italy, Luxemburg, the Netherlands, the United Kingdom, West Germany, Brazil, South Africa, Spain, and Romania. In a similar vein, the US petitioners claimed that German steelmakers benefited from the subsidies to coking coal by German government as well as the subsidies to the coal industry by Belgium. *See* US Department of Commerce, Preliminary Affirmative Countervailing Duty Determinations; Certain Steel Products from Belgium, 47 FR 26304 (1982).

[166] US Department of Commerce, Preliminary Affirmative Countervailing Duty Determinations; Certain Steel Products from the Federal Republic of Germany, 47 FR 26325 (1982).

Belgian steelmakers who purchased German coal did not receive measurable benefit, regardless of subsidization[167].

In the final proceeding, the DOC upheld the preliminary determination that assistance to Belgian coal producers did not confer a countervailable benefit to Belgian steel producers, but the different reasoning followed. The DOC newly affirmed the principle that benefits bestowed upon the input producer do not flow down to the input purchaser if the sale is transacted at arm's length[168]. The arm's length transaction is understood as the market condition under which the seller attempts to maximize its profit by charging a high price and selling a large volume that a market bears.[169] Notably, instead of reiterating the "specificity" requirement, the DOC applied the new principle in deciding (1) whether non-Belgian coal consumers benefited from the coal subsidies provided by Belgium and (2) whether Belgian coal consumers benefited from the coal subsidies within the country. With respect to sales of Belgian coal outside Belgium, the DOC found that the price of the subsidized Belgian coal did not undercut the freely available market price; thus, no benefit was passed on to non-Belgian coal consumers. This finding was also supported by the fact that the coal consumers purchased a significant amount of unsubsidized coal from the other sources, rather than from Belgium[170]. Likewise, the finding that the subsidized coal price did not undercut the market price was the main basis of deciding no subsidies conferred on Belgian steel producers.

Two particular aspects underlying this finding need further consideration. The first one is that by the government ownership, the major Belgian coal producer

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[167] *Supra* note 165, Appendix B.
[168] US Department of Commerce, Final Affirmative Countervailing Duty Determinations; Certain Steel Products from Belgium, 47 FR 39308 (1982).
[169] *Ibid.*
[170] *Ibid.*

and the steel producer are related parties to each other. While the DOC did not believe the government ownership to constitute a prerequisite for a subsidy or to preclude the arm's length transaction, it investigated two questions in determining their arm's length transaction. It examined whether the government-owned coal producer sold the coal to the government-owned steel producer at the "prevailing market price" and whether that price was applied to the steel producer not owned by the government[171] equally. Following the affirmative answers on those questions, the DOC concluded that no subsidy was conferred on steel producers by the subsidized coal. The second aspect concerned the pressure to Belgian steel producers to buy the domestic coking coal at the price established by the Belgian government, based on market prices. Since the *de facto* import restrictions on coal from outside Belgium are indicated, such government intervention in purchasing the input could have led the concept of market prices irrelevant. In this case, however, the DOC found that the Belgian coal companies produce only enough coking coal to meet less than 50% of the steel companies' demand, thus letting the market price outside Belgium remain relevant. Based on all considerations for two aspects, the DOC finally concluded that the Belgian coal subsidies did not confer a subsidy upon Belgian steel producers[172].

The substantive findings throughout the whole investigating proceedings reveal the sift of emphasis in finding the existence of upstream subsidies: from the specificity requirement to the issue of whether the benefit of the input subsidy was passed on and whether the transaction was made at arm's length.

[171] *Ibid.*
[172] *Ibid.*

2.1.2. The Omnibus Tariff and Trade Act of 1984 and Afterwards

The Omnibus Trade and Tariff Act (TTA) of 1984 adopts the new provision dealing with upstream subsidies. In response to a growing concern on the need for the US law to warrant effective trade remedy actions, the House of Representatives passed the Trade Remedies Reform Act of 1984 (H.R. 4784)[173], the so-called House Bill, which deals with "upstream" subsidies and "natural resource" subsidies on a separate basis.

Pursuant to the House Bill, the definition of an upstream subsidy embraces most of the DOC's practical approach as it is, but in more plain terms. The House Bill clarified that the subsidized input benefits the downstream producer when the input price resulting from the subsidy is lower than the "generally available price" of the product in that country[174]. Furthermore, it inserted two more elements in defining an upstream subsidy: first, the input subsidy must have a significant effect on the cost of production, and second, if the generally available price is artificially depressed, the DOC must adjust the price so that it can serve as the appropriate benchmark price[175].

In October 3, 1984, the upstream subsidy provision proposed in the H.R. 4874 was included in an amendment to the Nature of a Substitute to H.R. 3398 which finally became the Omnibus Tariff and Trade Act of 1984. The upstream subsidy provision introduced in 1984 remains almost unchanged by now except for some expressions amended or added in December 1994 as the law to approve and to implement the trade agreements concluded in the UR negotiations was incorporated into the US law[176]. The amendments in 1994 include the exclusion

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[173] https://www.congress.gov/bill/98th-congress/house-bill/4784
[174] *Ibid.*
[175] *Ibid.*
[176] Public law 103-465, December 8, 1994.

of export subsidies in the scope of input subsidies and the insertion of "countervailable" before "subsidy" in Section 771A(a), i.e. the definition of upstream subsidies[177]. With this in mind, the below will explain the core element of the upstream subsidy provision in the current version.

To begin with, the current upstream subsidy provision is distinct from the previous one by requiring the upstream subsidy to meet all elements to be countervailable. Since Section 771A(a) refers to "any countervailable subsidy other than export subsidy", it is understood that an upstream subsidy itself must be paid or bestowed by an "authority" in a form of "financial contribution", thereby conferring a benefit to a "specific" enterprise or industry. A countervailing duty investigation involving an upstream subsidy investigation therefore bears an undue burden of having to prove whether or not the alleged subsidy is countervailable with respect to not only the subject merchandise, but also the input product. It is presumable that such dual process of investigating a "countervailable" subsidy at both levels affected the number of CVD investigations involving upstream subsidies adversely in part.

The upstream subsidy must be paid or bestowed by an authority with respect to the input product used in the "same" country as that of manufacturing or production of the merchandise subject to an CVD investigation[178]. It, therefore, excludes the possibility of imposing the countervailing duty with respect to the subject merchandise produced in one country by using the input product subsidized in another. In addition, Section 771A expressly uses the term "competitive benefit", instead of relying on the "generally available price" of the input product as enunciated in the proposal prior to 1984. A competitive benefit

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[177] *Ibid.*
[178] Section 771A(a)(1) of the Tariff Act of 1930, as amended.

set out in Section 771A(b) is deemed to occur when the price of the input product actually paid by the downstream producer is lower than the price that the producer would otherwise pay for the product "in obtaining it from another seller in an arm's length transaction[179]". Section 771A(b)(2) further allows the administering authority to adjust the arm's length price mentioned in Section 771A(b)(1) or to select a price from another source instead of opting for the arm's length price. As examined in sub-section 2.2, this criterion makes the upstream subsidy provision much unfeasible in practice because it is inherently hard to find the arm's length price of the input product where the subsidy will be normally provided to the specific industry related to the input product. Although it leaves a question how to determine a competitive benefit bestowed by the upstream subsidy, the upstream subsidy provision, at least, seems to set out all elements for an input subsidy with respect to the subject merchandise to be countervailable. The last element that the subsidy must have a significant effect on the cost of producing the subject merchandise[180] appears to be the *de facto* requirement for specificity with respect to the subject merchandise.

2.1.3. Changes in Regulations Governing Upstream Subsidies

Section 355.45 of the 1989 proposed regulations provides a more specific set of rules for the implementation of section 771A of the Act with respect to upstream subsidies. The new regulation reinforces the criterion to initiate the upstream subsidy investigation, adds more elements for the DOC to find upstream subsidies, and clarifies the type of products to which section 771A of the Act applies – in terms of a raw agricultural product.

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[179] Section 771A(b)(1) of the Tariff Act of 1930, as amended.
[180] Section 771A(a)(3) of the Tariff Act of 1930, as amended.

First of all, the DOC must demonstrate that there is a reasonable basis to believe or suspect for initiating an upstream subsidy investigation, a standard which is higher than that for initiating a CVD investigation pursuant to section 701(g) of the Act[181]. Particularly, paragraph(b)(2) of Section 355.45 enumerates three conditions[182] where a link between a subsidy to the input and any effect on the subject merchandise exists. The DOC also cannot initiate the upstream subsidy investigation unless the product of the subsidy rate on the input product and the proportion of the total production costs of the merchandise accounted for by the input product is equal to, or greater than 1%[183]. The threshold at the initiation stage is stricter than the investigation stage where the DOC presumes the existence of a significant effect when the same calculation results in greater than 5%[184].

Second, the proposed regulations set forth the hierarchy of benchmarks in establishing a "competitive benefit" on the subject merchandise. The DOC will prefer the price that the producer of the merchandise would otherwise pay for the unsubsidized input product, produced in the same country. If there is no unsubsidized input product, but the DOC has found a domestic countervailable subsidy with respect to the input product, the DOC may adjust the effect of such subsidy to the price of the subsidized input product. Alternatively, the DOC could

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[181] As shown in the below section, it is inferred in part that this sort of strictness in initiating an upstream subsidy might have resulted in less allegations on upstream subsidies from 1994 to the present. *See,* US Department of Commerce, Notice of Proposed Rulemaking and Request for Public Comments, 19 CFR Part 365, 54 FR 23374, May 31, 1989.

[182] Three conditions exist (1) when the input supplier "A" controls the producer of the subject merchandise "B" (vice versa) or "A" and "B" are controlled by a third person, (2) the price for the input is lower than the price that the produce would otherwise pay for the input in obtaining it from an unsubsidized seller in an arm's length transaction; or (3) the government sets the price of the input so as to guarantee that the benefit provided with respect to the input is passed through to producers of the merchandise. *See supra* note 181.

[183] Paragraph (b)(3) of § 355.45. See *supra* note 181.

[184] Paragraph (e) of § 355.45. See *supra* note 181.

use a world market price for the input product.

Lastly, the regulations clarify that subsidies provided to raw agricultural products under Section 771B of the Act are not subject to upstream subsidy provisions. The domestic countervailable subsidies provided to producers of a raw agricultural product in the situation outlined in Section 771B are deemed directly provided to producers of processed agricultural products[185]. As the DOC never issued the final rule, the proposed regulation remained applicable until the final rule was promulgated in 1998.

In 1997, the DOC noticed the proposed regulations to conform the existing countervailing duty regulations to URAA.[186] As the URAA did not require a significant amendment from the existing Section 771A of the Act, section 351.523, which deals with upstream subsidies, was based largely on §355.45 of the 1989 proposed regulations[187]. Nevertheless, there were slight differences in terminology. The first one is the term "affiliation". At the proposal stage, the DOC attempted to replace "control" with "cross-ownership", which appeared as one of the elements necessary in determining whether a competitive benefit is bestowed on the subject merchandise. The term "control" in §355.45 was finally replaced with "affiliation" because the "cross-ownership" between the input producer and the producer of the final product were to be disciplined under Section 351.525, which addresses the rule of attribution. Pursuant to Section 351.525(b)(5)(iv), subsidies on the input product are attributed to the combined sales of the input and downstream products produced by both corporations where a cross-ownership exists between an input supplier and a downstream producer,

[185] Paragraph (g) of § 355.45. *See supra* note 181.
[186] US Department of Commerce, Notice of proposed rulemaking and request for public comments, 62 FR 8818, (February 26, 1997).
[187] *Ibid.*

and production of the input product is primarily dedicated to production of the downstream product[188]. To put it differently, the new regulation seems to show that the application of the upstream subsidies provision depends on how "directly" a subsidy is bestowed on a downstream producer and that a cross-ownership represents the downstream producer as the direct recipient of the input subsidy.

Meanwhile, two notable comments were received in regards to the applicable scope of an upstream subsidy analysis. One commenter requested to extend the analysis to the subsidized input product where the input producer and the producer of the subject merchandise are located in different countries[189]. The other one concerns permissibility of investigating upstream subsidies further than one stage back in the chain of production. The commenter preferred to limit the scope of an upstream analysis to the stage one step prior to final manufacture or production if the significant effect of such subsidies is not demonstrated, citing to the legislative history of the 1984 Trade and Tariff Act[190]. For those two comments, the DOC declined to adopt new regulations as it aimed at securing the flexibility in interpreting the existing statue and regulations that might be the reference for those issues mentioned above.[191] For example, Section 351.523(a)(iii) requires a demonstration of the significance of prior-stage subsidies before the DOC initiates an upstream subsidy investigation. Although the upstream subsidy provided at an earlier stage is less likely to make a significant effect on the cost of production of the subject merchandise, the DOC interpreted the rule to include the circumstance where an upstream subsidy is

[188] Cross-ownership is defined to exist between two or more corporations where one corporation can use or direct the individual assets of the other corporation(s) in essentially the same way it can use its own assets. See US Department of Commerce, Final rule, 19 CFR Part 351, 63 FR 65417 (November 25, 1998)

[189] *Ibid.*

[190] *Ibid.*

[191] *Ibid.*

present at an earlier stage if such significance is demonstrated.

2.2. Application of the Upstream Subsidy Provision since 1994

Since the United States introduced the law governing the so-called "upstream subsidies" in the Omnibus Tariff and Trade Act of 1984, the provision has not been well utilized in actual cases from 1994 to present.

Table 3. US upstream subsidy cases (1994-2020)

type	number of cases
Alleged by petitioners or respondents, but no initiation of upstream subsidy investigation	11
Initiated by the ITA, but;	
negative upstream subsidy finding	5
deferral (or termination) of the upstream subsidy investigation	1

Note: Due to restriction on access to data prior to 1994, cases have been gathered from 1994 onward when the preliminary or final determinations were made.
Source: US Federal Register. See https://www.govinfo.gov/app/collection/fr (last visit July 10, 2020)

Table 4. List of subject merchandise and input products (1994-2020)

No.	Subject merchandise	Input product	Year	Result
1.	Rice	Paddy rice	1994	Note 2
2.	Oil country tubular goods	Steel bloom	1995	Note 3
3.	Pasta	Semolina	1996	Note 2
4.	Certain Laminated Hardwood Trailer Flooring	Lumber	1997	Note 3
5.	Ball Bearings and Parts	Balls	1997	Note 2
6.	Steel Wire Rod	Iron ore	1997	Note 2
7.	Stainless Steel Sheet and Strip in Coils	Hot-rolled coils	1999	Note 1
8.	Certain Cut-to-Length Carbon Steel Plate	Input of carbon steel	2001	Note 1
9.	Certain Softwood Lumber Products	Timber and logs	2002	Note 2
10.	Coated Free Sheet Paper	Timber	2007	Note 4
11.	Certain Standard Steel Fasteners	Electricity	2009	Note 1
12.	Certain Welded Carbon Steel Standard Pipe	Hot-rolled steel (HRS)	2010	Note 1
13.	Citric Acid and Certain Citrate Salts	Steal coal	2011	Note 2
14.	Certain Cold-Rolled Steel Flat Products	Electricity	2020	Note 3

15.	Certain Hot-Rolled Steel Flat Products	Electricity	2020	Note 3
16.	Polyester Textured Yarn	Input of yarn	2019	Note 1
17.	Certain Corrosion-Resistant Steel Products	Electricity	2020	Note 3

Note 1: Petitioners alleged upstream subsidy, but the DOC declined to initiate the upstream subsidy investigation.

Note 2: Respondents alleged upstream subsidy, but the DOC declined to initiate the upstream subsidy investigation.

Note 3: The DOC initiated the upstream subsidy investigation but made a negative finding on that issue.

Note 4: The DOC initiated the upstream subsidy investigation but deferred the investigation.

Note 5: The list is compiled from the Federal Register from 1994 to 2020 based on final, or if not available, preliminary determinations of countervailing duty investigations (or reviews).

2.2.1. Delineating the Scope of Input

The statue or the regulation does not provide an accurate guidance on whether or not an upstream subsidy investigation should be limited to subsidies on a "direct" input into the production of the subject merchandise. More essentially, there is no clear definition of what exactly the "input" refers to.

The "Ball Bearing and Parts Thereof from Thailand" case shows the very ambiguous nature of defining the input. Respondents argued that the benefits received by the "ball" producer should be addressed pursuant to the upstream subsidies provision under the assumption that the "ball" was the input of bearings. However, in the administrative review proceeding, the DOC found that the alleged producer produces balls that were exported to the United States directly or supplied to the Thai producer of the finished ball bearings products. As for the subsidies on the balls that were exported directly, the DOC rejected the upstream subsidy allegation because such subsidies constitute an export subsidy, which is expressly excluded from the coverage of the provision. On top of that, the fact that both balls and bearings are merchandise subject to this review compelled the DOC to include in the subsidy calculation the benefits attributed to the balls

produced and then supplied to the producer of the ball bearings[192].

Although the DOC found that the upstream subsidies provision is not applicable in this case, still it is not entirely obvious whether the balls can be considered an "input" in the legal context. Going into more details about the subject merchandise, it is known that ball bearings are made of steel, ceramic, or plastic in terms of raw materials, whereas every ball bearing is comprised of four main parts, i.e. an outer race, an inner race, a cage, and balls[193]. Without the precise description on the meaning of the input, Section 771A necessarily poses some confusion whether parts or components of the subject merchandise should be considered the input or only the raw material constituting the parts or components corresponds to the plain meaning of the input.

In terms of directness of inputs pouring into the production process, the DOC has broader authorities to apply the upstream subsidy provision to the indirect input at an earlier stage of the production[194]. The subsidy at issue in the case "Coated Free Sheet Paper (CFSP) from Indonesia" was the GOI's provision of government-owned pulp timber (i.e. stumpage) for less than adequate remuneration[195]. With regard to the argument of respondents that pulp, not timber,

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[192] US Depart of Commerce, Ball Bearings and Parts Thereof from Thailand: Final Results of Countervailing Duty Administrative Review, C-549-802, (January 6, 1997), 62 FR 730.

[193] Mike Santora, A guide to ball bearing materials, see https://www.bearingtips.com/guide-ball-bearing-materials, (September 7, 2017).

[194] This authority is also confirmed in the preamble of section 351.523, which expressly states that if a party is able to demonstrate the significance of subsidies at earlier stages of production, the DOC has the authority to investigate such subsidies under the upstream subsidy provision. *See supra* note 188.

[195] While the DOC initiated an upstream subsidy investigation to determine whether stumpage subsidies provided to unaffiliated pulpwood suppliers confer benefits on the production of the subject merchandise, it simultaneously deferred the investigation, pursuant to Section 703(g)(2)(B)(i) of the Act, until the first administrative review. There is no record indicating that the first AR was initiated. See US Depart of Commerce, Issues and Decision Memorandum for the Final Affirmative Countervailing Duty Determination: Coated Free Sheet Paper from Indonesia, C-560-821, (October 17, 2007), p.6.

is the input of the subject merchandise, the DOC noted that nothing in the statue or in regulations precludes the input product from being read as either direct or indirect into the production of the subject merchandise[196]. As pulpwood is the primary input for pulp and pulp is the primary input for paper, the DOC considered pulpwood as the first input into a continuous line of production for the subject merchandise, i.e. paper.[197]

The "Certain Softwood Lumber from Canada" case dealt with the issue similar to that covered in the CFSP case, but it yielded a different consequence of not initiating the upstream subsidy investigation, which was mainly attributable to the integrated nature of the production process. As shown in Figure 2, the case embeds two types of the manufacturing process for the lumber: a 100% vertically integrated production line from forest to the sawmill and a production line of manufacturing the lumber by purchasing the logs from a separate harvester, whether or not affiliated. The softwood lumber subject to this CVD investigation also includes the so-called "remanufactured products" produced by non-sawmills. In that case, the DOC considered the subsidy in question as a subsidy to the production of lumber, not the production of timber or logs. The DOC views that the subsidy is directly received by the lumber producers provided that the government's provision of timber is the vehicle (i.e. financial contribution) by which a subsidy is provided to lumber producers[198].

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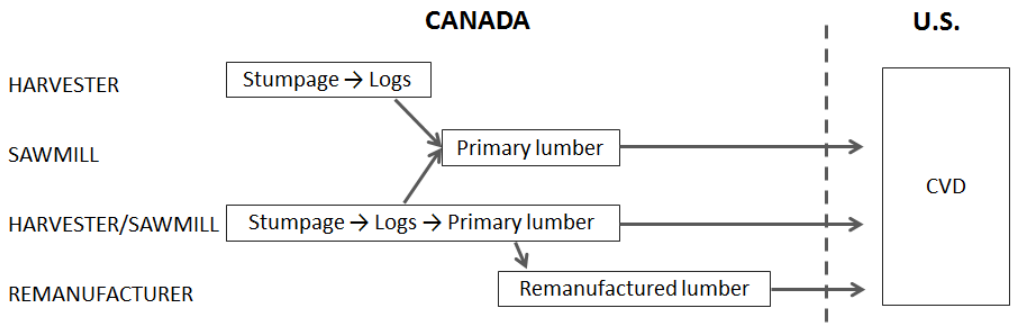
196 *Ibid.,* p.7.

197 *Ibid.*

198 US Depart of Commerce, Issues and Decision Memorandum: Final Results of the Countervailing Duty Investigation of Certain Softwood Lumber Products from Canada, C-122-839, (March 21, 2001),

Figure 2. Production process from the stumpage to the softwood lumber



2.2.2. Agricultural and Non-Agricultural Products

Although the provision dealing with raw agricultural products was incorporated into the US law in 1988, a controversy continued to gain tractions as to whether raw agricultural products should be considered the input subject to an upstream subsidy investigation under Section 771A of the Act.

In the case of "Rice from Canada", the respondents argued that the DOC should determine whether 771B is relevant to the paddy rice purchase program by reexamining the following four factors: (1) whether paddy growers and rice millers are related, (2) whether rice processing adds more than the limited value, (3) whether circumvention of the order exists, and (4) whether the processing operation changes the essential character and that the DOC has no authority to countervail any of the paddy rice price support and stabilization program without conducting an upstream subsidy analysis[199]. The DOC, however, found that the 771B criteria of the Act are met, and thus, it disagreed with the need to apply an upstream subsidy analysis to raw agricultural products. Notably, the DOC

[199] US Depart of Commerce, Rice from Thailand; Final Results of Countervailing Duty Administrative Review, C-549-503, (February 24, 1994), Federal Register, Volume 59 Issue 37.

considered the four factors deemed by the respondent as irrelevant to this case because the reference to those four factors, i.e. the Live Swine case[200], preceded the adoption of Section 771B. The DOC was mindful that there had been a consistent practice prior to the Section 771B to consider a benefit to producers of raw agricultural products as a benefit to producers of a processed one when almost all of the raw agricultural products are dedicated to the production of the processed product and when there is a single, continuous production line from the raw agricultural product to the processed product[201].

2.2.3. Consistency of the Cross-Ownership Regulation with the Upstream Subsidy Provision of the Act

Some cases revealed a call for clarification on the relevance of investigating an upstream subsidy with respect to the producer of the input who is affiliated with the producer of the subject merchandise. In the case "Pasta from Italy," which was completed before the regulation was revised in 1998, the sale of semolina, the major input of pasta, was portrayed as two types of transactions, i.e. (1) the transaction between the companies that are separately incorporated, and (2) those that are not. While petitioners argued that Section 771A is applicable only when producers in the line of production are not related, respondents assert that the subsidies on the producer of semolina must be examined under Section 771A regardless of affiliation[202]. Before the regulation in 1998 clarifies the use of the term "affiliation" instead of "control" or "cross-

[200] US Depart of Commerce, Final Affirmative Countervailing Duty Determination: Live Swine and Fresh, Chilled and Frozen Pork Products from Canada, 50 FR 25098, (June 17, 1985)
[201] *See supra* note 199.
[202] US Depart of Commerce, Final Affirmative Countervailing Duty Determination: Certain Pasta ("Pasta") From Italy, C-475-819, (June 14, 1996), 61 FR 30288.

ownership," the DOC maintained the practice to focus on whether or not companies are separately incorporated, rather than whether they are affiliated[203]. In other words, the DOC views that the integrated nature of the production line exists to guarantee the attribution of subsidies provided on the input to the sales of the subject merchandise only when the producer purchases the input product from the producer incorporated separately. Accordingly, the DOC confirmed that subsidies to separately incorporated input producers can only be examined in an upstream investigation; however, there was no finding on whether the upstream subsidies exist[204].

Although the case "Stainless Steel Sheet and Strip in Coils from France" did not face the same situation, the DOC similarly included the subsidies provided on the producer of the input in calculating the subsidy rate for the subject merchandise when the input supplier is owned 95% by the producer of the subject merchandise[205]. The underlying reason is notable in that the DOC considered the subsidy on the input as the united domestic subsidy on the final product and thus was concerned that an upstream subsidy analysis might result in double-counting the benefit. Accordingly, the DOC did not initiate an upstream subsidy investigation.

Along with the amendment of CVD regulations in 1998, the main point in the relationship between input and downstream producers shifted from "whether or not they are incorporated separately" to "whether cross-ownership exists between the two." Although the case "Coated Free Sheet Paper from China" did not engage in the allegation of upstream subsidies directly, it clarified the

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[203] *Ibid.,* 61 FR 30305.

[204] *Ibid.*

[205] US Department of Commerce, Notice of Initiation of Countervailing Duty Investigations: Stainless Steel Sheet and Strip in Coils from France, C-427-815, (July 13, 1998), 63 FR 37539.

compatibility of the cross-ownership regulations with the upstream subsidy regulations. The respondent argued that the cross-ownership regulation, i.e. 19 CFR 351.525(b)(6)(iv), is predicated on the irrefutable presumption that an upstream subsidy benefits the downstream product when cross-ownership exists, which is misplaced and unintended in light of the legislative history[206]. As 19 CFR 351.525(b)(6)(iv) states, if cross-ownership exists between an input supplier and a downstream producer, and production of the input product is primarily dedicated to production of the downstream product, the subsidies to the input supplier are attributed to the combined sales of the input and downstream products.

The DOC attempted to justify the consistency of the attribution between cross-owned companies and the upstream subsidy provision based on various sources. One of the sources is the ruling of the Court of International Trade (CIT) that the DOC has the authority "to attribute subsidies based on whether a company could use or direct the subsidy benefit of another company in essentially the same way it could use its own subsidy benefits[207]." It is otherwise understood that cross-ownership stated in 19 CFR 351.525(b)(6)(iv) refers to a substantial degree of integration in the interests between these two corporations. The DOC also recalled the replacement of the term "cross-ownership" with the term "affiliation" at the final regulations, noting that affiliation and cross-ownership are subject to different regulations[208].

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[206] US Department of Commerce, Issues and Decision Memorandum for the Final Determination in the Countervailing Duty Investigation of Coated Free Sheet from the People's Republic of China, C-570-907, (October 17, 2007), p.96.

[207] *Ibid.,* p.97.

[208] *Ibid.*

2.2.4. Absence of a Competitive Benefit

While it is worth noting that only a few numbers of investigations on upstream subsidies were initiated from 1994 to July 2020, what intrigues more is that the negative findings made by the ITA are all related to the fact that no benefit was conferred to the input producer. In the most recent three cases[209] involving upstream subsidies, the DOC examined whether the sale of electricity by the Korean electricity generators to the Korean Electric Power Company (KEPCO) constituted a countervailable upstream subsidy in the countervailing duty proceedings with respect to various types of steel products. The petitioners argued that the KEPCO purchased electricity from its six subsidiary electricity generators (GENCOs) at prices less than adequate remuneration, which were mostly determined using an adjusted coefficient by the Korean Power Exchange (KPX), the single market operator. 19 CFR 351.511(a)(2) prescribes the hierarchy of comparison prices to be used when the DOC intends to measure the extent of a benefit. The so-called tier i benchmark is an actual price determined in the market within the country[210]. A world market price can be used as a tier ii benchmark if there is no tier i benchmark and the DOC finds it available to use a world market price to electricity consumers in the country[211]. In circumstance where tier i or ii benchmarks are not available, the DOC will assess the consistency of the government price with market principles, i.e. a tier iii

[209] US Department of Commerce, Post-Preliminary Analysis Memorandum – Upstream Subsidy on Electricity: Countervailing Duty Administrative Review of Certain Corrosion-Resistant Steel Products from the Republic of Korea, C-580-879 (February 5, 2020); US Department of Commerce, Post-Preliminary Analysis Memorandum – Upstream Subsidy on Electricity: Countervailing Duty Administrative Review of Certain Hot-Rolled Steel Flat Products from the Republic of Korea, C-580-884 (March 11, 2020); US Department of Commerce, Issues and Decision Memorandum for the Final Results of the 2017 Administrative Review: Certain Cold-Rolled Steel Flat Products from the Republic of Korea, C-580-882 (June 22, 2020).

[210] 19 CFR § 351.511(a)(2)(i).

[211] 19 CFR § 351.511(a)(2)(ii).

benchmark[212].

The most important aspect of applying this regulation in the upstream subsidy investigation on electricity was that no actual market-determined price exists with respect to electricity within Korea. Although the price paid to Independent Power Producers (IPPs) were alleged as a market-determined price by petitioners, the DOC was of the view that both the GENCO and IPPs are just participants in the same pricing system of electricity designed by the KPX, under which no one can represent a market-determined price[213]. A world market price was not adopted as the alternative to the actual market price because it was not actually usable to the purchaser in Korea[214]. The DOC finally ended up with the conclusion that no benefit was conferred on the KEPCO after the whole assessment on whether the price paid to the GENCOs was determined in accordance with the market principle.

3. The GATT and the WTO Jurisprudence on Input Subsidies

3.1. Discussions on Input Subsidies during the GATT

For the imposition of countervailing duties, the subsidies scheme governed by the GATT 1947 clarifies that a countervailable subsidy is not confined to subsidies operating directly to affect trade in the product under consideration[215]. By authorizing countervailing duties to offset "any bounty or subsidy bestowed, *directly or indirectly*, on the manufacture, production or export of any product in

[212] 19 CFR § 351.511(a)(2)(iii).
[213] *See supra* note 209, p.5-6.
[214] *Ibid.*
[215] New York Report, p. 26.

the country or origin or exportation"[216], the term "subsidies" used in Article VI is understood to account for virtually all subsidies irrespective of their character or their origin. Crucially, the word "subsidies" was meant to measures having an effect equivalent to actual payments[217]. While there may be many kinds of indirect subsidies in terms of entrustment or direction, the term "indirect" adopted here is described as a situation where a subsidy granted to the producer of the input product benefits the producer of the final product.

The Subsidies Code in the Tokyo Round negotiation first advanced the multilateral discipline on the use of subsidies in an elaborate form since the 1955 GATT amendments[218]. Including a definitive list of export subsidies, the Subsidies Code addressed the realm of subsidies other than export subsidies, i.e. domestic subsidies, in a much less restrictive manner, giving enough deference to the right of each signatory to achieve social and economic policy objectives. However, it expressly puts forward the possible forms of subsidies that may cause or threaten to cause material injury to a domestic industry of another signatory or serious prejudice to the interest of another signatory, or that may nullify or impair benefits accruing to another signatory under the General Agreement[219]. The concept of specificity is, for the first time, found in Article 11.3 of the Subsidies Code. In other words, Article 11.3 notes that domestic subsidies granted to "certain enterprises" may be the means to achieve such policy objectives and that possible types of subsidies mentioned above are normally granted to a specific

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[216] General Agreement on Tariffs and Trade, 1947. Art. VI.3.

[217] GATT, Second Report of the Group of Experts on "Anti-Dumping and Countervailing Duties", L/1141, adopted on 27 May 1960, 9S/194, 200, para.34.

[218] Stewart, Terence P. *The GATT Uruguay Round: a negotiating history (1986-1992) Volume I: Commentary*. (Deventer: Kluwer Law and Taxation Publishers, 1993).

[219] Agreement on Interpretation and Application of Articles VI, XVI and XXIII of the General Agreement on Tariffs and Trade, 1979. (hereinafter cited as Subsidies Code) Art. 11.2, 11.3.

group of "region" or "sector"[220].

In the Uruguay Round, the issue of input subsidies was scarcely addressed over the whole process of the negotiation associated with subsidies and countervailing measure. The reference paper[221] prepared in 1987 appears to be almost the only document giving more details about how the disciplines on input subsidies should work. Pointing out that "indirect" subsidies set out in Article VI (3) of the GATT have essentially been referred to in the context of "input" subsidies[222], the paper proposed the methodologies for determining when an input subsidy constitutes an end-product's subsidy and for calculating the amount of the subsidy on the end-product when the input subsidy exists.

The proposal suggests that a two-level investigation be carried out to determine whether and to what extent an input subsidy can constitute an indirect subsidy on an end product. While the call for the existence of "pass-through" to the downstream producer was similarly argued in the US legislative process as the pillar of constituting an upstream subsidy, the proposal is distinct from the US statue by putting a specificity requirement in place, such that the "pass-through" is specific to certain enterprises either regionally or by sector[223]. In reaction to the proposal, the experts were divided into trisect positions. One position supports the two-stage test, especially underscoring the specificity element in terms of both the pass-through of the input subsidy and the subsidy on input itself. The second one also favored the application of the two-stage test but considered the availability of a subsidy on input should be examined first. In a stark contrast, the last one opposed the idea of a two-stage test with regard to specificity, arguing

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[220] Subsidies Code, Article 11.3.

[221] GATT, Negotiating Group on Subsidies and Countervailing Measures, Subsidies and Countervailing Measures, Note by the Secretariat, MTN.GNG/NG10/W/4 (April 28, 1987)

[222] *Ibid.,* p.12.

[223] *Ibid.,* p.13.

the existence of two-stage test risks not countervailing indirect subsidies in a situation where the benefit clearly is passed on to the downstream processor[224]. This view seems predicated on the assumption that the subsidy is embedded in the product once a subsidy itself meets the criteria to be countervailed on an input product. The experts in this position take an example of an investigation on ball bearings. To put it simply, the fact that ball bearings are used in numerous types of products should not prevent from considering the countervailable subsidy on ball bearings as not countervailable with respect to the end-product. Instead of requiring the specificity with respect to the processed product, the experts put forward the criteria of a "competitive benefit" on the processed product. According to this view, examining whether or not there is a provision of a competitive benefit flowing from the input to the processed product is crucial to determine that the subsidy on the input constitutes an indirect subsidy on the processed product. The experts suggested plausible instances of bestowing a competitive benefit, for example, where the input producer and the processed product are related, the pass-through of the input subsidy forms a government-regulated price that is below the unsubsidized cost of production of the input product, or the producer of the processed product pays less for the input than he or she would for the input from the unsubsidized supplier[225]. Along with the element of the competitive benefit, the experts also proposed to consider the significance of the input subsidy effect on the cost of production of the final product.

Another dissimilar view was markedly presented in dealing with the calculation of the amount of the subsidy. Where a valid market price exists for an

[224] *Ibid.,* p.14.
[225] *Ibid.*

input, the amount of the subsidy was proposed to be determined by the difference between the valid market price and the price of the input in question[226]. While some experts view that the amount of the subsidy should be the cost to the government rather than the difference as proposed, others argue that the amount of the subsidy should be based on the difference between the arm's length price and the subsidized price. Where no valid market prices exist and both the input price and the subsidy on the input are deemed specific in nature, the proposal presumes the amount of the subsidy to be the entire amount of the subsidy per unit of input[227]. It draws a particular attention that neither the proposal nor the comments considered how much exactly the effect of the input subsidy will flow downstream in calculating the amount of the subsidy on the product subject to the CVD investigation, regardless of whether or not a valid market price for an input exists.

Although the discussion on the definition of "domestic industry" might not clearly fit into the case of dealing with input subsidies, it offers an implicit lesson on how to consider "indirectness" of bestowing a subsidy in cases where it is conceptually too puzzling to distinguish the industry of the input and that of the processed product. One problem spawning a divergent view in a number of CVD cases involving processed agricultural products was whether producers of the raw agricultural product could be considered part of the domestic producers of the processed product[228]. In support of the affirmative view on this question, the United States points to the situation where producers of raw agricultural products can be injured by reasons of imports of the processed agricultural product[229].

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[226] *Ibid.*
[227] *Ibid.,* p.16.
[228] *Ibid.,* p.25.
[229] GATT, Negotiating Group on Subsidies and Countervailing Measures, Subsidies and Countervailing Measures, Submission by the United States, MTN.GNG/NG10/W/29, p.5.

According to the United States, treating the industry of the raw agricultural product apart from the processed agricultural product may not be pertinent to the case where those two products are placed on a single continuous production line and a substantial coincidence of economic interest exists between the two producers[230]. The United States also proposes considering the same issue with respect to the "manufactured" goods[231]. While defining "domestic industry" gave rise to huge conflicting views[232], the final draft ended up leaving the possibility open whether or not the agricultural product at different production stages could be regarded as a separate industry or as a single industry.

In spite of scant discussions on input subsidies other than the draft proposed in 1987, Canada called for the insertion of certain conditions to countervail the input subsidy, which deemed to be conferred on the final product[233]. It is worth noting that the conditions mentioned by Canada are distinct from the pertinent US statue, i.e. Section 771 (A) of the Act, in that it requires not only the specificity of the input subsidy in itself but also the specificity of the pass-through in nature. In other words, Canada has a view in support of testing the specificity element at both upstream and downstream stage.

(November 22, 1989)

230 *Ibid.*

231 *Ibid.*

232 For example, Korea argues that components, parts or raw agricultural products are not like products to finished or processed products. Accordingly, the producers of components, parts or raw agricultural products, and the producers of finished or processed products should be regarded as separate industries and the determination of injury ought to be made separately for each industry. See GATT, Negotiating Group on Subsidies and Countervailing Measures, Communication from Korea, MTN.GNG/NG10/W/11, p. 1. (October 22, 1987).

233 GATT, Negotiating Group on Subsidies and Countervailing Measures, Framework for Negotiation, Communication From Canada, MTN.GNG/NG10/W/25, p.4. (June 28, 1989).

3.2. GATT Case Law

It is the late 1980s that the matter of input subsidies arose in the disputes of the GATT 1947. The *United States – Countervailing Duties on Fresh, Chilled and Frozen Pork from Canada (US – Pork)* case addresses the situation where a subsidy had been granted to Canadian swine producers while the United States imposed countervailing duty on the processed pork producers. The measure at issue is the DOC's affirmative determination in 1989 governing subsidization on fresh, chilled and frozen pork imported from Canada. As explained briefly in Section 2.1, the preceding case involving the same subject merchandise served a reasonable ground for adopting a new statue, Section 771B of the Act, and thereby, the DOC was able to examine the attribution of input subsidies to the producer of pork "under Section 771B", not under the upstream subsidies provision, i.e. 771A. In its final determination, the DOC made two crucial findings: (1) "the demands for pork and for live swine are inextricably linked"; (2) "adding 20% in value to the live swine in the processing operation to produce pork fails to change 'the essential character of the live swine'"[234]. Hence, the DOC treated subsidies granted to swine producers as directly granted to pork producers. For this factual circumstance, the panel first affirms that Article VI:3[235] permits contracting parties to levy a countervailing duty on a product "only if" the finding that an exporting country bestowed a subsidy on the production of the particular product has been made. In particular, the panel

[234] GATT Panel Report, United States – Countervailing Duties on Fresh, Chilled and Frozen Pork from Canada, DS7/R – 38S/30, p.3. (Adopted July 11, 1991).

[235] Original sentence: No countervailing duty shall be levied on any product of the territory of any contracting party imported into the territory of another contracting party in excess of an amount equal to the estimated bounty or subsidy determined to have been granted, directly or indirectly, on the manufacture, production or export of such product in the country of origin or exportation, including any special subsidy to the transportation of a particular product.

interpreted the term "to determine" and "estimated" in Article VI:3 to require the investigating authority to examine all relevant facts which might affect a finding of a subsidy[236]. Therefore, the sole issue was whether the finding that the conditions set by Section 771B were met is sufficient to conclude that a subsidy granted to swine producers had been bestowed on the production of pork, under Article VI:3 of the GATT[237]. Given that production of swine and pork in Canada is separate and operated at arm's length, the panel pointed to one crucial element indicating the pass-through of subsidies between two industries: The investigating authority should have analyzed any decrease in prices for Canadian swine attributable to the subsidy below the level that Canadian pork producers would have to pay from other commercially available sources of supply[238]. In conclusion, the panel found that the two elements of Section 771B cannot be the determinative factor leading to the conclusion that all of the subsidies conferred on the input product are fully bestowed on the final product[239].

The 1994 Panel Report on "*United States – Measures Affecting Imports of Softwood Lumber from Canada*" examined the argument that there is no subsidy from sales of timber from public lands. Canada argues that "the exaction of economic rent – or revenue collection – for access to a natural resource such as timber could not cause any countervailable market distortion, in terms of an increase in the output or a decrease in the price of products made from the timber". However, the panel views that "the setting of the price for access to the natural resource in and of itself might relate only to the revenue collection function of government and might not constitute a benefit in connection with the harvesting

[236] *Supra* note 234, p.14.
[237] *Supra* note 234, p.13
[238] *Ibid.*
[239] *Ibid.,* p.14.

or extraction of that resource, *if the conditions of access were such that stumpage was available only to a specific group of enterprises, then the stumpage program could potentially be considered a benefit in connection with the right of access to harvest the resource*[240]."

3.3. WTO Case Law

During the GATT period, Article VI:3 of the GATT 1947 was mostly the panel's reference to the conclusion regarding input subsidies, especially the phrase that a countervailing duty levied on any product "shall not exceed" an amount equal to the subsidy granted directly or indirectly on the production of such product. Even after the GATT was transformed to the WTO, there is no explicit provision or guideline on when and how subsidies on input can constitute a countervailable subsidy on the processed product under the SCM Agreement of the WTO. However, certain provisions provide crucial basis for the WTO adjudicating body to determine whether the investigating authority is required to examine the indirect subsidization with respect to the product under consideration. The following section introduces the panel and AB's finding on input subsidies.

3.3.1. *US – Softwood Lumber III and IV* (DS 236, DS257)

The *US – Softwood Lumber III* is the first WTO case that dealt with input subsidies in the context of Article 1.1(b) of the SCM Agreement. In the circumstance where the direct benefit is provided to the tenure holders/loggers from the stumpage programs, i.e. the producer of the input, one of the key

[240] SCM/162, adopted by the Committee on Subsidies and Countervailing Measures on April 27, 1993, paras. 346-47.

questions was whether the DOC was required to examine whether this benefit passed through to the producer of the softwood lumber, i.e. the subject merchandise exported to the United States[241]. As shown in Figure 2 in Section 2, the factual circumstance concerning the relationship of sawmills with the tenure holders or with remanufacturers was mostly divided into whether they are related or not. While acknowledging a certain number of cases involving arm's-length transactions between tenure holders and unrelated lumber producers, the United States argues that all of the entities involved are producers of the subject merchandise, thus no need to carry out the pass-through test[242]. The Panel was of the view that "an authority may not assume that a subsidy provided to producers of the "upstream" input product automatically benefits unrelated producers of downstream products, especially if there is evidence on the record of arm's-length transactions between the two"[243]. The panel was particularly mindful that determining a precise extent of a subsidy granted to the producer of the subject merchandise is the purpose of the CVD investigations. From the panel's point of view, the US's reliance on the fact that all entities involved are producers of the subject merchandise is not to address the issue of benefits pass-through, rather the issue of the value of the subject merchandise' relevant sales to calculate the denominator of the rate of subsidization[244]. Accordingly, the panel found that the United States should have examined whether and to what extent any benefit passed through to the lumber producers who purchased their log inputs from unrelated suppliers[245].

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[241] WTO Panel Report, *United States – Preliminary Determinations with respect to Certain Softwood Lumber from Canada (US – Softwood Lumber III)*, WT/DS236/R, (adopted November 1, 2002), para. 7.69.
[242] *Ibid.,* para. 7.74.
[243] *Ibid.,* para. 7.71.
[244] *Ibid.,* paras. 7.76-7.
[245] *Ibid.,* paras. 7.78.

The same issue above was addressed in the *US – Softwood Lumber IV* case, yet in a slightly different context. While Canada claimed that the United States failed to establish the existence of a subsidy in respect of arm's length transactions for lumber inputs, the United States refuted it by shifting the focus from the issue of the existence of the subsidy to the issue of calculation of the rate of subsidization[246]. According to the United States, the DOC aptly established the amount of subsidy under the stumpage program and then place the value of the sales of the products produced from the "lumber production process" – including from the re-manufacturers – in the denominator on an aggregate basis, and thus no pass-through analysis was necessary or required on a company-specific basis[247].

The Panel first clarified the core of the pass-through issue to be the notion of subsidization of a product, i.e. in respect of its manufacture, production, or export[248]. To put it differently, for the authority to find subsidization in respect of the product subject to the countervailing duty, the authority is required to demonstrate that a pass-through of subsidies had occurred from the subsidy recipient to the producer of the product[249]. Concerning the sales of logs or lumbers to re-manufacturers, the panel reached a similar conclusion that the DOC should have conducted a pass-through analysis because any subsidy attributable to the softwood lumber products subject to the investigation may not be the entire subsidy received by the tenure holder or sawmill[250]. The provision that the panel particularly relied on in its examination was the footnote 36 of Article 10 of the

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[246] WTO Panel Report, *United States — Final Countervailing Duty Determination with respect to certain Softwood Lumber from Canada (US – Softwood Lumber IV)*, WT/DS257/R (adopted February 17, 2004), paras. 7.68-74.
[247] *Ibid.,* para. 7.74.
[248] *Ibid.,* para. 7.85.
[249] *Ibid.,* para. 7.91.
[250] *Ibid.,* paras. 7.96-8.

SCM Agreement. The phrase "any bounty or *subsidy bestowed, directly, or indirectly, upon* the manufacture, production or export of any merchandise" makes explicit the link between a "subsidy" to a recipient and the manufacture, production or export of a product subject to a CVD investigation[251].

To sum up, the panel established the obligation of a pass-through analysis where a subsidy was bestowed *indirectly* on producers of products subject to the investigation at certain situations, i.e. where the transaction for the input was made at arm's length price between unrelated entities. The Appellate Body reaffirmed the panel's ruling on all legal issues concerning pass-through except one as to whether the pass-through is required even in a situation where a tenured timber harvester, who produces softwood lumber at the same time by its sawmill, sells softwood lumber to unrelated re-manufacturers for further processing. The panel was of the view that a pass-through analysis is required because some portion of subsidies attributable to the products other than lumber might not pass through to the remanufacturer that purchases the lumber[252]. By contrast, the Appellate Body found that once benefits from subsidies received by producers of *non-subject* products (i.e. inputs) were demonstrated to have passed through to producers of *subject* products (primary and remanufactured softwood lumber), conducting a further pass-through analysis *between* the producers of subject products in an investigation on an aggregate basis is not necessary[253]. The Appellate Body explains that the process of dividing up subsidy benefits precisely between the producers of subject products is redundant for calculation of the total amount of subsidy and of the country-wide countervailing duty rate

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[251] *Ibid.,* paras. 7.88-90.

[252] WTO Appellate Body Report, *United States — Final Countervailing Duty Determination with respect to certain Softwood Lumber from Canada (US – Softwood Lumber IV)*, WT/DS257/AB/R (adopted February 17, 2004), para. 162.

[253] *Ibid.,* para. 163.

on an aggregate basis[254]. The Appellate Body, however, still leaves open the possibility of having to examine the pass-through of subsidies on logs to the production of softwood lumber, and then also to the production of remanufactured lumber produced from those inputs by the particular exporter if the investigating authority needs to establish an individual countervailing duty rate for that exporter through an expedited review[255].

3.3.2. *Mexico – Olive Oil (DS341)*

Similar with the *US – Softwood Lumber III & IV* cases and *US – Pork* under the GATT 1947, the panel in *Mexico – Definitive Countervailing Measures on Olive Oil from the European Communities (Mexico – Olive Oil)* faced with the issue of having to examine the obligation to conduct a pass-through analysis in a countervailing duty investigation where a subsidy was granted to a producer of an input product, but a countervailing duty was imposed on a different, downstream product produced by an unrelated producer using the subsidized input. However, distinct from two prior cases is that the European Communities in this case based its "pass-through" claim solely on the basis of Article 1 and 14 of the SCM Agreement. Such legal bases seemed peculiar in light of the past jurisprudence that has largely relied on Article VI:3 of the GATT 1994 and Article 10 of the SCM Agreement in relation to the "pass-through" obligation[256]. To begin with, the EC argued that Mexico's failure to conduct a pass-through analysis is inconsistent with the "benefit" requirement of Article 1.1 because "the element of the definition of subsidy with which the notion of pass through is most

[254] *Ibid.*
[255] *Ibid.,* para. 163.
[256] WTO Panel Report, *Mexico — Definitive Countervailing Measures on Olive Oil from the European Communities (Mexico – Olive Oil)*, WT/DS341/R (adopted October 21, 2008), para.7.145.

closely linked is that of "benefit""[257]. The panel understood the EC's claim to refer to the failure of Mexico to calculate the amount of the benefit from the subsidy exactly attributed to the exporter of olive oil[258]. In that aspect, the panel found that Article 1.1 does not contain any reference to how to calculate the amount of benefit in imposing countervailing duties with respect to the exportation of olive oil[259].

Turning to the claim under Article 14 of the SCM Agreement, the EC insisted that Mexico violated Article 14 because Mexico's procedure in calculating the benefit to the recipient was not transparent or adequately explained by failing to conduct a pass-through analysis where it was required[260]. After reviewing the nature and operation of the subsidy program, the panel found that the European Community provided the subsidy to olive oil, the product subject to the investigation, especially in light of the fact that an olive producer was able to have access to the subsidy only on the basis of the olive oil actually produced[261]. Clarifying that nothing in Article 14 requires a pass-through analysis, even if there were such an obligation, the panel sided with Mexico because the evidence on the record indicates that that calculation of benefit is reasoned and adequately explained without a pass-through analysis[262].

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[257] *Ibid.,* para.7.147.
[258] *Ibid.,* para.7.145.
[259] *Ibid.,* para.7.153.
[260] *Ibid.,* paras.7.154-159.
[261] *Ibid.,* paras.7.162-168.
[262] *Ibid.,* paras.7.168-169.

4. Should Something Be Done About Input Subsidies?

The WTO jurisprudence relating to input subsidies is summarized as follows. First, the obligation to conduct a pass-through analysis is generated if two elements are met: (1) a subsidy is granted in respect of an input, but a countervailing duty is imposed as to the product produced by that input; and (2) a transaction of an input product is made between unrelated entities. Indeed, the need to verify the existence of benefit at arm's length transactions is affirmed not only in the case of input subsidies but also in other forms of indirect subsidies such as a subsidy provided to entities subsequently privatized[263]. Second, the essential elements of the subsidy definition in Article 1 must ultimately be fulfilled with respect to the processed product. These findings and clarification notwithstanding, the current disciplines on input subsidies still raise several puzzling issues.

4.1. Calculation of the Amount of a Subsidy

The pass-through jurisprudence on input subsidies has been established in a way that ensures the essential elements of the subsidy definition in Article 1 exist in respect of the processed product. Therefore, the investigating authority has a right to impose a countervailing duty on the processed product by offsetting the input subsidy. It further leads to the obligation of the investigating authority to ascertain the "precise amount of a subsidy" attributed to the product subject to a CVD investigation in accordance with Article VI:3 of the GATT 1994, Article 10

[263] The Appellate Body in the *US – Lead and Bismuth II* case concludes that 'an entity other than the original recipient of the subsidy should not be deemed to have received a benefit in the case where an arm's-length price was paid to acquire the entity that had received the subsidies'. See WTO Appellate Body Report, *United States – Imposition of Countervailing Duties on Certain Hot-Rolled Lead and Bismuth Carbon Steel Products Originating in the UK, ("US – Lead and Bismuth II")*, WT/DS/138/AB/R, (adopted June 7, 2000), para. 68.

and 32.1 of the SCM Agreement[264]. It should be noted that the quantification of indirect subsidies – in terms of input subsidies – is fundamentally different from that of direct subsidies, which comes from the inherent nature of "indirectness" of subsidization.

To start off, Article 1.1(a)(1) of the SCM Agreement prescribes three kinds of financial contribution by a government or any public body, each of which does not constitute a subsidy of itself. For a potentially countervailable subsidy to exist, such financial contribution should confer a "benefit" on a recipient. In a sense, calculating the amount of the subsidies is considered equal to measuring the benefit[265], which appears all differently depending on the type of financial contributions. In the case of grants such as direct transfer of funds or tax exemptions, the amount of subsidy is routinely measured as the amount received by the company concerned or the amount of tax that would have been payable by the recipient at the standard applicable tax rate during the period of the investigation[266]. For other types of financial contributions, e.g. equity investments, loans, loan guarantees, provision of goods or services, or the purchase of goods as enumerated in Article 14 of the SCM Agreement, the amount of subsidy will normally be determined on the basis of a substantive benefit analysis. The point is no matter what kind of financial contribution is provided on the input producer, the final product producer is not concerned with the original source with which financial contribution was made. From the indirect

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[264] *Supra* note 252, paras. 140-41.

[265] The legal text and the guidelines prescribed in Article 14 of the SCM Agreement establish the principle that calculation of the amount of a subsidy is based on the benefit to the recipient, which means no *subsidy* exists unless a benefit exists no matter how much a subsidy is conferred on the recipient.

[266] *See*, for example, European *Commission*, Guidelines for the Calculation of the Amount of Subsidy in Countervailing Duty Investigations, Official Journal of the European Communities, C394/6, (dated December 17, 1998).

recipient's standpoint, any financial contribution does not trigger a benefit to an indirect recipient immediately. Rather, a benefit accrues to the producer of the final product only when the producer purchases the input product on terms more favorable than those available to the purchaser in the market[267]. The "private market test,"[268] which could be labeled by the Appellate Body in *Canada – Aircraft,* is therefore crucially applied to the case of input subsidies, irrespective of the types of financial contribution. From this understanding it is inevitable to measure the extent of subsidy pass-through to the price of the input product when the amount of the countervailable subsidy is to be calculated. On top of that, such calculation will necessarily involve the comparison with the prevailing market price present in the input market. While the pass-through effect of subsidies to export prices has been analyzed in theoretical literature[269], which will also offer a useful analytic tool for the case of input subsidies, the explicit requirement of the WTO jurisprudence to conduct a pass-through test does not exist when it comes to the pass-through of subsidies to export prices, while it does concerning input subsidies.

This sub-section attempts to explain how the pass-through of input subsidies[270]

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[267] WTO *Appellate* Body Report, *Canada - Measures Affecting the Export of Civilian Aircraft (Canada – Aircraft)*, DS70/ABR, (adopted August 20, 1999), para. 158.

[268] *Ibid.,* para.157. Also *see* Coppens, Dominic. *WTO disciplines on subsidies and countervailing measures: Balancing policy space and legal constraints*. Vol. 12. (Cambridge University Press, 2014), p.59-61.

[269] See Francois, Joseph F. "Countervailing the effects of subsidies: an economic analysis." 26 *Journal of World Trade* 5 (1992); Kelly, Brian D. "Pass-Through of Subsidies to Price." 48 *Journal of World Trade* 295 (2014).

[270] Prior literatures provide explanations on multiple factors affecting the incomplete pass-through of trade barriers. Several studies argued that the pass-through may appear incomplete due to the entry and exit of firms in response to cost shocks (Berman, Martin, & Mayer (2012)) or the introduction of new products (Gagnon, Mandel, & Vigfusson (2012); Nakamura & Steinsson (2012)). Other works attributed incomplete pass-through to the transitory nature of cost shocks (Choi (2013)). price rigidity that may manifest in numerous forms (Devereux & Yetman (2010); Gopinath & Itskhoki (2010), and the "optimal tariff" argument or a large importing country's ability to affect world prices and therefore force exporters to absorb part

appears based on the economic analysis of Kelly (2014), as well as other potential issues applicable to input subsidies. Several factors are known to affect the decision of a company in price adjustment corresponding a subsidy[271].

Apart from the nature of the subsidy itself, market structure surrounding the firm, the nature of demand, the presence of substitutes, and the cost structure of the firm are all considered in adjusting the price. The following figure is an example to simply assume a homogeneous good sold at a single price in a competitive market in which no buyer or seller can materially affect price. Also, it assumes that a subsidy is granted to a certain industry as a whole that produces an input, not to some enterprises belonging to that industry. All other variables are assumed to remain constant (partial equilibrium approach).

As shown in Figure 3, a competitive market equilibrium is present at P* where there is a downward sloping demand and an upward sloping supply curve in an input market. If the subsidy is a simple per-unit subsidy denoted as σ, the subsidy creates a wedge between the price paid by purchasers and the price received by suppliers equal to [Ps – Pd]. The graph indicates that part of the subsidy amount σ equal to [Ps – P*] is attributed to suppliers, whereas the remaining part equal to [P* – Pd] benefits consumers. Therefore, distribution of the subsidy between purchasers and suppliers depends on the relative responsiveness of demand and supply to price changes[272], i.e. elasticity of each curve. Figure 3 illustrates the changes in the new equilibrium price depending on the elasticity of demand when a subsidy shifts the supply curve downward. As compared to Figure 3(a) where the demand elasticity is set to 1, Figure 3(b) indicates that lower elasticity of demand leads to the lower equilibrium price, that is, more pass-through of the

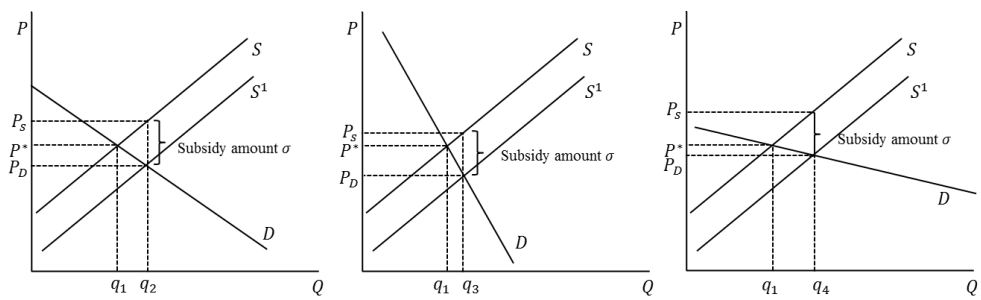
of the shock.

[271] *Supra* note 269, p.300.

[272] *Ibid.,* p.302.

subsidy to consumer price. Figure 3(c) shows the reverse in the case of higher elasticity in demand. Extremely, the pass-through effect of subsidy on the consumer price is zero where the demand is perfectly elastic, namely, ε_d is infinite. Similarly, the effect of a subsidy on the new equilibrium price varies by the elasticity of supply as well. A full pass-through of the subsidy is absorbed in the price paid by consumers if the supply is perfectly elastic. To sum up, the less elastic is the curve, the more pass-through effect the price has on the side of either supply or demand.

Figure 3. Pass-through of input subsidies in competitive markets



Note: The subsidy creates a wedge σ between the price paid by consumers P_D and the net price received by suppliers P_S. If the subsidy is a simple per unit subsidy, this applies to all units sold, including those to the left of the non-subsidized equilibrium point. The absolute amount of the pass-through per unit is $P^*–P_D$.

This economic consideration raises the question about the difficulties associated with the use of elasticity. As explained above, estimating the price elasticity of demand and supply is inevitable in order to demonstrate whether a pass-through of an input subsidy exists to the price purchased by downstream producer and to measure such effect, which will crucially constitute the amount of benefits conferred on the downstream producer. Although trade policy analysis is often carried out under the assumption of constant demand and supply

elasticities, estimating the point elasticity at equilibrium – proportional changes relative to a price and quantity fair – is empirically not feasible in that the point elasticity constantly changes in response to the infinitesimal change in the slope of the demand and supply curves[273].

The fact that estimating the pass-through effect is somewhat incomplete does not mean that input subsidies cannot be effectively countervailed in the circumstance in which exports of the final product produced by using the subsidized input product definitely meet all the elements to qualify for a countervailable subsidy. There are certain cases in which empirical approaches will be necessary. In such case, measuring pass-through can occasionally be easy. For example, in the investigation of Biodiesel from the United States, the European Commission found that the essentially 100% of the main subsidy, the "blenders' credit" of USD 1/gallon, was passed on to the purchaser due to the nature of the subsidy program[274].

Another issue that emerges from the calculation of a pass-through effect is whether it is economically pertinent to consider any affiliation or an economic interest shared between upstream and downstream producers when determining the presence of the pass-through. Actual pass-through effect may depend on the competitiveness of the input market and the extent of affiliation between upstream and downstream, all of which ultimately relates to the elasticities of the demand and supply curves. Typically, the WTO adjudicating body has established the obligation of conducting a pass-through analysis in circumstance wherein the producers of the input and the imported product subject to the CVD

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[273] *Ibid.,* p.302.

[274] European Commission, 'Council Regulation (EC) No 598/2009 of 7 July 2009 Imposing a Definitive Countervailing Duty and Collecting Definitively the Provisional Duty Imposed on Imports of Biodiesel Originating in the United States of America'. *Official Journal of the European Union* (July 10,2009), L 179/1-25.

investigation are "unrelated"[275]. The panel in the *US – Softwood Lumber IV* finds that when the input producer (the timber harvester) is also a lumber producer, no pass-through analysis is required[276]. Intuitively, a vertically full integration like this case enables an indirect subsidy to serve as a direct subsidy to the producer of the exported product. From the lumber producer's point of view, the supply curve might be deemed perfectly elastic since the supplier itself becomes the purchaser. More generally, it may be argued that a certain relationship exists between the degree of vertical integration in terms of substantive production function or of economic interests and the price elasticity of the input supply. Nevertheless, the point is that determining the presence and the extent of a pass-through effect cannot be simply based on whether producers are "related" or not. From the economics perspective, an "affiliation" should be regarded as one of many factors that might affect elasticities of the supply and demand curves.

4.2. Conceptual Viability of the Scope of Input Subsidies

The second issue is concerned with whether defining the scope of input is feasible in practice. Countervailing duty measures brought in the WTO litigations have been applied to a variety of products. Some of the products are final products like washing machines, aircraft, or commercial vessels, all of which are composed of many parts and components. Countervailing duties are also applied to many intermediate products to be processed further or to constitute the part or the component of a final product, including lumber, DRAMs, cotton, steel products, or leather. The products closer to the term of the "input" from the accounting perspective may include, but not limited to, agricultural products,

[275] *Supra* note 256, para. 7.142.
[276] *Ibid.,* para. 7.140.

natural resources and natural resource-based products, and energy products.

Delineating the scope of the "input" product to be deemed subsidized is also critical in determining imposition of countervailing measures on imported products. If we are to accept the pass-through analysis as the single obligation associated with the "indirect" subsidies, the semi-processed product in the course of production for a final product is possibly classified as the input product as long as the producer of the final product turned out to be the indirect recipient of benefit while the subsidy was granted to the semi-processed product.

Pursuant to the Appellate Body in *US – Softwood Lumber IV*, "the cumulative conditions set out in Article 1 must be established for the processed product, especially when the producers of the input and the processed product are not the same entity."[277] This finding can be understood to read that whatever is the input product to be subsidized, countervailing duties for the imported product may be imposed if an investigating authority is eventually able to demonstrate the existence of financial contribution and the benefit thereby conferred to that product. As observed in some of both the US cases and WTO cases, input products are treated very differently depending on cases at hand. When input products are covered by the scope of the product subject to CVD investigations, any distinction between the input product and the final processed product is not necessary. It poses another concern that the scope of the domestic industry allegedly injured is likely to be extended just to avoid the complexity of having to establish the existence of an indirect benefit.

[277] *Supra* note 252, para 142.

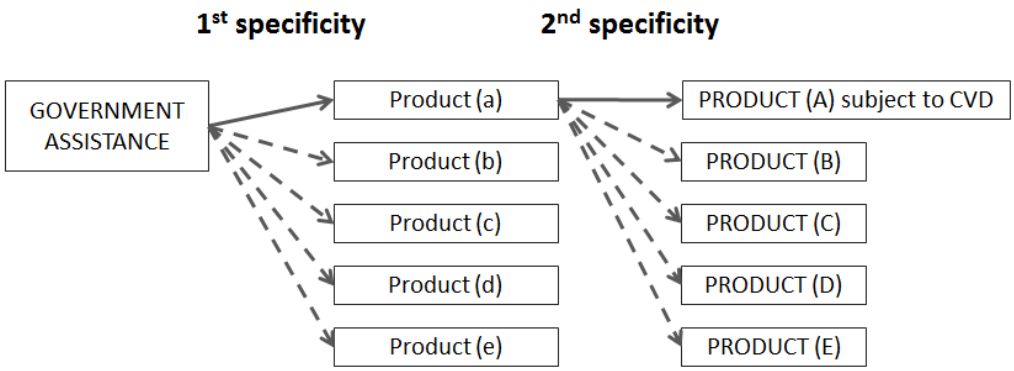
4.3. Countervailing "Cross-National Input Subsidies"

The need for disciplining input subsidies is increasingly discussed among major countries as the world economy is integrated and interdependent by the proliferation of GVCs. An export of a finished product produced in one country using the input product subsidized in another is a prevailing strategy utilized in the global business market. In this situation, an implementation issue arises as to whether the elements constituting a countervailable "subsidy" currently set forth in the SCM Agreement can effectively address the "cross-national input subsidies."

Pursuant to Article 1.1(a)(1) of the SCM Agreement, a subsidy is deemed to exist where "there is a financial contribution by a government or any public body within the territory of a Member." It appears that any financial contribution by a government or any public body "outside" the territory of a Member does not qualify as a financial contribution per its meaning in Article 1.1(a)(1). However, Article 1.1 does not impose any restriction on the location of the recipient of the subsidy. Rather, a territorial restriction on the recipient of the subsidy is found in Article 2, which prescribes the element of specificity. In Article 2.1 of the SCM Agreement, a subsidy shall be specific to an enterprise or industry or group of enterprises or industries "within the jurisdiction of the granting authority." However, the current WTO law does not contain a clear guidance as to what extent the specificity requirement should be met when the subsidy received by the input producer benefits the final product producer. If the specificity element only applies to the producer of the final product, the enterprise or industry of the subsidized input product does not need to meet the term "within the jurisdiction of the granting authority." Conversely, the enterprise or industry of the final product does not need to meet the territorial restriction within the meaning of

Article 2.1, where the enterprise or industry producing the input product becomes subject to the specificity test only.

Figure 4. Two-tier specificity in determining the benefit of input subsidies indirectly bestowed on a final product



Note: Products indicated above could otherwise be read as an individual enterprise or industry.

Countervailing duties can only be applied against imports if the subsidy program was determined to have caused or threatened to cause material injury to the domestic industry of the importing country. Therefore, the subsidy on the input should be demonstrated to explicitly target the injured market, which will be consequently the industry or the product identical to the industry in which the product subject to the CVD investigation is produced. Without meeting the specificity requirement in respect of the end product, it is unlikely to find the causal relationship between the subsidy on the input and the injury of the market concerning the end product. In this context, it is reasonable to presume that both the input and final product are subject to the specificity test, and thus, the producers of both products should be "within the jurisdiction of the territory." The provisions regarding the element of a countervailable "subsidy" definitely lack the discipline to countervail a "cross-national input subsidies."

5. Concluding Remarks

Input subsidies appear to fall under the ambit of the SCM Agreement. However, the answer to the question of to what extent input subsidies can be -or should be- disciplined is not clear. Remarkably, both the WTO cases and the US investigations resulted in no affirmative finding on the existence of input subsidies. The SCM Agreement provides a basis for imposing countervailing duties concerning indirect subsidization, and the WTO jurisprudence further strengthens this basis by requiring the pass-through analysis on the benefit conferred on an indirect recipient. A set of rulings and the legal text governing the imposition of countervailing duty on input subsidies is still insufficient and difficult to deal with such subsidies effectively. Negative findings in all cases that have been investigated over the past two decades in the United States demonstrate such difficulties in a similar context.

There is a growing need for imposing countervailing duty against the input subsidies. Moreover, an increasing trend of using the subsidized input from one country and producing the final product in another country gives rise to a need for new disciplines to effectively address such subsidies. WTO countervailing law needs to be refined so that it can effectively address the issue of input subsidies. The WTO disciplines should be able to take the implementation issue for increasing use of cross-national input subsidy into account.

Appendix III-1. The House version of H.R. 4784[278]

"SEC. 10 SUBSIDIES

Section 771 (19 U.S.C. 1677) is amended by adding at the end thereof the following new paragraph:

(18) UPSTREAM SUBSIDY. (A) IN GENERAL. The term 'upstream subsidy' means any subsidy described in subparagraph (A) or (C) of paragraph (5) which (i) is paid or bestowed by the government of a country with respect to a product that is used in the manufacture or production in such country of merchandise which is the subject of an investigation under subtitle A, (ii) results in a price for the product for such use that is lower than the generally available price of the product in such country, and (iii) has a significant effect on the cost of manufacturing or producing the merchandise.

In applying this paragraph, an association of 2 or more foreign countries, political subdivisions, dependent territories, or possessions of foreign countries organized into a customs union outside the United States shall be treated as one country if the subsidy is provided by the customs union.

(B) ADJUSTMENT OF GENERALLY AVAILABLE PRICE IN CERTAIN CIRCUMSTANCES. If the administering authority decides that the generally available price for a product within the country of the manufacture, production, or export of the merchandise under investigation is artificially depressed by reason of any subsidy, or because of sales thereof in such country at 'less than

[278] https://www.congress.gov/bill/98th-congress/house-bill/4784

fair value, the administering authority shall adjust such generally available price so as to offset such depression before applying subparagraph (A)(ii).

(C) INCLUSION OF AMOUNT OF SUBSIDY. If the administering authority decides, during the course of an investigation under subtitle A or B, that an upstream subsidy is being or has been paid or bestowed with respect to the merchandise under investigation, the administering authority shall include in the amount of any countervailing duty or antidumping duty imposed under that subtitle on the merchandise an amount equal to the difference between the prices referred to in subparagraph (A)(ii), adjusted, if appropriate, for artificial depression.

Appendix III-2. Amended version of H.R. 3398 including part of H.R. 4784

SEC. 10 SUBSIDIES

Section 771 (19 U.S.C. 1677) is amended by adding at the end thereof the following new paragraph:

(18) UPSTREAM SUBSIDY. (A) IN GENERAL. The term 'upstream subsidy' means any subsidy described in subparagraph (A) or (C) of paragraph (5) which (i) is paid or bestowed by the government of a country with respect to a product that is used in the manufacture or production in such country of merchandise which is the subject of an investigation under subtitle A, (ii) results in a price for the product for such use that is lower than the generally available price of the product in such country, and (iii) has a significant effect on the cost of manufacturing or producing the merchandise. In applying this

paragraph, an association of 2 or more foreign countries, political subdivisions, dependent territories, or possessions of foreign countries organized into a customs union outside the United States shall be treated as one country if the subsidy is provided by the customs union.

(B) ADJUSTMENT OF GENERALLY AVAILABLE PRICE IN CERTAIN CIRCUMSTANCES. If the administering authority decides that the generally available price for a product within the country of the manufacture, production, or export of the merchandise under investigation is artificially depressed by reason of any subsidy, or because of sales thereof in such country at 'less than fair value, the administering authority shall adjust such generally available price so as to offset such depression before applying subparagraph (A)(ii).

(C) INCLUSION OF AMOUNT OF SUBSIDY. If the administering authority decides, during the course of an investigation under subtitle A or B, that an upstream subsidy is being or has been paid or bestowed with respect to the merchandise under investigation, the administering authority shall include in the amount of any countervailing duty or antidumping duty imposed under that subtitle on the merchandise an amount equal to the difference between the prices referred to in subparagraph (A)(ii), adjusted, if appropriate, for artificial depression.

Appendix III-3. Section 771A of the Trade and Tariff Act of 1984

Sec.771A UPSTREAM SUBSIDIES

"(a) DEFINITION. The term 'upstream subsidy' means any subsidy described in section 771(5)(B)(i),(ii), or (iii) by the government of a country that-

"(1) is paid or bestowed by that government with respect to a product hereafter referred to as an 'input product' that is used in the manufacture or production in that country of merchandise which is the subject of a countervailing duty proceeding;

"(2) in the judgment of the administering authority bestows a competitive benefit on the merchandise; and

"(3) has a significant effect on the cost of manufacturing or producing the merchandise.

In applying this subsection, an association of two or more foreign countries, political subdivisions, dependent territories, or possessions of foreign countries organized into a customs union outside the United States shall be treated as being one country if the subsidy is provided by the customs union.

"(b) DETERMINATION OF COMPETITIVE BENEFIT.-(1) IN GENERAL.-

Except as provided in paragraph (2), the administering authority shall decide that a competitive benefit has been bestowed when the price for the input product referred to in subsection (a)(1) for such use is lower than the price that the manufacturer or producer of merchandise which is the subject of a countervailing duty proceeding would otherwise pay for the product in obtaining it from another seller in an arms-length transaction.

"(2) ADJUSTMENTS. If the administering authority has determined in a previous proceeding that a subsidy is paid or bestowed on the input product

that is used for comparison under paragraph (1), the administering authority may (A) where appropriate, adjust the price that the manufacturer or producer of merchandise which is the subject of such proceeding would otherwise pay for the product to reflect the effects of the subsidy, or (B) select in lieu of that price a price from another source.

"(c) INCLUSION OF AMOUNT OF SUBSIDY. If the administering authority decides, during the course of a countervailing duty proceeding that an upstream subsidy is being or has been paid or bestowed regarding the merchandise under investigation, the administering authority shall include in the amount of any countervailing duty imposed on the merchandise an amount equal to the amount of the competitive benefit referred to in subparagraph (1)(B), except that in no event shall the amount be greater than the amount of subsidization determined with respect to the upstream product."

Appendix III-4. Section 771A of the Tariff Act of 1930, as amended

SEC. 771A. UPSTREAM SUBSIDIES.

(a) DEFINITION.—The term “upstream subsidy” means any countervailable subsidy, other than an export subsidy, that—

(1) is paid or bestowed by an authority (as defined in section 771(5)) with respect to a product (hereafter in this section referred to as an “input product”) that is used in the same country as the authority in the manufacture or

production of merchandise which is the subject of a countervailing duty proceeding;

(2) in the judgment of the administering authority bestows a competitive benefit on the merchandise; and

(3) has a significant effect on the cost of manufacturing or producing the merchandise.

In applying this subsection, an association of two or more foreign countries, political subdivisions, dependent territories, or possessions of foreign countries organized into a customs union outside the United States shall be treated as being one country if the countervailable subsidy is provided by the customs union.

(b) DETERMINATION OF COMPETITIVE BENEFIT

(1) IN GENERAL

Except as provided in paragraph (2), the administering authority shall decide that a competitive benefit has been bestowed when the price for the input product referred to in subsection (a)(1) for such use is lower than the price that the manufacturer or producer of merchandise which is the subject of a countervailing duty proceeding would otherwise pay for the product in obtaining it from another seller in an arms-length transaction.

(2) ADJUSTMENTS

If the administering authority has determined in a previous proceeding that a countervailable subsidy is paid or bestowed on the input product that is used

for comparison under paragraph (1), the administering authority may (A) where appropriate, adjust the price that the manufacturer or producer of merchandise which is the subject of such proceeding would otherwise pay for the product to reflect the effects of the countervailable subsidy, or (B) select in lieu of that price a price from another source.

(c) INCLUSION OF AMOUNT OF COUNTERVAILABLE SUBSIDY

If the administering authority decides, during the course of a countervailing duty proceeding that an upstream countervailable subsidy is being or has been paid or bestowed regarding the subject merchandise, the administering authority shall include in the amount of any countervailing duty imposed on the merchandise an amount equal to the amount of the competitive benefit referred to in subparagraph (1)(B), except that in no event shall the amount be greater than the amount of the countervailable subsidy determined with respect to the upstream product.

Appendix III-5. Section 771(4)(E) of the Tariff Act of 1930, as amended

(E) Industry producing processed agricultural products.

(i) In general. Subject to clause (v), in an investigation involving a processed agricultural product produced from any raw agricultural product, the producers or growers of the raw agricultural product may be considered part of the industry producing the processed product if

(I) the processed agricultural product is produced from the raw agricultural product through a single continuous line of production; and

(II) there is a substantial coincidence of economic interest between the producers or growers of the raw agricultural product and the processors of the processed agricultural product based upon relevant economic factors, which may, in the discretion of the Commission, include price, added market value, or other economic interrelationships (regardless of whether such coincidence of economic interest is based upon any legal relationship).

(ii) Processing. For purposes of this subparagraph, the processed agricultural product shall be considered to be processed from a raw agricultural product through a single continuous line of production if

(I) the raw agricultural product is substantially or completely devoted to the production of the processed agricultural product; and

(II) the processed agricultural product is produced substantially or completely from the raw product.

(iii) Relevant economic factors. For purposes of clause (i)(II), in addition to such other factors it considers relevant to the question of coincidence of economic interest, the Commission shall

(I) if price is taken into account, consider the degree of correlation between the price of the raw agricultural product and the price of the processed agricultural product; and

(II) if added market value is taken into account, consider whether the value of the raw agricultural product constitutes a significant percentage of the value of the processed agricultural product.

(iv) Raw agricultural product. For purposes of this subparagraph, the term "raw agricultural product" means any farm or fishery product.

(v) Termination of this subparagraph. This subparagraph shall cease to have effect if the United States Trade Representative notifies the administering authority and the Commission that the application of this subparagraph is inconsistent with the international obligations of the United States.

Appendix III-6. 1989 Proposed Regulations: 19 CFR § 355.45 - Upstream subsidies

(a) In general.

The term upstream subsidy means any domestic countervailable subsidy provided by the government of a country that:

(1) Is paid or bestowed by that government with respect to an input product which is used in the production in that country of the merchandise;

(2) In the judgment of the Secretary bestows a competitive benefit on the merchandise; and

(3) Has a significant effect on the cost of producing the merchandise.

For purposes of this paragraph, an association of two or more foreign countries, political subdivisions, dependent territories, or possessions of foreign countries organized into a customs union outside the United States shall be treated as being one country if the subsidy is provided by the customs union.

(b) Threshold determination.

Before investigating the existence of an upstream subsidy, the Secretary must have a reasonable basis to believe or suspect that all of the following elements exist:

(1) A domestic countervailable subsidy is provided with respect to an input product;

(2) One of the following conditions exists:

(i) The supplier of the input product controls the producer of the merchandise, the producer controls the supplier, or the supplier and the producer are both controlled by a third person;

(ii) The price for the input product is lower than the price that the producer otherwise would pay for the input product in obtaining it from an unsubsidized seller in an arm's length transaction; or

(iii) The government sets the price of the input product so as to guarantee that the benefit provided with respect to the input product is passed through to producers of the merchandise; and

(3) The ad valorem subsidy rate on the input product multiplied by the proportion of the total production costs of the merchandise accounted for by the input product is equal to, or greater than, one percent.

For purposes of paragraph (b)(2)(i) of this section, the Secretary will not consider common government ownership to constitute control.

(c) Input product.

For purposes of this section, the term "input product" means any product used in the production of the merchandise.

(d) Competitive benefit.

In evaluating whether a competitive benefit exists pursuant to paragraph (a)(2) of this section, the Secretary will determine whether the price for the input product is lower than:

(1) The price which the producer of the merchandise otherwise would pay for the input product, produced in the same country, in obtaining it from another unsubsidized seller in an arm's length transaction; or

(2) A world market price for the input product.

For purposes of paragraph (d)(1) of this section, where the Secretary has determined in a previous proceeding that a domestic countervailable subsidy is paid or bestowed on the input product which is used for comparison, the Secretary may, where appropriate, adjust the price which the producer of the merchandise otherwise would pay for the input product to reflect the effects of the subsidy.

(e) Significant effect.

For purposes of evaluating whether a significant effect exists pursuant to paragraph (a)(3) of this section, the Secretary will multiply the ad valorem subsidy rate on the input product by the proportion of the total production costs of the merchandise accounted for by the input product. If the input subsidy so allocated to the merchandise exceeds five percent, the Secretary will presume the existence of a significant effect. If the input subsidy so allocated to the merchandise is less than one percent, the Secretary will presume the absence of a significant effect. If the input subsidy so allocated to the merchandise is between one and five percent, there shall be no presumption. A party may rebut these presumptions by presenting information which demonstrates that subsidies on the input products will have a significant effect on the competitiveness of the merchandise. In assessing such information, the Secretary will consider the extent to which factors other than price, such as quality differences, are important determinants of demand for the merchandise.

(f) Inclusion of upstream subsidy.

If the Secretary determines that an upstream subsidy is being or has been paid or bestowed, the Secretary will include in the amount of any countervailing duty imposed on the merchandise an amount equal to the amount of the competitive benefit determined pursuant to paragraph (d) of this section; except that in no event shall the amount so included be greater than the amount of subsidization determined with respect to the input product.

(g) Processed agricultural products.

Notwithstanding any other provision of this section, the Secretary will deem domestic countervailable subsidies found to be provided to either producers or processors of a raw agricultural product to be provided to the manufacture, production, or exportation of the processed agricultural product where the Secretary determines that:

(1) The demand for the prior-stage product is substantially dependent on the demand for the latter-stage product, and

(2) The processing operation adds only limited value to the raw commodity.

Appendix III-7. 1997 Proposed Regulations: 19 CFR § 351.523 - Upstream subsidies

§ 351.523 Upstream subsidies.

(a) Investigation of upstream subsidies —

(1) In general. Before investigating the existence of an upstream subsidy (see section 771A of the Act), the Secretary must have a reasonable basis to believe or suspect that all of the following elements exist:

(i) A countervailable subsidy, other than an export subsidy, is provided with respect to an input product;

(ii) One of the following conditions exist:

(A) There is cross ownership between the supplier of the input product and the producer of the subject merchandise;

(B) The price for the subsidized input product is lower than the price that the producer of the subject merchandise otherwise would pay another seller in an arm's length transaction for an unsubsidized input product; or

(C) The government sets the price of the input product so as to guarantee that the benefit provided with respect to the input product is passed through to producers of the subject merchandise; and

(iii) The ad valorem countervailable subsidy rate on the input product, multiplied by the proportion of the total production costs of the subject merchandise accounted for by the input product, is equal to, or greater than, one percent.

(b) Input product.

For purposes of this section, ''input product'' means any product used in the production of the subject merchandise.

(c) Competitive benefit —

(1) In general. In evaluating whether a competitive benefit exists under section 771A(b) of the Act, the Secretary will determine whether the price for the subsidized input product is lower than the benchmark input price. For purposes of this section, the Secretary will use as a benchmark input price the following, in order of preference:

(i) The actual price paid by, or offered to, the producer of the subject merchandise for an unsubsidized input product, including an imported input product;

(ii) An average price for an unsubsidized input product, including an imported input product, based upon publicly available data;

(iii) The actual price paid by, or offered to, the producer of the subject merchandise for a subsidized input product, including an imported input product, that is adjusted to account for the countervailable subsidy;

(iv) An average price for a subsidized input product, including an imported input product, based upon publicly available data, that is adjusted to account for the countervailable subsidy; or

(v) An unadjusted price for a subsidized input product.

(2) Use of delivered prices. The Secretary will use a delivered (e.g., c.i.f.) price whenever the Secretary uses the price of an imported input product under paragraph (c)(1) of this section.

(d) Significant effect —

(1) Presumptions. In evaluating whether an upstream subsidy has a significant effect on the cost of manufacturing or producing the subject merchandise (see section 771A(a)(3) of the Act), the Secretary will multiply the ad valorem countervailable subsidy rate on the input product by the proportion of the total production cost of the subject merchandise that is accounted for by the input product. If the product of that multiplication exceeds five percent, the Secretary will presume the existence of a significant effect. If the product is less than one percent, the Secretary will presume the absence of a significant effect. If the product is between one and five percent, there will be no presumption.

(2) Rebuttal of presumptions. A party to the proceeding may present information to rebut these presumptions. In evaluating such information, the Secretary will consider the extent to which factors other than price, such as quality differences, are important determinants of demand for the subject merchandise.

Appendix III-8. 19 CFR § 351.523 - Upstream Subsidies, as current.

§ 351.523 Upstream subsidies.

(a) Investigation of upstream subsidies -

(1) In general. Before investigating the existence of an upstream subsidy (see section 771A of the Act), the Secretary must have a reasonable basis to believe or suspect that all of the following elements exist:

(i) A countervailable subsidy, other than an export subsidy, is provided with respect to an input product;

(ii) One of the following conditions exists:

(A) The supplier of the input product and the producer of the subject merchandise are affiliated;

(B) The price for the subsidized input product is lower than the price that the producer of the subject merchandise otherwise would pay another seller in an arm's-length transaction for an unsubsidized input product; or

(C) The government sets the price of the input product so as to guarantee that the benefit provided with respect to the input product is passed through to producers of the subject merchandise; and

(iii) The ad valorem countervailable subsidy rate on the input product, multiplied by the proportion of the total production costs of the subject merchandise accounted for by the input product, is equal to, or greater than, one percent.

(b) Input product. For purposes of this section, "input product" means any product used in the production of the subject merchandise.

(c) Competitive benefit -

(1) In general. In evaluating whether a competitive benefit exists under section 771A(b) of the Act, the Secretary will determine whether the price for the subsidized input product is lower than the benchmark input price. For purposes of this section, the Secretary will use as a benchmark input price the following, in order of preference:

(i) The actual price paid by, or offered to, the producer of the subject merchandise for an unsubsidized input product, including an imported input product;

(ii) An average price for an unsubsidized input product, including an imported input product, based upon publicly available data;

(iii) The actual price paid by, or offered to, the producer of the subject merchandise for a subsidized input product, including an imported input product, that is adjusted to account for the countervailable subsidy;

(iv) An average price for a subsidized input product, including an imported input product, based upon publicly available data, that is adjusted to account for the countervailable subsidy; or

(v) An unadjusted price for a subsidized input product or any other surrogate price deemed appropriate by the Secretary.

For purposes of this section, such prices must be reflective of a time period that reasonably corresponds to the time of the purchase of the input.

(2) Use of delivered prices. The Secretary will use a delivered price whenever the Secretary uses the price of an input product under paragraph (c)(1) of this section.

(d) Significant effect -

(1) Presumptions. In evaluating whether an upstream subsidy has a significant effect on the cost of manufacturing or producing the subject merchandise (see section 771A(a)(3) of the Act), the Secretary will multiply the ad valorem countervailable subsidy rate on the input product by the proportion of the total production cost of the subject merchandise that is accounted for by the input product. If the product of that multiplication exceeds five percent, the Secretary will presume the existence of a significant effect. If the product is less than one percent, the Secretary will presume the absence of a significant effect. If the product is between one and five percent, there will be no presumption.

(2) Rebuttal of presumptions. A party to the proceeding may present information to rebut these presumptions. In evaluating such information, the Secretary will consider the extent to which factors other than price, such as

quality differences, are important determinants of demand for the subject merchandise.

Appendix III-9. 19 CFR § 351.525 - Calculation of ad valorem subsidy rate and attribution of subsidy to a product, as current

§ 351.525 Calculation of ad valorem subsidy rate and attribution of subsidy to a product.

(a) ***Calculation of ad valorem subsidy rate.*** The Secretary will calculate an *ad valorem* subsidy rate by dividing the amount of the benefit allocated to the period of investigation or review by the sales value during the same period of the product or products to which the Secretary attributes the subsidy under paragraph (b) of this section. Normally, the Secretary will determine the sales value of a product on an f.o.b. (port) basis (if the product is exported) or on an f.o.b. (factory) basis (if the product is sold for domestic consumption). However, if the Secretary determines that countervailable subsidies are provided with respect to the movement of a product from the port or factory to the place of destination (*e.g.,* freight or insurance costs are subsidized), the Secretary may make appropriate adjustments to the sales value used in the denominator.

(b) ***Attribution of subsidies*** -

(1) ***In general.*** In attributing a subsidy to one or more products, the Secretary will apply the rules set forth in paragraphs (b)(2) through (b)(7) of this section.

(2) ***Export subsidies.*** The Secretary will attribute an export subsidy only to products exported by a firm.

(3) ***Domestic subsidies.*** The Secretary will attribute a domestic subsidy to all products sold by a firm, including products that are exported.

(4) ***Subsidies tied to a particular market.*** If a subsidy is tied to sales to a particular market, the Secretary will attribute the subsidy only to products sold by the firm to that market.

(5) ***Subsidies tied to a particular product.***

(i) ***In general.*** If a subsidy is tied to the production or sale of a particular product, the Secretary will attribute the subsidy only to that product.

(ii) ***Exception.*** If a subsidy is tied to production of an input product, then the Secretary will attribute the subsidy to both the input and downstream products produced by a corporation.

(6) ***Corporations with cross-ownership.***

(i) ***In general.*** The Secretary normally will attribute a subsidy to the products produced by the corporation that received the subsidy.

(ii) ***Corporations producing the same product.*** If two (or more) corporations with cross-ownership produce the subject merchandise, the Secretary will attribute the subsidies received by either or both corporations to the products produced by both corporations.

(iii) ***Holding or parent companies.*** If the firm that received a subsidy is a holding company, including a parent company with its own operations, the Secretary will attribute the subsidy to the consolidated sales of the

holding company and its subsidiaries. However, if the Secretary finds that the holding company merely served as a conduit for the transfer of the subsidy from the government to a subsidiary of the holding company, the Secretary will attribute the subsidy to products sold by the subsidiary.

(iv) ***Input suppliers.*** If there is cross-ownership between an input supplier and a downstream producer, and production of the input product is primarily dedicated to production of the downstream product, the Secretary will attribute subsidies received by the input producer to the combined sales of the input and downstream products produced by both corporations (excluding the sales between the two corporations).

(v) ***Transfer of subsidy between corporations with cross-ownership producing different products.*** In situations where paragraphs (b)(6)(i) through (iv) of this section do not apply, if a corporation producing non-subject merchandise received a subsidy and transferred the subsidy to a corporation with cross-ownership, the Secretary will attribute the subsidy to products sold by the recipient of the transferred subsidy.

(vi) ***Cross-ownership defined.*** Cross-ownership exists between two or more corporations where one corporation can use or direct the individual assets of the other corporation(s) in essentially the same ways it can use its own assets. Normally, this standard will be met where there is a majority voting ownership interest between two corporations or through common ownership of two (or more) corporations.

(7) ***Multinational firms.*** If the firm that received a subsidy has production facilities in two or more countries, the Secretary will attribute the subsidy

to products produced by the firm within the country of the government that granted the subsidy. However, if it is demonstrated that the subsidy was tied to more than domestic production, the Secretary will attribute the subsidy to multinational production.

(c) ***Trading companies.*** Benefits from subsidies provided to a trading company which exports subject merchandise shall be cumulated with benefits from subsidies provided to the firm which is producing subject merchandise that is sold through the trading company, regardless of whether the trading company and the producing firm are affiliated.

Chapter IV. Retaliatory Level against Anti-Dumping /Countervailing Measures in the WTO

1. Introduction

1.1. Research Background

One of the major achievements of the establishment of the WTO is the creation of a more enhanced dispute settlement system, compared to the GATT. As such, a torrent of studies has been conducted on the institutional structure and the effectiveness of the dispute settlement system. Especially, a wealth of legal and economics scholarships addresses the remedial system – trade sanctions, so-called retaliation – authorized in the WTO.

Many legal studies examine the purpose and the nature of the WTO regime of countermeasures by comparing the WTO law and public international law. Recognizing WTO rules as international legal obligations that are part of public international law, Pauwelyn (2000) argues that a more collective and effective enforcement mechanism, one aimed at inducing compliance, is required. Charnovitz (2001) showed the transformation of international trade law from viewing the GATT-authorized "suspension of concessions" as rebalancing to viewing the WTO-authorized suspension as enforcement, and he assessed the effectiveness of trade sanctions under the WTO as a means to induce compliance.

Several legal studies focused on the "prospective" nature of the WTO remedy system in comparison with the "retrospective" nature of public international law.

Sebastian (2010) and Gavin and Ziegler (2003) argue that only prospective remedies correspond to the validity of WTO compliance *ex nunc* as of the expiry of the RPT, whereas Mavroidis (2000) finds it reasonable that Article 19 of the DSU allows retrospective remedies. Further to this argument, Pauwelyn (2000) contends that new consideration should be given to the possibility of granting WTO members the remedy for past damage.

Some studies focus on the problematic aspects of retaliation under the WTO. For instance, Anderson (2002) examines five peculiar features of the temporary trade retaliation permitted in the WTO, including the concept of equivalence and the inherent injustice of retaliation – e.g. the complainant's economy is not helped but harmed by retaliation. Retaliation does nothing to help the export industry that has been originally denied market access by the violating party. Similarly, Charnovitz (2003) analyzes the possible disadvantageous impact of retaliation's trade-restricting approach.

Concerning the issue of calculating a retaliatory level, which is of special interest in this present study, Bown and Ruta (2010) assess the arbitrators' method of calculating countermeasures in terms of formula using counterfactuals and quantitative methods. These methods are based on a theoretical approach of Bagwell and Staiger (2002), who interpreted the WTO principle of reciprocity. Following the same analytic approach, Bown and Brewster (2017) further examine the retaliatory level authorized in the Article 22.6 arbitration report over the United States' country of origin, labeling (*US – COOL)* regulation for meat products. While it argues the rationality of the arbitrators' rejection of the proposal considering the effects of domestic price suppressions, it criticizes the implausibly large amount of retaliatory level authorized in this case from the economics perspective. Schropp (2010) offers a systemic study of the "equivalence standard" under Article 22.6 arbitrations. He argues that the current

methodology employed by arbitrators is designed to underestimate the nullification or impairment in terms of (1) use of an inappropriate damage measure (baseline counterfactual), (2) consideration of direct-trade blocked, and (3) failure of addressing the quantification and operationalization of the level of retaliation. In order to fulfill the equivalence standard, the study suggests that arbitrators consider a concept of "expectation damages" and "economic gains and losses" sustained by a complaining party, not merely a direct-trade effect. Meanwhile, Sebastian (2010) describes how arbitrating panels have controlled the form and magnitude of retaliation in the past ten cases. While these studies provide a close analysis on the retaliatory level determined in prior arbitrations based on a useful background of laws and economics theory, there is no study that deals with specific issues possibly arising from the calculation of a retaliatory level against WTO-inconsistent "AD/CVD measures."

1.2. Research Purpose and Structure of Contents

This study examines the specific issues related to a retaliatory level against WTO-inconsistent AD/CVD measures by focusing on the findings of Article 22.6 arbitration of *United States – Anti-dumping and Countervailing Measures on large residential washers from Korea* (*US – Washing Machines*). Aside from the issue[279] of how intricate it would be to comply with the Appellate Body (AB)'s ruling in *US – Washing Machines,* this arbitration case deserves a closer analysis because it is the first decision involving a trade remedy "measure" in the history of Article 22.6 arbitrations. Importantly, this case poses a fundamental question about how to measure the level of suspension which is "equivalent" to

[279] As for the structural problem of the AB findings in *US – Washing Machines*, *refer* to Kim, Kyounghwa, and Ahn Dukgeun. "To Be or Not to Be with Targeted Dumping." 21(3) Journal of International Economic Law 567.

nullification or impairment of benefits under the DSU rule and the current arbitration practice. While many studies addressed this question, nothing has assigned sufficient importance on the changes of the global trading environment or domestic regulatory rules in connection with AD/CVD measures.

To be specific, the amount of nullification or impairment of benefit, which represents a direct proxy for the retaliatory level, can be greatly diverged depending on criteria used. The mandate of safeguarding "equivalence" in Article 22.6 proceedings has led arbitrating panels to estimate the nullification or impairment generally based on "the effect on trade" incurred to a complaining party. On that ground lies the assumption that the nullified or impaired benefit of a complaining party by a WTO-inconsistent measure – also including non-violation measures – is limited to that of "market access," and that blocking access to its market would directly have resulted in a corresponding decrease in the trade volume of the complaining party. Furthermore, arbitrating panels have normally formalized the use of an appropriate counterfactual that would exist if the illegality were removed "at the end of RPT." These two prevailing methods involve at least two prerequisite conditions: (1) nullification or impairment must exist at the end of RPT and (2) the WTO-inconsistent measure must exist at the same time. While the arbitrators' current approach in calculation has been often criticized in several aspects, the matter of calculation in *US – Washing Machines* is far more complicated due to a lack of these two essential assumptions, which is mostly caused by a "country hopping" activity[280] and the unique review

[280] While "country hopping" – i.e. the shifting of sources by a multinational company from one country to another after antidumping investigation is initiated – is not a unique concept defined only in the field of antidumping, it is observed more widely in this area than in any kind of import restrictions. In a sense, it is notable that in The Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations (Dunkel Text) on dumping, the addition of the anti-circumvention rules, including country hopping, reflected mounting concern about those practices prevailing in antidumping area. *See* Horlick, Gary N. "How the

system that the United States conducts annually in AD/CVD proceedings. Consequentially, despite that the AD/CVD measures are the most representative temporary tariff barrier authorized in the WTO, and thus that the conventional metric frequently adopted by arbitrators, i.e. direct trade effect based on the reciprocity approach, is assumed to easily fit in the AD/CVD case, the *US – Washing Machines* case demonstrates it does not, or should not.

This study, in this regard, aims to examine how the arbitrating panel should address actual international trading situations – such as multinational firms" strategic behaviors and countries" domestic regulations on trade – in the Art 22.6 arbitration involving WTO-inconsistent AD/CVD measures. Precisely, the overarching questions in this study are: (1) What is the problem of the current arbitrating practice that assumes a counterfactual that would exist at the end of the RPT and that uses the one-year period immediately following the expiry of the RPT as a basis for the calculation?; (2) Whether or not the Article 22.6 Arbitration can address the changes in factual circumstances that took place during the imposition of the WTO-inconsistent AD/CVD measure through the end of RPT? If so, to what extent they should? For example, how would the appropriate level of retaliation be in cases when exports do not increase because of the shift of production facilities from one country to another at the end of RPT?; (3) Is there any possibility of basing the starting point of calculation for the level of nullification or impairment on the time of imposition of AD/CVD duties?; (4) Does measuring nullification or impairment based on direct trade effects serve as a useful proxy for AD/CVD measures?; (5) Is the economic model (static partial equilibrium model vs. the Armington model) adopted in this arbitration an

GATT Became Protectionist-An Analysis of the Uruguay Round Draft Final Antidumping Code." 27 *Journal of World Trade* 5 (1993), p.11.

appropriate tool to analyze the level of nullification?

2. Measurement of NOI in GATT Practices and the Negotiating History

2.1. From GATT 1947 to 1986 Post Tokyo Round Dispute Settlement

As for general dispute settlement procedures, the GATT had only two articles in treaty text, i.e. Articles XXII and XXIII[281]. It is partly explained by anticipation that the extensive chapter regarding disputes in the International Trade Organization (ITO) charter would have been the umbrella that provides the proper dispute settlement institution[282]. Article XXII stipulates only the right and obligation to access "consultation" for Contracting Parties, whereas Article XXIII provides a more varied set of rules regarding dispute settlement, including "sanctions." More specifically, Article XXIII:2 stresses that a Contracting Party or Parties are authorized to suspend GATT obligations to other Contracting Parties. At the drafting stage of GATT, this "suspension" paragraph had already caused controversy on the level of suspension, that is, on whether authorized suspension should be equivalent to the damage sustained by the complainant or

[281] Jackson (1969) points out that there are at least seven different provisions for compensatory withdrawal or suspension of concessions, including the renegotiation under Article XXVIII, compensation under Article XIX, Article XVIII, Article XII, Article II, and so forth. This paper, for the purpose of analyzing the level of retaliatory measures, limits its focus on Article XXIII that is considered as the centerpiece of dispute settlement procedures. Generally on the GATT dispute settlement procedure, *see* Jackson, John Howard (1969), *supra* note 4, p.166-171; Davey, William J. "Dispute Settlement in GATT." 11 *Fordham International Law Journal* 51 (1987); Plank, Rosine. "Unofficial Description of How a GATT Panel Works and Does Not, An." 29 *Swiss Review of International Competition Law* 53 (1987).

[282] Sutherland, Peter. *The future of the WTO: addressing institutional challenges in the new millennium*. (Geneva: WTO, 2004), p.49. *See* also Jackson, John Howard (1969), *supra* note 4, p.169.

whether it can take more extensive form in a punitive manner.[283] GATT official records indicate that the relevant ITO charter provides that nullified or impaired Member or Members may suspend concessions "to the extent and upon such condition as it considers appropriate and *compensatory, having regard to the benefit which has been nullified or impaired*" (emphasis added).[284] The final ITO Charter text indicates that retaliation is not designed to be punitive but to remain compensatory for the harm done.

Although Article XXIII of GATT does not specify the extent of suspension clearly, the case brought by the Netherlands against the United States in 1953 – the only case in which suspension was authorized throughout the GATT period – demonstrates the shared belief on the notion of "equivalence" under Article XXIII:2 among the Contracting Parties. Pursuant to the US non-compliance on a resolution adopted in the sixth session on "United States Import Restrictions on Dairy Products," the Contracting Parties agree to establish a working party that examines the proposal of the Netherlands concerning retaliatory measures. The working party in the seventh session on "Netherlands Action under Article XXIII:2 to Suspend Obligation to the United States" investigated the appropriateness of the proposal that requested authorization to impose an upper limit of 57,000 metric tons on imports of wheat flour from the United States in 1953[285]. Having determined an upper limit of 60,000 metric tons, the 1952 Report of the working party clarified that they had regard to the countermeasure's "equivalence" to the impairment suffered by the Netherlands due to the US restriction[286]. The working party also considered whether the proposed measure

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[283] *See* also Jackson, John Howard (1969), *supra* note 4, p.169.
[284] HAVANA (ITO) Charter Article 95, para. 3.
[285] Porges, Amelia, et al. *Analytical Index: Guide to GATT Law and Practice*, (Geneva: World Trade Organization, 1995), p.696.
[286] *Ibid.,* p.692-696.

was appropriate in character and whether the extent of the proposed measure was reasonable in terms of impairment suffered. In that aspect, the working party found that a purely statistical test would not be sufficient on its own, rather it should consider several factors like broader economic elements affecting the impairment suffered and the effect of import restriction on non-subject and subject merchandise, as well as on balance-of-payment difficulties with which the Netherlands was confronted[287].

Another GATT case draws attention to the determination on the level of a retaliatory measure. In the French residual restrictions (II) case, the United States proposed suspension of tariff concessions on French products covering the trade of US$12.2 million, which it deemed "equivalent," in response to the failure of France to withdraw import restrictions inconsistent with Article XI [288]. Furthermore, the concept of a counterfactual was introduced in this case. The United States clearly recognized that the amount of US $12.2 million covers only the impairment caused by import restrictions on US agricultural products and is based on a conservative estimate of those that the United States could have exported in the absence of quantitative restrictions[289]. However, the case was settled by bilateral resolution without any substantive determination on how to

[287] *Ibid.,* p.696-697. The determination of 8 November 1952 on 'Netherlands Measures of Suspension of Obligations to the United States' also provides '1) that the measure proposed by the Netherlands Government is appropriate in character, and 2) that, having regard to (i) the value of the trade involved, (ii) the broader elements in the impairment suffered by the Netherlands, and (iii) the statement of the Netherlands Government that its principal objective in proposing the measure in question is to contribute to the eventual solution of the matter in accordance with the objectives and spirit of the General Agreement, the limitation by the Netherlands of imports of wheat flour from the United States to 60,000 tons in 1953 would be appropriate within the meaning of Article XXIII…'. *See* 1S/32-33.

[288] *Ibid.,* p.698.

[289] As for the general outline of the case, *refer* to *supra* note 285, p.693, 698. *See* also Hudec, Robert E. *The GATT legal system and world trade diplomacy*. (New York: Praeger publishers, Inc., 1975), p.241-260.

calculate the impairment sustained to the United States. To sum up, although Article XXIII:2 had a rather looser standard that mandates the extent of suspension to "be appropriate in the circumstance," the "equivalence" conception has been applied in practice even before the Tokyo Round negotiation began. As explained above, GATT cases confirm the diverse types of criteria to assess the equivalence to the extent that economic losses in much broader context as well as foregone export revenues are taken into account.

During the Tokyo Round negotiation where an overall enforcement procedure had improved, Article XXIII did not appear on the formal negotiating agenda until November 1976[290]. The developing countries first raised the issue of Article XXIII reform as one of their interested several "framework" reforms[291]. The dispute settlement proposals made by the developing countries called for increasing the coercive powers available for use against developed countries, including massive retaliation by the entire GATT membership and monetary compensation to injured developing countries[292]. Despite that Article XXIII did not specify directly the nature of the suspension clause, undoubtedly, Contracting Parties agreed that retaliation is the last-resort remedy in the dispute settlement mechanism when the Tokyo Round negotiation concluded. Above all else, "Understanding Regarding Notification, Consultation, Dispute Settlement and Surveillance (1979 Understanding)," which included the annex entitled "Agreed Description of the Customary Practice of the GATT in the Field of Dispute Settlement (Article XXIII:2)," clarifies authorized retaliation as a remedy of last

[290] Hudec, Robert E. "GATT dispute settlement after the Tokyo Round: an unfinished business." 13 *Cornell International Law Journal* 145 (1980), p.157.

[291] Regarding four agreements resulting from the framework negotiations, see Winham, Gilbert R. *International trade and the Tokyo Round negotiation.* (Princeton University Press, 2014), p.274-280.

[292] Hudec, Robert E (1980), *supra* note 290, p.158.

resort that could be taken in the failure of all other actions like a mutually agreed solution, withdrawal of GATT inconsistent measures, or compensation[293]. Furthermore, Contracting Parties sought to achieve more effective dispute settlement system by codifying its own dispute-settlement procedure within each code in connection with nontariff trade barriers (NTBs). While specific questions as to what extent and how the suspension of concessions or obligations should be levied were little discussed in each negotiation on NTB codes, Article 18.9 of the 1979 Agreement on Interpretation and Application of Articles VI, XVI, and XXIII elucidates these questions. In other words, Article 18.9 provides that "[I]f the Committee's recommendations are not followed within a reasonable period, the Committee may authorize *appropriate* countermeasure (including withdrawal of GATT concessions or obligations) taking into account the nature and degree of the adverse effect found to exist (emphasis added)"[294]. Distinct from the foregoing two GATT cases, in 1987, Contracting Parties in the *United States – Taxes on Petroleum and Certain Imported Substances* case steered the debate on whether the equivalence should necessarily be the basis for the level of retaliatory measures, impugning the purpose for which such a retaliatory action was proposed[295]. Especially, the fact that the wording "substantially

[293] Stewart, Terence P (1993), *supra* note 28, p.2698. The original text of Article 4 in the Annex is as following: "[T]he last resort which Article XXIII provides to the country invoking this procedure is the possibility of suspending the application of concessions or other obligations on a discriminatory basis vis-à-vis the other contracting party, subject to authorization by the CONTRACTING PARTIES of such measures. Such action has only rarely been contemplated and cases taken under Article XXIII:2 have led to such action in only one case."

[294] Similarly, the explicit wording of "appropriate" is also found in 1979 Agreement on Technical Barriers to Trade, Art. 14.21 and in 1979 Agreement on Government Procurement, Article VII:14.

[295] In this case, the EEC and Canada requested the Council to authorize suspension of concessions equivalent to the economic injury caused to each party, proposing to levy an additional duty of 2.5% ad valorem in exchange of annual injury of US$7.24 million and US$9.2 million, respectively. On general outline of the case, *refer* to Porges, Amelia, et al. (1995), *supra* note 285, p.694-9.

equivalent" concessions does not appear under Article XXIII:2 whereas it does under Article XXVIII[296] was confirmed again by the Deputy Director-General to indicate that an equivalence itself is not a necessary condition in examining the appropriateness of the proposed retaliatory measure[297]. Rather, the Deputy Director-General noted that "Contracting Parties might wish to determine other factors to consider" in examining the correctness of the assessment of damages. This case was settled as the United States proposed negotiations on the issue of compensatory adjustments pending removal of the GATT-inconsistent aspects of the tax. Rather markedly, the GATT practice and the negotiating history examined thus far demonstrates that Article XXIII of GATT and the newly created provisions of the Codes do not preclude consideration of the impact of various factors in determining the magnitude of NOI. Thus, they do not mandate the assessment of NOI to be purely based on trade effects.

2.2. Uruguay Round Negotiation

Although the concept of equivalence had appeared intermittently in a few cases until the Tokyo Round negotiation, it was explicitly incorporated into the final draft of the Uruguay Round (UR) negotiation, as currently shown in Article 22.4 of the DSU, along with a series of rules and procedures governing retaliation. Starting with the agreement on the need for elaborating blurred procedures to use a retaliatory measure as "last resort"[298], at least in 1990, it seems Contracting Parties shared a basic consensus on the level of retaliation, which should be "commensurate to the damage suffered" or "substantially equivalent to the

[296] The representative of Mexico – one of contracting parties to the dispute – noted this fact first. See GATT Doc. C/M/224, p.17.

[297] GATT Doc. C/M/224, p.19.

[298] Meeting of September 28, 1989, Note by the Secretariat, GATT Doc. No. MTN.GNG/NG13/16 (November 13, 1989), p.3, para.13.

nullification or impairment"[299]. The negotiating history, however, confirmed widely diverged viewpoints on the specific issue of estimating the impairment deemed equivalent. For example, one of the issues entailed the beginning date needed in calculation of the amount of NOI. Several Contracting Parties argued that the beginning date shall be determined as from when the panel report was adopted by the Council[300], the idea of which was incorporated as one of the proposed provisions in the draft text on dispute settlement circulated in September 1990[301]. In their discussion was also included the need to calculate the amount of NOI especially for less developed Contracting Parties based on the date of the introduction of the measure found to be GATT-inconsistent[302]. Moreover, Mexico further proposed an apparatus to enable parties to request for retaliation immediately following the adoption of the report of the panel or the Appellate Body on 12 July 1990.[303] As for the other issue concerning estimation of NOI, one delegation expressed technical difficulties in calculating the level of proposed retaliation, pointing out that in many cases retaliation often involved more general consideration of the appropriateness and reasonableness of a particular action.[304] Indeed, the case "*United States – Taxes on Petroleum and Certain Imported Substances*" presented various types of technical difficulties[305]

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[299] The Draft Text on Dispute Settlement enumerates four tentative options for the provision governing suspension of concessions of other obligations, two of which contain the desired level of retaliation in place. See Draft Text on Dispute Settlement, GATT Doc. No. MTN.GNG/NG13/W/45 (September 21, 1990), p.4-5.

[300] Dispute Settlement Proposal, GATT Doc. No. MTN.GNG/NG13/W/30 (October 10, 1988), p.6.

[301] Draft Text on Dispute Settlement, GATT Doc. No. MTN.GNG/NG13/W/45 (September 21, 1990), p.5.

[302] *Supra* note 300, p.6.

[303] Proposal by Mexico, GATT Doc. No. MTN.GNG/NG13/W/42 (July 12, 1990), p.4.

[304] Meeting of April 3, 1990, Note by the Secretariat, GATT Doc. No. MTN.GNG/NG13/19 (May 28, 1990), p.4, para.15.

[305] *United States – Taxes on Petroleum and Certain Imported Substances*, Follow-up on the Panel report, Note by the GATT Secretariat, See GATT Doc. Spec(88)48 (October 5, 1988)

in assessing whether the calculated amounts of injury and retaliation are appropriate. Those include ascertaining the product coverage, choosing the most appropriate equilibrium analysis, determining demand and supply elasticities, and weighing the relative value of short-term effects versus long-term effects[306], which have been to date controversial issues in some of 22.6 arbitration disputes. The GATT Secretariat in this case made the conclusion open to the parties by suggesting three options based on different assumptions on elasticities.

The Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations (the Draft) in December 1990 contained a few slightly different expressions compared to the current provision. While the Draft limited the role of arbitrator to examine whether the amount of trade covered is appropriate in the circumstance, nowhere is the concept of equivalence to be found. In a separate paragraph, the Draft even leaves open the possibility of determining the amount of suspension before the expiry of the RPT[307]. Despite the intensive debates and attempts during the UR negotiation to consider a range of factors that might affect the level of NOI, the Dunkel Draft Text on Dispute Settlement Integration – which reflected most of the current Article 22 of the DSU – ended up creating a rather narrow and stricter term of "equivalent" without suggesting any parameters for calculating the level of retaliation[308].

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[306] GATT Doc. MTN.GNG/NG13/W/32 (July 14, 1989), p.6.

[307] The original draft is as following: "The amount of suspension (may] [shall, if requested by one of the parties,] be determined before expiry of the reasonable period of time, in accordance with the relevant procedures under paragraph L.3 above, and on the understanding that such suspension shall not come into effect before the expiry of the reasonable period of time." See Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, GATT Doc. No. MTN.TNC/W/35/Rev.1 (December 3, 1990), p.300.

[308] Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, GATT Doc. No. MTN.TNC/W/FA (December 20, 1991), p. T.1-6

3. Legal and Economic Grounds Governing the Measurement of Equivalence

In the calculation of a retaliatory level, WTO Article 22.6 decisions bear a little resemblance to the long-standing GATT practice where the "equivalence" standard often provided a proxy for "appropriateness" for measurement of retaliation and where arbitration panels determined the level of retaliation with a "quantifiable" form, although the explanation provided on calculation method is quite obscure in detail[309]. The parties agreed to elaborate the procedural rules pertaining to remedies under the WTO dispute settlement system; thus, the permissible size of retaliation officially means the equivalent level of nullification or impairment, as enshrined in DSU Article 22.4. Article 22.7 of the DSU also mandates the arbitration panels to determine only if the so-called equivalence standard is met, regardless of the nature of concessions or other obligations to be suspended. In light of the looser standard of "appropriate" suspension in the GATT, the DSU negotiators seem to bear in mind the narrower and less elastic interpretation of the term "equivalence." Nevertheless, a concrete reference to the criteria to measure retaliatory level is not provided in neither the DSU Articles nor the UR negotiating history of DSU Article 22.4, leaving the central question of what exactly "equivalent level" refers to unanswered.

While there has been an attempt to interpret the concept of NOI from the terms of Article XXIII of GATT 1994 and Article 3.8 of the DSU[310], the actual meaning of NOI has not been crystallized in 22.6 Arbitration disputes. Notwithstanding

[309] Hudec, Robert E. "Broadening the scope of remedies in WTO dispute settlement." Improving WTO Dispute Settlement Procedures, eds. Weiss F, Weiss J. Cameron May (2000), p.390.

[310] WTO Arbitration Report, *United States — Continued Dumping and Subsidy Offset Act of 2000 – Recourse to Arbitration by the United States under Article 22.6 of the DSU (United States – Offset Act (Art. 22.6))*, WT/217/ARB (authorized November 26,2004), para.6.6.

the absence of the clear definition on NOI, Article 22.6 arbitration panels have taken "trade effects" approach in almost all cases since the arbitrator first defined the NOI as lost exports in the pioneering Article 22.6 decision *EC – Bananas III (US) (Art. 22.6)*[311]. The decision does not include enough explanations as to why trade effects are favored instead of US firms' costs and profits, only providing the rationale for trade effects in terms of the need for "the same" basis for suspension[312]. Meanwhile, *US – 1916 Act (Art. 22.6)* is the only decision where the criterion of economic loss – rather than trade loss – was used throughout the entire Article 22.6 decisions made so far[313].

Although the arbitrators have not fully explained its choice of trade-effects approach, retaliation with equivalent "trade effects" is, at least in part, economically sensible from a terms-of trade perspective. To simply explain, a country generally enjoys greater national welfare when its terms of trade improves, all else being equal. However, terms of trade gain resulting from an increase in an import tariff – under the assumption that the importing country is "large" –involves a negative externality on foreign exporters. Trade between countries seeking for terms-of-trade gains repeatedly would result in an

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311 WTO Arbitration Report, *European Communities — Regime for the Importation, Sale and Distribution of Bananas – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU (EC – Bananas III (Art. 22.6))*, WT/27/ARB/US, WT/27/ARB/ECU (authorized 18 May 2000), paras. 6.12, 7.1, 7.6.

312 *Ibid.,* para.7.1.

313 The decision insists on the "trade or economic effects" approach while looking at effects very different from prior decisions and not explaining why either one or the other would be relevant in a given case. See *US – 1916 Act (EC) (Art.22.6)* paras. 5.23-25, 7.2. With regard to different criterion used other than "trade effects", Article 25.3 award in *US – Section 110(5) Copyright Act* measures impairment in terms of lost licensing royalties, and Article 22.6 awards involving export subsidy authorize the permissible retaliation based on the magnitude of subsidy. For the purpose of closely looking at "trade effects" approach used in Art.22.6 decisions, the aforementioned decisions are excluded in the scope of this study. *See US – Section 110(5) Copyright Act (Art. 25.3)* paras. 3.17-19. Also *see* Bown, Chad P., and Michele Ruta. "The economics of permissible WTO retaliation" in The Law, Economics and Politics of Retaliation in WTO Dispute Settlement 3 (2010), p.182.

inefficient outcome; hence, the rationale for trade agreements has been often recognized as reducing such a terms-of-trade externality[314]. In a sense, trade-effects approach broadly corresponds to the idea that the terms of trade loss incurred by the exporting country through WTO-violation of the importing country could offset the terms of trade gain originally by the importing country.

Besides, the merit of the trade-effects approach is argued from an economic perspective such that this approach provides a multilaterally stable remedy that accommodates "expectation damages" and facilitates a form of efficient breach[315]. While the arbitrator interprets the fundamental objective of retaliation as inducing compliance,[316] it also clarifies that the upper limit of retaliation termed "equivalent" ensures that retaliation is "not punitive." Taking these two seemingly counterintuitive perceptions together, one can make a possible interpretation that the respondent country is not induced to comply at any cost, but only when doing so is deemed "efficient." To put it differently, a measure is punitive if a cost imposed is so severe that the respondent has no choice but to comply even if such compliance is internationally inefficient[317]. Another definition of "punitive" occurs when the retaliation is so severe that the complainant enjoys higher welfare than if the respondent had not introduced the measure in question at the outset. Keeping this definition in mind, the

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[314] For further exposition of the terms-of-trade theory of trade agreements, see Bagwell, Kyle, and Robert W. Staiger. *The economics of the world trading system*. (MIT press, 2004), Chapter 4.

[315] Howse, Robert, and Robert W. Staiger. "United States–Anti-Dumping Act of 1916 (Original Complaint by the European Communities)–Recourse to arbitration by the United States under 22.6 of the DSU, WT/DS136/ARB, 24 February 2004." 4(2) *World Trade Review* 254 (2005), p. 255-8.

[316] WTO Arbitration Report, *United States – Antidumping Act of 1916 – Recourse to Arbitration by the United States under Article 22.6 of the DSU (US – 1916 Act (EC)(Art. 22.6))*, WT/136/ARB (circulated February 24, 2004), para. 5.8.

[317] Howse, Robert, and Robert W. Staiger (2005), *supra* note 315, p.264.

complainant secures the original level of welfare when the WTO-inconsistent measures are introduced and thus followed by the permitted retaliation, so long as the complainant remains below its best-response tariff. It raises its tariff to the full amount for retaliation, but not in a punitive way. While this circumstance allows for "efficient breach" between any two contracting parties, by that fact, it raises a concern of spillover effects on other contracting parties, leading to instability of the WTO multilateral contracts. The trade-effects approach has its own merit by preventing alteration of third-country trade flows, i.e. spillover effects, when the breach and retaliation is generated by any two countries[318].

Apart from the legitimate rationale for trade-effects approach, there are diverging views in literature on whether to use a broader concept other than trade-trade effects as criteria for measuring NOI. For example, Howse and Staiger (2005) argue that the word "equivalent level" does not necessarily represent trade or economic harm, criticizing the arbitrator's reasoning for rejection of the EC proposal to allow the countermeasure in the form of a "mirror" suspension. Rather, a "normative countermeasure" seeking suspension of symmetrical obligation may be legally endorsed in Art 22.6 decisions in light of the principles of state responsibility[319].

There is another approach to measurement criteria of NOI in a sense that the nature and objective of the WTO treaty is intertwined with the nature and form of harm incurred by the complainant. The multitude objectives stipulated in the preamble to the agreement establishing the WTO[320] give rise to mutual rights

[318] Howse, Robert, and Robert W. Staiger (2005), *supra* note 315, p.270-71.
[319] Howse, Robert, and Robert W. Staiger (2005), *supra* note 315, p.255-8.
[320] The objectives are to raise standards of living, ensure full employment as well as real-income growth and expand production of and trade in goods and services, while at the same time maintaining sustainable development, protecting the environment and ensuring trade-growth for developing countries.

and obligations (referred to as contractual commitments or "entitlements"). Those entitlements include not only the most overarching feature of the GATT and the GATS, i.e. the reciprocal market access, but also the minimum standard entitlements that mandate the Members to abide by the agreed core set of legal standards, rules, and other auxiliary entitlements[321]. In this regard, taking trade-effects as the only possible indicator for NOI may lead to flawed miscalculation because it is inevitable that the nature and form of damage would differ by the entitlements violated. Accordingly, the literature proposed that different standards for any quantification of NOI be adopted in terms of scale and scope, for example, encompassing "lost profits" or "economic gains and losses," as well as "trade effects" approach[322].

The advantage of the broader concept of economic gains/losses approach that can be generally applied for most international matters from a national welfare perspective and that can serve as a better proxy than trade effects for political economy effects is acknowledged. However, it is argued that satisfying the equivalence standard in terms of economic gains and losses are not often achievable in practice[323]. In other words, skepticism arises because a retaliatory

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[321] For further examination on the scope of suspension, nullification or impairment, See Schropp, Simon. "The equivalence standard under Article 22.4 of the DSU: a 'tariflflc'misunderstanding?" in The Law, Economics and Politics of Retaliation in WTO Dispute Settlement 3 (2010).

[322] *Refer* to Schropp, Simon (2010), *supra* note 321; Bernstein, Jason, and David Skully. "Calculating trade damages in the context of the world trade organization's dispute settlement process." 25(2) *Review of Agricultural Economics* 385 (2003); Sebastian, Thomas. "World Trade Organization Remedies and the Assessment of Proportionality: Equivalence and Appropriateness." *Harvard International Law Journal* 48 (2007).

[323] Spamann, Holger. "The myth of 'rebalancing' retaliation in WTO Dispute Settlement practice." 9(1) *Journal of International Economic Law* 31 (2006), p.43. While a theoretical argument can be made in favor of disproportionate retaliation to the extent that WTO remedies facilitate efficient breach, important measurement problems arise in terms of limiting the feasibility of such an approach. *See* Bagwell, Kyle. "Remedies in the WTO: an economic perspective." *Columbia University, Department of Economics Discussion Paper Series* No.0607-09 (2007).

tariff allowing the "equivalent level" of economic gains for the complaining party may not exist in the case at hand. As examined above, whatever the nature and the form of nullification or impairment, trade-effects approach to address WTO-inconsistent "tariff" measures makes sense legally and economically. Therefore, the main argument to make here with regard to the *US – Washing Machines (Art. 22.6)* decision is focused on problematic aspects of the conventional calculation methods that might lead to the incorrect amount of trade effects, rather than that the trade-effect approach itself does not serve as a useful proxy for measurement of NOI.

4. WTO Decisions on a Retaliatory Level before *US – Washing Machines (Art.22.6)*

As of November 2019, the number of suspension requests under the DSU in WTO disputes is 46[324] in total, among which 22 cases[325] have been adjudicated under Article 22.6 proceedings. Table 5 presents 21 arbitrations from 1995 to 2019 and briefly describes the approach to estimate the magnitude of retaliatory countermeasures in each dispute.

Table 5. WTO DSU, Article 22.6 arbitrations, 1995–2019

Case title	Authorization for suspension	Award by the arbitrators	WTO-inconsistent Measures
EC – Bananas (US)	Apr 19, 1999	US $191.4 million per year	Import quotas

[324] The cases in which suspension requests referred to Article 22.6 of the DSU were simultaneously made pursuant to Article 4.10 or 7.9 of the Agreement on Subsidies and Countervailing Measure (ASCM) account for 7.
See http://worldtradelaw.net/databases/retaliationrequests.php (last visited November 14, 2019)

[325] *See* http://www.worldtradelaw.net/databases/suspensionawards.php (last visited November 14, 2019)

EC – Hormones (US)	Jul 26, 1999	US$116.8 million per year	Import quotas
EC – Hormones (Canada)	Jul 26, 1999	CA$11.3 million per year	Import quotas
EC – Bananas (Ecuador)	May 18, 2000	US$201.6 million per year	Import quotas
Brazil – Aircraft (Canada)	Dec 12, 2000	CA$344.2 million per year	export subsidies
US – FSC (EC)	May 07, 2003	US$4, 043 million per year	export subsidies
Canada – Aircraft II (Brazil)	Mar 18, 2003	US$247.796 million per year	export subsidies
US – Anti-Dumping Act of 1916 (EC)	Feb 24, 2004 (circulation)	Amount of Final Judgments and Settlement Awards under the 1916 Act	Non-tariff measures on imports that violate national treatment
US – Offset Act ("Byrd Amendment") (Brazil, Canada, Chile, EC, India, Japan, Korea, Mexico)	Nov 26, 2004	Disbursements Multiplied by Coefficient	Domestic subsidies to import-competing firms
US – Cotton Subsidies (Brazil)	Nov 19, 2009	US$147.4 million for FY 2006; future years calculated based on formula	export subsidies
US – Cotton Subsidies (Brazil)	Nov 19, 2009	US$147.3 million per year	export subsidies
US – Gambling Services (Antigua)	Jan 28, 2013	US$21 million per year	Import quotas
US – COOL (Canada, Mexico)	Dec 21, 2015	Canada: CA$1, 054.729 million per year Mexico: US$ 227.758 million per year	Import quotas
US – Tuna II (Mexico)	May 22, 2017	US$163.23 million per year	Import quotas
US - Washing Machines (Korea)	Feb 8, 2019	US $84.41million per year	AD/CVD measures
EC – Aircraft (US)	Oct 2, 2019	US $ 7,496.623 million per year	export subsidies
US - Anti-Dumping Methodologies (China)	Nov 1, 2019	US $ 3,579.128 million per year	AD/CVD measures

Source: Compiled from http://www.worldtradelaw.net/databases/suspensionawards.php, last visited November 14, 2019.

As examined in earlier literature, WTO arbitrating panels have developed a certain framework composed of counterfactual scenarios, formulas, and quantitative methods[326]. In this section, the examination of the past arbitrations will be focused on specific practices closely connected with the framework used in the *US – Washing Machines (Art. 22.6)* case and the resulting issues.

4.1. The Relevant Time-Frame for Analysis of Counterfactual

Determining an appropriate counterfactual of the WTO-consistent regime is the first step to estimate the level of NOI. Arbitration panels have generally referred to a counterfactual as a hypothetical scenario that describes "what would have happened in terms of trade flows had the responding party implemented the DSB recommendations and rulings"[327]. Along with this definition, the end of the RPT has been regarded as the relevant date at which the counterfactual situation would exist[328] since the *EC – Hormones (Art. 22.6)* case[329]. Setting up the reference period to be analyzed is especially crucial because the factual

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[326] Bown and Ruta (2010), by introducing a simple model based on the reciprocity approach of Bagwell and Staiger (2001), offers an economic analysis on methodologies of arbitrators used to determine the retaliation limit. According to the Bown-Ruta model, the formula that arbitrators used in prior disputes can be divided in to two types, i.e. the "trade effect" formula and the "subsidy" formula. Since retaliation in prohibited subsidy cases is granted on the basis of an "appropriate measure" clause in Article 4.10 of the ASCM, this paper examines the cases that involve the "trade effect" formula only. *See* Bown, Chad P., and Rachel Brewster. "US–COOL Retaliation: The WTO's Article 22.6 Arbitration." 16(2) *World Trade Review* 371 (2017); Bown, Chad P., and Michele Ruta (2010), *supra* note 313.

[327] WTO Arbitration Report, *United States — Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products – Recourse to Arbitration by the United States under Article 22.6 of the DSU (US – Tuna (Mexico) (Article 22.6))*, WT/381/ARB (authorized May 22, 2017), para. 4.4

[328] WTO Arbitration Report, *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services – Recourse to Arbitration by the United States under Article 22.6 of the DSU ((US – Gambling) (Article 22.6 – US))*, WT/DS285/ARB, (authorized December 21, 2007), para 3.41.

[329] The *EC – Bananas III* case, albeit the first Article 22.6 Arbitration dispute, does not mention a notion related with the reference period for purpose of calculating the NOI.

circumstance and data during that period are normally taken into account in the calculation of NOI. The *US – Tuna (Mexico) (Art. 22.6)* case emphasizes the market condition that exists following the end of the RPT, not following the adoption of the WTO-inconsistent measure, i.e. Tuna Measure. When the arbitrating panel assessed the US proposal to use Mexico's share in US imports of tuna products before the adoption of the Tuna Measure, i.e. 1987-89, it found that the United States failed to explain the similarities of market conditions between the 1987-89 period and 2014[330]. Especially, a series of events throughout the dispute such as a vertically integrated Mexican industry and NAFTA's entry into force in 1994 were considered critical elements that significantly affected Mexico's increased share in US imports of tuna products in 2014[331]. The arbitrator's preference for using more recent data was observed coherently when it examined Mexico's model and developed its own analysis. The panel found it reasonable to assume that Mexico would be sufficiently competitive vis-à-vis other suppliers of canned yellowfin and will be the sole supplier of that product in the US market by withdrawal of the Tuna Measure[332]. This assumption was incorporated by using the data of the 2014 period in the economic model that the panel adopted in its determination of NOI. It is noteworthy that the panel considered significant the production capacity and competitiveness of exporters as of 2014 since these factors are inextricably linked to a market supply curve, one of the two core pillars in the partial equilibrium model.

Not only in the *US – Tuna (Mexico) (Art. 22.6)*, most arbitrations under Article 22.6 of the DSU base their analysis on a market situation that would have existed otherwise at the end of the RPT. However, the extent to which the latest market

[330] Arbitration Report, *US – Tuna (Mexico) (Article 22.6), Supra* note 327, paras. 5.138-43.
[331] *Ibid.,* para. 5.102.
[332] *Ibid.,* para. 5.105.

conditions are considered differs from case to case when it comes to a relevant counterfactual. In earlier disputes, the arbitrator used to rely on historical trends of data to project the counterfactual level of trade. The arbitrator in *EC – Hormones (Art. 22.6)* simply considered the average US export volume of edible beef offal (EBO) in the pre-ban period of 1986–1988[333] as a proper indicator for the counterfactual. However, in this case too, the arbitrator decided to reflect the difference between the current market situation and the pre-ban period of 1986–1988. Thus, the arbitrator estimated the 18.4% decline in apparent consumption and made the downward adjustment to the pre-ban exports to the EC[334]. Notably, the panel also adjusted the value of "current exports" at the 75% level of current exports given certain procedural requirement recently imposed by the EC[335].

The *US – Gambling (Art. 22.6)* arbitration also supports the previous practice that would take the most recent market situation into account in calculation of lost exports. The arbitrator considered the reasonable counterfactual to open access to remote gambling services in respect of horseracing only[336]. Due to an inherent uncertainty of underlying data associated with a service sector, the arbitrator attempted to calculate Antigua's revenue loss from remote gambling service exports to the United States by relying on two available data resources[337]

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[333] The ban was first imposed in 1989 and 13 May 1999 is the date of expiration of the reasonable period of time granted to the EC to implement the DSB recommendations and rulings. See WTO Arbitration Report, *European Communities — Measures Concerning Meat and Meat Products (Hormones) – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU (EC – Hormones (US) (Art. 22.6))*, WT/DS26/ARB (authorized July 26, 1999), paras 38, 67.

[334] *Ibid.,* para. 68.

[335] *Ibid.,* para. 73.

[336] Arbitration Report, *US – Gambling (Article 22.6 – US), supra* note 328, paras.53-61.

[337] Two data resources indicate the data on Antigua's annual remote gambling revenues from the Quarterly eGaming Statistics Report of the private gambling consulting group 'Global Betting and Gaming Consultants (GBGC) on the one hand, and the information on revenues per employee in the remote gambling sector on the other hand. *See* Arbitration Report, *US – Gambling (Article 22.6 – US), supra* note 328, paras.3.176-80.

in which Antigua's 2001 revenue and the actual revenue in each year from 2002 to 2006 became the basis of calculating the revenue loss. This case implies that the arbitrator adjusted this time series data for the apparent impact of competing suppliers since 2002 to take the revenue loss attributable to the US measures only. Moreover, it implies that the arbitrator took account of the growing US demand for gambling services on horseracing.

The last 22.6 arbitration dispute to be addressed in terms of the time-frame is the *US – COOL (Art. 22.6)* case. As a basic formula for the calculation of NOI, the panel decided to assess the export revenue losses defined as the difference between the export revenue with and without the COOL measure in the baseline period of 2014[338], principally relying on linear regression analysis. Under this methodology, the panel predicted the counterfactual level for export price and quantity based on correlation obtained from past data between the dependent variables and relevant factors affecting them. This methodology involved controlling for factors, namely, transport costs, recession, feed costs, drought events, and competing imports, in order to focus solely on the impact of the COOL measure on the exported price and volume in 2014[339]. One distinct feature in its methodology is the use of the price basis expressed as a difference between the US price and the export price of Canada and Mexico, not the use of the actual export price itself. The panel underscored the advantage of the price basis analysis because it is a "standard way of measuring trade costs caused by non-tariff measures" and it can restrict relevant variables to those that differentially

[338] WTO Arbitration Report, *United States — Certain Country of Origin Labelling (Cool) Requirements – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU (US – COOL (Art. 22.6))*, WT/DS384/ARB, WT/DS386/ARB (authorized December 21, 2015), para 6.27.

[339] *Ibid.,* para 6.46.

affect the US price and the export price of livestock[340]

To summarize, it is noted that the 22.6 arbitration practices preferred to take the relevant time period for analysis of counterfactual and for calculation of NOI as close to the end of the RPT as possible. Such practice is also consistent with the nature of remedies in WTO dispute settlement where the countermeasure against non-compliance is prospectively authorized when a reasonable period of time for implementation completely lapsed.

4.2. Methodology for Quantification of NOI

A wealth of academic literature has explained the methodologies used in past arbitrations in terms of the economic theory of reciprocity[341], to put it differently, in terms of how much trade are affected by WTO-inconsistent measures. The key point is that a methodological approach has been increasingly sophisticated in a move that attempts to measure the level of NOI more precisely. This sub-section examines the essentials of the methodologies adopted in previous arbitrations and the main findings in relation to non-trade – including indirect trade – effects on establishing the amount of NOI.

4.2.1. Conventional Approach to Estimating Direct Trade Effects

As the arbitrator in *US – COOL (Art. 22.6)* mentioned, "no methodology is perfect"[342] for quantification of the NOI because it necessarily entails certain assumptions. Therefore, it should be noted that the amount of NOI is a "reasoned

[340] *Ibid.,* para 5.54.

[341] As for the literatures concerning economic models or formula used in prior arbitrations, generally see Bown, Chad P., and Joost Pauwelyn, eds. The law, economics and politics of retaliation in WTO dispute settlement. No. 3. (Cambridge University Press, 2010); Bown, Chad P., and Rachel Brewster (2017), *supra* note 326.

[342] Arbitration Report, *US – COOL (Art. 22.6)*, *supra* note 338, para. 6.3.

estimate" based on credible, factual, and verifiable information[343] as accurately as possible. As illustrated in Table 6, past 22.6 arbitrators adopt one of two types of methodological approach, depending on whether that approach is feasible and data are readily available. The first type is the ex-post approach that uses historical data under the assumption that past relations continue to be relevant[344]. The other type is the ex-ante approach that involves projecting the effect of a policy change onto a set of economic variables of interest[345].

Table 6. Methodology used to estimate a trade effect in DSU Article 22.6 Arbitration disputes (1995–2019)

Case title	WTO-inconsistent Measures	Objective of measurement	Measurement methodology for counterfactual price and quantity
EC – Bananas (US)	Import quotas	Export revenue loss	No explanation provided
EC – Hormones (US)	Import quotas	Export revenue loss	Ex-post approach (Comparison of historical data before pre-ban of beef to the actual export value)
EC – Hormones (Canada)	Import quotas	Export revenue loss	Ex-post approach (Comparison of historical data before pre-ban of beef to the actual export value)
EC – Bananas (Ecuador)	Import quotas	Export revenue loss	No explanation provided
US – Offset Act ("Byrd Amendment") (Brazil, Canada, Chile, EC, India, Japan, Korea, Mexico)	Domestic subsidies to import-competing firms	Export revenue loss	Ex-ante approach (Disbursements multiplied by coefficient)
US – Gambling Services (Antigua)	Import quotas	Export revenue loss	Ex-post approach (Comparison of historical data before imposition of US measure to the most recent export revenues)

[343] Arbitration Report, *US – COOL (Art. 22.6)*, *supra* note 338, para. 6.3.
[344] UNCTAD, WTO. "A practical guide to trade policy analysis." In United Nations Conference on Trade and Development and World Trade Organisation. 2012, p.8.
[345] *Ibid.*

US – COOL (Canada, Mexico)	Import quotas	Export revenue loss	Ex-post approach (Linear regression analysis)
US – Tuna II (Mexico)	Import quotas	Export revenue loss	Ex-ante approach (Partial equilibrium model)

Source: Compiled from http://www.worldtradelaw.net/databases/suspensionawards.php, last visited March 29, 2019.

This sub-section primarily examines the ex-ante approach because the ex-post approach used in the disputes was discussed in Section IV.A already. Three arbitrations take the ex-ante approach to estimate the counterfactual level of export price and volume, namely, *US – Washing Machines (Art. 22.6)*, *US – Offset Act (Art. 22.6)*, and *US – Tuna II (Art. 22.6).*

The *US – Offset Act (Art. 22.6)* is the first arbitration that relied on an economic model to estimate the trade effect[346]. By that fact, the arbitrator seems to be particularly mindful of the complexity that applying an economic model might cause[347]. While the Requesting Parties argued that the amount of the annual offset payments should constitute the retaliatory limit[348], the United States claimed that the level of NOI must be established on the basis of trade loss suffered by the Requesting Parties[349]. The economic model proposed by the United States is basically to project a change in domestic price caused by the disbursements into a set of economic variables determining the response of domestic and foreign firms to such change. The United States considers that the CDSOA disbursements do not affect the domestic price, and the trade effect is therefore zero or marginal[350].

[346] While economic modelling has been applied in the *US – FSC (Art. 22.6)* before *US – Offset Act (Art. 22.6)*, this study excludes the arbitrations carried out under Article 4.10 and 4.11 of the SCM Agreement from our analysis of interest.
[347] Arbitration Report, *US – Offset Act (Art. 22.6)*, *supra* note 310, para. 3.79.
[348] *Ibid.,* para. 2.17.
[349] *Ibid.,* para. 3.1.
[350] *Ibid.,* para. 3.84.

The arbitrator was clearly inclined to the well-specified US model when the arbitrator opted for the "trade effect" approach. Because of insufficient data to run that model, however, it determines to modify the model proposed by the Requesting Parties which deems to be feasible and to provide more credible results[351]. The formula to derive the trade effects of disbursements was described as the product of four variables: the value of the disbursements, a measure of the price reduction caused by the disbursements ("pass-through" in the expression of the report), a substitution elasticity of imports, and import penetration[352]. The remaining task in applying this model was to assign a single value of the product of the latter three elements, referred to as a "coefficient." The arbitrator obtained the 36 estimates for a trade effect coefficient by creating a matrix for the ranges of assumed elasticities of substitution and assumed pass-through values for 2001, 2002, and 2003[353]. Then simply taking the average of the middle one of each matrix for each year, the level of nullification or impairment was established as the amount of disbursements under CDSOA multiplied by 0.72[354].

The arbitrator in the *US – Tuna II (Art. 22.6)* firstly uses a partial equilibrium model to calculate the level of NOI, as a re-specified form of the original proposal by Mexico. The basic assumption underpinning this model is that the Tuna Measure has restricted Mexico's supply of canned yellowfin to the US market, and therefore, the impact of this policy withdrawal is modeled as an exogenous shift in supply, that is, a shift to the right of the export supply curve of canned yellowfin[355]. Figure 5 illustrates the partial equilibrium model approach used in this case.

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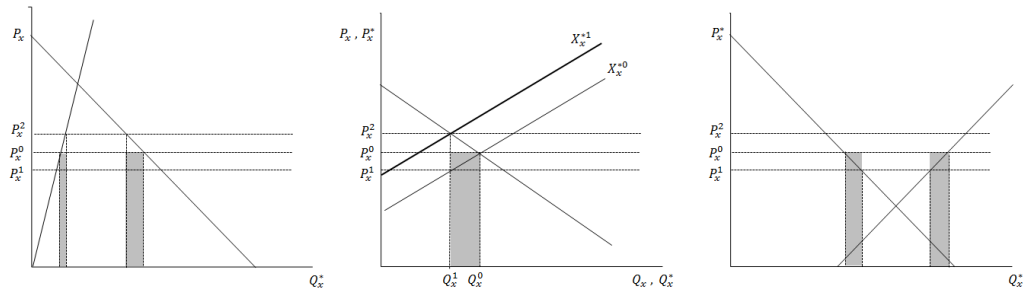
[351] *Ibid.,* para. 3.77-8.
[352] *Ibid.,* para. 3.117.
[353] *Ibid.,* para. 3.145
[354] *Ibid.,* para. 3.146.
[355] Arbitration Report, *US – Tuna II (Art. 22.6)*, *supra* note 327, para. 5.156.

Figure 5. Trade effects of a WTO-inconsistent non-tariff measure[356]



The main task under this approach lies in identifying the equilibrium level for the export price and the quantity of canned yellowfin under the assumption of right shift in the export supply curve by virtue of the withdrawal of the Tuna Measure. Accordingly, the arbitrator began by examining the demand and supply function of canned tuna products in Mexico and in the United States and parameterized the model. First of all, the arbitrator modeled the demand for canned tuna in both countries as a consumer decision between two products, i.e. canned yellowfin of higher quality and generic tuna of lower quality[357]. Then, it examined the essential determinants to specify the demand function, namely, the price of the product, preferences for yellowfin versus generic tuna, and two parameters, namely, the demand intensity and the elasticity of demand. Additionally, the share of US retailers that would sell Mexican canned yellowfin was taken into account in specifying the demand function in the US market. For the supply of canned tuna, the arbitrator began by delimiting the export supplier of canned yellowfin in the US market as Mexico only[358]. The next approach in relation to the value of the export supply elasticity to ascertain the shape of

[356] Bown, Chad P., and Joost Pauwelyn, eds. (2010), *supra* note 341.
[357] Arbitration Report*, US – Tuna II (Art. 22.6)*, *supra* note 327, para. 6.12.
[358] *Ibid.,* para. 6.51.

Mexico's supply curve is noteworthy in light of the rising issues in the *US – Washing Machines (Art. 22.6)* arbitration. The arbitrator found that the export supply of canned yellowfin to the US market was infinitely elastic until a threshold quantity equal to Mexico's production in 2014, beyond which it became perfectly inelastic[359]. As rationales to allow for an infinite elasticity up to a threshold, the arbitrator pointed to Mexico's significant advantage in the US market that was largely attributable to duty-free access under NAFTA rules, physical proximity to the United States, and the consequent lower transportation costs[360].

Unlike the export supply of canned yellowfin, the world export supply of canned generic tuna to the United States was considered to comprise imports from the rest of the world as well as from Mexico. The elasticity of export supply that deems critical in the shape of that curve was assigned a finite value based on the presumption that the United States functioning as a "large country" would affect the world price, thereby necessarily facing the imperfectly elastic curve of world supply[361]. Taking all elements mentioned above into consideration, the arbitrator obtained the result of the counterfactual export price and quantity of canned yellowfin from the model. Furthermore, it also confirmed the result is consistent with the initial prediction that the export price derived will be lower than the actual 2014 price by the modeled increase in the supply of canned yellowfin to the United States[362].

[359] *Ibid.,* para. 6.52.
[360] *Ibid.,* para. 6.51.
[361] *Ibid.,* para. 6.66.
[362] *Ibid.,* para. 6.74-6.

4.2.2. Approach to Beyond-Trade Effects

US – Anti-Dumping Act of 1916 (Art. 22.6) is the only case that adopted the broader concept of economic effect in the calculation of NOI. The Anti-Dumping Act of 1916 allows civil actions and criminal proceedings to be brought against an alleged dumping importer or producer under certain conditions. Notably, the disputed provision has never been used against the EC until the moment the dispute under Article 22.6 initiated. Thus, the arbitrator first clarified that the level of NOI was not and could not be "zero" when the original Panel and the Appellate Body found the violation of the covered WTO law. In other words, although the presumption of NOI by virtue of that violation does not automatically render a given level of NOI, there is no doubt that such infringement nullifies or impairs the benefit accruing to the Member concerned[363]. And then, the arbitrator sought a meaningfully quantified amount of NOI, instead of accepting the EU's proposal to adopt an "equivalent regulation to the 1916 Act against imports from the United States"[364].

Unlike other 22.6 arbitrations that based their analysis on "trade effects," the level of NOI in this case was composed of any final judgments and settlements awards entered against EC companies under the 1916 Act up to the cumulative monetary value of the final judgments and settlements.

4.3. Causation, Quantification, and Non-Trade Effects

In measuring the level of NOI based on direct trade effects, an attempt to consider non-trade effect or factors that might ambiguously affect direct trade effect has been routinely thwarted in past Article 22.6 decisions because of being

[363] Arbitration Report, *US – Anti-Dumping Act of 1916 (Art. 22.6)*, *supra* note 316, para. 5.48-50.
[364] *Ibid.,* para. 2.1.

"too remote," "too speculative," or "not meaningfully quantifiable."

4.3.1. Causation

For starters, arbitrators confirmed factors that are "too remote" or "too speculative" to include in the calculation of NOI. In the case of *EC – Bananas III (Art. 22.6)*, the United States contended that export losses of agricultural inputs, e.g. fertilizers, from the United States to certain Latin American countries should be included in the calculation of NOI[365]. However, the arbitrator rejects this argument because such losses of inputs do not constitute the lost trade in goods or service, rather result in possible risk of NOI "double-counting" . It also clarifies that the loss of US exports between the US and third countries does not constitute NOI of even *indirect* benefits accruing to the United States in this case[366].

The *US – Hormones (Art. 22.6)* case addresses a similar issue regarding the possibility of an allegedly increased amount of export losses incurred by an uncertain element. The United States argued that the marketing and promotional efforts should be taken into account in calculating the amount of NOI, which had been stopped because of the import ban. Justification is presumably that such marketing activities would have realized higher export revenue but for the hormone ban. However, the arbitrator did not accept the argument based on remoteness in a causal link between the hormone ban and the alleged lost exports too remote[367],

Some of the foregone export revenues attributable to factors other than violation were disregarded on the same ground mentioned above in determining

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[365] Arbitration Report, EC – Bananas III (Art. 22.6), *supra* note 311, paras. 6.6.
[366] *Ibid.,* paras. 6.12-19.
[367] Arbitration Report, *EC – Hormones (US) (Art. 22.6)*, *supra* note 333, paras. 76-7.

the level of NOI. As briefly explained in Section IV.A, increased competition among suppliers in other countries in *US – Gambling (Art. 22.6)* formed part of the main causes of Antigua's loss in market share, with the US measures together. In trying to disentangle pure impacts of a loss in market competitiveness and impacts of the US measures on the gambling revenues of Antigua, the arbitrator adjusted for the decline in its relative contribution to the region's global market share for each year 2002 to 2006, given that the whole region Antigua belongs to is affected equally by the US measures[368].

4.3.2. Quantifiability or Non-Trade Effects

The other type of assessment involves the claim for "not meaningfully quantifiable" factors or "non-trade effects." The *US – Anti-dumping Act of 1916 (Art. 22.6)* case addressed the claim for "chilling effect" and "litigation cost" for determining the level of NOI. The main reasoning for rejecting the inclusion of such effects in its calculation was the inability of quantification or the absence of "meaningfully quantified" amount[369].

When it comes to consideration of broader economic effects, rather than focusing on direct trade effects, there have been several arguments by complaining parties. However, all awards except the *US – Anti-Dumping Act of 1916 (Art. 22.6)* case strictly limited the scope of NOI to the "trade effects" only. In *EC – Banana (III) (Ecuador) (Art. 22.6)*, Ecuador's argument that "the total economic impact of the EC banana regime should be taken into account by the Arbitrators by applying a multiplier" was rejected by the failure of Ecuador to

[368] Arbitration Report, *EC – Gambling (Art. 22.6)*, *supra* note 328, para. 3.181-2.

[369] Arbitration Report, *US – Anti-Dumping Act of 1916 (Art. 22.6)*, *supra* note 316, para. 5.69-78. As another important reasoning to reject the claim for 'litigation costs', the arbitrators is of view that legal fees cannot be claimed as a loss of benefits accruing to a WTO Member.

include this argument in its initial request of determining the NOI[370]. In a similar vein, while Antigua in *US – Gambling (Art. 22.6)* insisted on inclusion of "indirect" effects occurred to other sectors of the economy in the level of NOI, the arbitrator decided not to use any multiplier reflecting the aggregate change in output for a unit change in demand[371].

The question of whether to include any economic losses caused by domestic price suppression was examined in *US – Cool (Art. 22.6)*. While the arbitrator excluded the sales loss in domestic markets from the scope of NOI basically on the ground of a weak causal link between the violation and the claimed effect, it refuted the notion of Canada and Mexico that "nullification or impairment of benefits" refer to "any adverse effects" related to the violation of national treatment obligations at issue by providing three reasons. First, the arbitrator clarified the terms of "benefits being nullified or impaired" and the "right of national treatment" are distinguished concepts, and thus the right to national treatment does not itself establish the scope of benefits[372]. Moreover, the phrase "directly or indirectly" stipulated in Article XXIII:1 of the GATT 1994 or Article 26.1 of the DSU cannot be read as a definitive reference to the scope of nullification or impairment[373]. Second, the panel found that interpreting the terms "nullification or impairment of benefits" in a manner that embraces the sales loss in domestic market is not harmonious with other provisions within the DSU and the SCM Agreement. In other words, the provisions like Article 21.8 and 22.3(d)(ii) of the DSU, and Article 5 of the SCM Agreements provide for consideration of domestic economic effects in specific context, which are distinct

[370] Arbitration Report, *EC – Bananas III (Art. 22.6)*, *supra* note 311, para24
[371] Arbitration Report, *EC – Gambling (Art. 22.6)*, *supra* note 328, para. 3.123.
[372] Arbitration Report, *US – COOL (Art. 22.6), supra* note 338, paras. 5.15-6.
[373] *Ibid.,* para. 5.17.

from the concept of "nullification or impairment"[374]. Lastly, the arbitrator highlighted the difference between the means and the objectives by citing the preamble of the WTO Agreement. To put it simply, the arbitrator found that broader economic gains – including those obtained in a domestic market – is an objective to be sought by trade and market access while trade itself is a means and a benefit to be protected under the covered agreements[375].

5. Findings in the *US – Washing Machines* 22.6 Arbitration

The arbitration panel in *US – Washing Machines (Art. 22.6)* follows the traditional approach that has been generally accepted by previous cases to quantify the amount of NOI. They divide their analysis into "as applied" measures on washing machines from Korea and "as such" measures on any product other than washing machines, as requested by Korea[376].

5.1. Counterfactual and Timeframe in "As Applied" Measures on Washing Machines

First of all, both parties agreed that the appropriate counterfactual is what the value of Korea's 2017 exports of Large Residential Washers (LRWs) into the United States would have been had the United States brought its AD/CVD measures into conformity following the end of the RPT[377]. They, however, disagreed on a particular approach for this hypothesis, which is largely summarized into two. One is whether WTO-inconsistent AD/CVD measures

[374] *Ibid.,* paras. 5.18-20.
[375] *Ibid.,* paras. 5.21-3.
[376] Arbitration Panel report, *US – Washing Machines (Art.22.6), supra* note 153, para. 1.18.
[377] Written submission of the United States (March 23, 2018), para.93.

should be terminated or modified to a certain degree of reduction only. The other is whether the arbitration panel should consider the absence of production facilities for LRWs in Korea resulting from the multinational firms' business decision when calculating the level of NOI. The United States argued that there would be no increase in the US imports from Korea at the end of the RPT due to production relocation, and thus that the current value of the US imports from Korea would remain the same at its best, resulting in no nullification or impairment sustaining to Korea[378].

For the reference period for analysis, the arbitrating panel opted for one calendar year of 2017 – in which the RPT ended – as the relevant time-frame of analysis. This is also consistent with the prior arbitrating practices whereby the one-year period immediately following the expiry of the RPT was used as a basis for the calculation[379].

As for the first issue, the arbitration panel noted that the DSB's recommendations and rulings on AD measures concerned the invocation and application of the "exceptional" W-T methodology set out in 2.4.2 of the ADA[380]. Consequently, they considered that the application of a "normal" comparison methodology is a reasonable and plausible scenario reflecting the benefits expected to accrue to Korea[381]. While the panel does not clarify the exact scenario by which the DOC could reach a satisfactory compliance, the compliance to discontinue the use of the exceptional W-T method would necessarily lead to the use of normal comparison methods, not to termination of the whole AD investigation proceeding. Meanwhile, with regard to the counterfactual for

[378] Integrated executive summary of the United States (July 5, 2018), para. 2.
[379] Arbitration Report, *US – Washing Machines (Art. 22.6)*, *supra* note 153, para 3.43.
[380] *Ibid.,* para. 3.27.
[381] *Ibid.,* para 3.30.

countervailing duty measures, the panel considered the zero rate – rather than the withdrawal of the measure – to be a reasonable proxy in calculation of the level of NOI[382].

Normally, the expectation for the next step would be to quantify the level of NOI by using an economic model or formula. Beforehand, the United States requests the panel to deal with a new issue that has never been addressed in previous cases, i.e. the effect of production relocation on the level of NOI. The panel refused to accept this request for three reasons: first, the United States failed to propose a "meaningfully quantified" amount of NOI based on any empirical (or econometric) evidence[383]. Rather, the panel finds that the US argument simply relies on "unsubstantiated" statements of LG and Samsung to support its argument that the amount is allegedly "zero." As for the second reason, the panel noted the conflicting views of both parties on the "intent" behind the strategic decision of Korean exporters to shift production facilities to other countries. While the panel seemed to bear in mind a temporal correlation that might have existed between the production relocation and the imposition of WTO-inconsistent AD/CVD measures, it did not come to a definitive answer to what extent the intent of production relocation is associated with the calculation of NOI. Lastly, the panel ignored this issue in that the result of a calculation of the NOI submitted by the US is not insignificant and certainly not zero[384]. In fact, that result was derived from the assumption that production relocation would not have occurred at the outset, which is inappropriate for the argument of what the NOI would have been when the production relocation was made. Overall, despite the reasons mentioned above, they do not seem to provide the reasoned and

[382] *Ibid.,* para 3.41.
[383] *Ibid.,* para 3.49.
[384] *Ibid.,* para 3.51.

adequate basis to justify why they rejected the argument of the effect of production relocation on the NOI.

5.2. Economic Model and Data Used in 'As Applied' Measures on Washing Machines

Once an appropriate counterfactual is established, estimating the NOI as accurately as possible depends on the realm of an economic model and data to be used. In this case, two competing economic models proposed by Korea and the United States – both are all industry-specific partial equilibrium models – show the fundamental difference in their underlying assumption of how much substitutable between domestic products and subject imports[385]. While Korea assumes perfect substitution between products from the two source countries, the United States argues that they are imperfect one which is mainly attributable to highly differentiated, branded consumer products. According to the United States, the LRWs are not a homogeneous good like gasoline or other intermediate commodities for which choice of consumers only hinges on change in price[386]. Ironically, the United States to favor the perfect – at least high degree of – substitutability in the global safeguard investigation is now taking the opposite position in this arbitration, and inversely for Korea. The arbitrator acknowledges that LRWs are an imperfect substitute in the US oligopoly market. The result of the global safeguard investigation on LRWs helps convince the arbitrating panel that LRWs are not a homogenous good, even though the investigation concluded that price is the utmost important factor in the LRWs market[387] and that domestically produced and imported LRWs are comparable in terms of non-price

[385] *Ibid.,* para 3.57.
[386] U.S. Responses to Advance Questions (Public Version), May 14, 2018, para. 91.
[387] USITC LRWs 201 Report, p.27-8.

factors like product quality, features, brand awareness, product range, etc.[388] Accordingly, the Armington-based model incorporating the estimate of substitution elasticity was regarded as more suitable in the case involving the LRWs industry.

After choosing the relevant economic model, the arbitrator then determines the counterfactual levels for trade volumes and prices to compare with actual levels for the reference period. The process to estimate the counterfactual levels necessarily requires the use of past data[389]. This case is distinct from previous cases because the arbitrator declined to use the actual volume of imports from Korea in 2017. Instead, it calculated an adjusted trade figure for 2017 that accounted for the depressing effect of the WTO-inconsistent AD/CVD measures applied in 2012[390], i.e. by multiplying the 2012 market share of Korea by the 2017 LRWs market of the United States. Then, the arbitrator calculated the amount of NOI as the difference between the value of export under a certain reduced AD duty rate resulting from the W-W comparison methodology and that under WTO-inconsistent AD duty rate by applying the Armington based model. By applying the same procedure to the WTO-inconsistent CVD duties as well, the Arbitrator determined that the level of NOI amounted to USD 74.40 million and UDS 10.41 million for the WTO-inconsistent AD and CVD measures respectively.

5.3. Findings Associated with 'As Such' Measures on Other Products

The arbitrator makes a separate formula to estimate the level of NOI

388 USITC LRWs 201 Report, p.28.
389 Bown, Chad P., and Rachel Brewster (2017), *supra* note 326, p.388.
390 Arbitration Report, *US – Washing Machines (Art. 22.6), supra* note 153, para 3.118.

concerning "as such" measures, for which both parties have not indeed focused their attention as enough as for "as applied" measures during the proceeding[391]. First, the arbitrator considered the reasonable counterfactual to use the value of zero as a proxy figure to take the place of AD duty rates based on W-T margins in future anti-dumping orders, to the extent that margins calculated in a WTO-consistent manner – e.g. under W-W or T-T comparison methodologies or even under "adverse facts available" – would not influence on the calculation of NOI.[392] Then, it presented the formula as a product of a coefficient for the HS-chapters to which non-LRW products belong, determined by the market share of the complaining party and the demand, supply, and substitution elasticities of the product under consideration; the value of imports from Korean firms subject to WTO-inconsistent duties; and the portion of difference between the WTO-inconsistent duty rate and zero out of the sum of one plus the WTO-inconsistent duty rate.[393] The coefficient was meant to capture the trade response to the tariff whereby it allows the calculation of the trade loss caused by a WTO-inconsistent AD measure[394]. By simplifying the parameter values that constitute the coefficient, the arbitrator provided pre-determined coefficients at the HS chapter level so that the formula can be practicable to implement and predictable in estimating the NOI in real[395].

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[391] While Korea has proposed to use the same formula as that submitted for LRWs to calculate the level of NOI, it has not described the data source in a sufficiently detailed manner in terms of two crucial inputs, i.e. the elasticities and Korea's import share, according to the arbitrator's consideration. The United States has not proposed a formula or any other specific approach to estimate the NOI with regard to 'as such' measures. See Arbitration Report, *US – Washing Machines (Art. 22.6)*, *supra* note 153, paras. 4.26-44.

[392] *Ibid.,* paras. 4.22-3.

[393] *Ibid.,* paras. 4.58-9.

[394] *Ibid.,* para 4.62.

[395] *See Ibid.,* paras. 4.49-50, 53, 63, 70, 74-5, 80, 116-17,

6. Issues Arising from the Calculation of NOI Concerning Non-Compliant AD/CVD Actions

While the conventional metric based on direct trade effects are sometimes criticized for not addressing violations of cross-sectoral and/or non-market access-related obligations effectively[396], one might think that this approach will be fitted in AD/CVD cases well, given that AD/CVD duties represent the typical temporary "tariff" barriers. However, the *US – Washing Machines (Art. 22.6)* decision poses a difficulty of quantifying the "equivalent" level for retaliation against tariff-related violations due to the constraint of the method and assumptions accompanying this approach.

6.1. Determination of Actual and Counterfactual Level of Export Value

The first thing worth highlighting is that the arbitrator calculates the level of NOI based on the 2012 US market share of Korea and the 2017 US market size of LRWs. Previous arbitrations have had a clear preference to compare the "actual" export value for the reference period close to the end of RPT with the counterfactual level. In contrast, the arbitrator in *US – Washing Machines (Art. 22.6)* constructed a trade figure denoted by the product of 2012 market share of Korea and 2017 US market size as a basis for comparison with the counterfactual level for export value. Importantly, once the initial trade figure that reflected the effect of the WTO-inconsistent duties was determined, the process of solving the Armington based partial equilibrium model does not entail any adjustment for market share or market size when the arbitrator calculates the counterfactual level

[396] Schropp, Simon (2010), *supra* note 313.

for export value. Rather, the model gives rise to the pure effect of reduced tariffs on the export value, treating all other parameters including the market share or market size as given. In this aspect, estimating the appropriate market share and size is especially crucial in applying the partial equilibrium model at the outset.

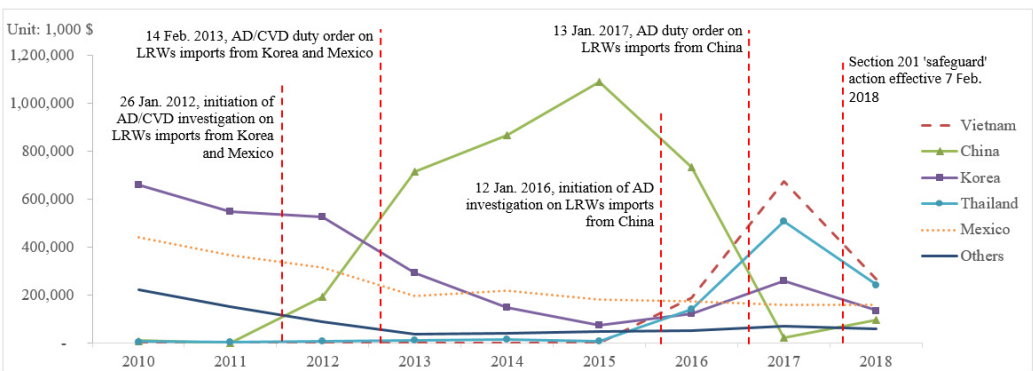
Although there is no express rule in the DSU prescribing the time-frame for determining the level of NOI, the decision to use the 2012 US market share of Korea to determine the value of LRWs import from Korea in 2017 obviously deviates from the past practice where the arbitrator attempted to include the most recent market factors in determining both actual and counterfactual levels for export value. The main rationale underpinning that decision in this case stems from the concern that the level of NOI may be severely reduced because of the shrunk size of trade in 2017. The arbitrator acknowledges the counterintuitive aspect of the method in which the more an inconsistent measure causes the trade to fall, the smaller the resulting level of NOI would be when the most recent import volume is used[397]. Along with this rationale, the decision not to use the actual export value in 2017 needs to be evaluated by examining the two factual circumstances relating to this AD/CVD case.

The first circumstance concerns the multinational firms' strategic decision in response to change in tariffs since the AD/CVD investigation on LRWs was initiated. Almost simultaneously with imposition of the AD/CVD duties on LRWs from Korea and Mexico in February 2013, China quickly became the top source country for LRWs imports to the United States. In fact, it was the outcome of multinational firms' strategy to shift production facilities in order to avoid AD/CVD duties imposed on LRWs from Korea and Mexico. As shown in Figure 6, when the AD investigation was initiated in 2016 on Chinese imports, for

[397] Arbitration Report, *US – Washing Machines (Art. 22.6)*, *supra* note 153, para. 3.115.

virtually all of which were produced by LG and Samsung[398], those firms shift their production again to Thailand and Vietnam. Consequently, a repeated failure of the United States to block the imports of LRWs finally spawned the investigation for invoking "safeguard" tariffs irrespective of the source in 2017[399]. As result of the serial import-restrictive policies, the total volume of LRWs imports to the United States in 2018 has decreased by 43.27% (from US$ 1,691 million in 2017 to US$ 960 million in 2018). Especially pressed by the continuing tariffs threats, both LG and Samsung decided to build manufacturing plants in the United States and started to produce LRWs since early 2019[400].

Figure 6. US imports of large residential washers by country (2008–2018)



Note: Data were compiled at HTS 10-digit subheading (i.e. subheading 8450.20.0090 for 2010–

398 U.S. International Trade Commission, Large Residential Washers from China, Investigation No. 731-TA-1306 (Final), publication 4666, January 2017, p.17.

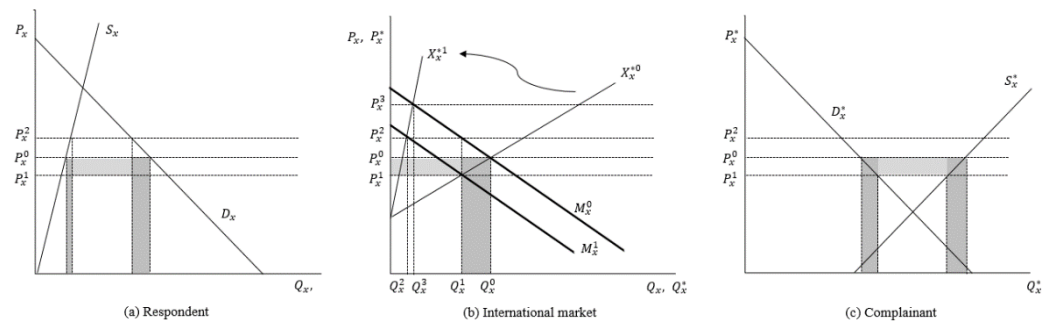
399 In the final announcement regarding imposition of safeguard tariffs, the Trump administration excluded the imports of LRWs from certain countries from the scope of imports subject to the safeguard tariffs, including Canada. See USTR, Factsheet, "Section 201 Cases: Imported Large Residential Washing Machines and Imported Solar Cells and Modules", 22 January 2018. Regarding the safeguard investigation, see U.S. International Trade Commission, Large Residential Washers, Investigation No. TA-201-076, publication 4745, December 2017 (hereinafter, USITC LRWs 201 Report), p.52-63.

400 Andrew Tangel and Josh Jumbrun, "Whirlpool Wanted Washer Tariffs. It Wasn't Ready for a Trade Showdown", The Wall Street Journal, July 16, 2018. Also see, Kyorye Kim, "LG started to operate a new factory in the United States", Edaily, December 12, 2018.

2014 and subheading 8450.20.0040 and 84050.20.0080 for 2015-2018 as statistical reporting numbers HTS 8450.20.0040 (top loading) and 8450.20.0080 (other machines) were added to create a separate provision for large-capacity top-loading washers. See USITC LRWs 201 Report, at I-24.
Source: Compiled by author from https://dataweb.usitc.gov/, visited March 27, 2019.

Rather remarkably, a shift in production described as the "country-hopping" activities resulted in a significant reduction of production capacity in Korea. Although LG electronics received zero rate of AD duties in the recent administrative reviews, the total imports of LRWs from Korea to the United States amount to US$ 258 million and US$ 135 million in 2017 and 2018, which fall behind a fully recovered magnitude of imports, i.e. US$ 525 million in 2012, the year when the AD investigation was initiated. It is not certain whether operating incomes of individual firms have exacerbated due to production relocation. Presumably, the firms' decision on their supply chain would be regarded as the effort to minimize their operating losses. Whatever the effect attributed to the firms, production relocation obviously incurs nullification or impairment in a form of export revenues foregone to the nation-state which is the legal subject in international law.

Figure 7. Trade effects by a WTO-inconsistent tariff



In a sense, production relocation adversely affects the level of both actual and counterfactual trade value. To illustrate the effect of production relocation, the

export supply curve in 2017 in which the RPT ended may be portrayed as a shift leftward from the initial curve in 2011, i.e. from X^{*0}_x to X^{*1}_x in Figure 3(b). Presumably, the supply elasticity for Korean producers would have declined significantly due to production relocation when the supply elasticity is defined as the sensitivity of the quantity supplied by foreign producers to changes in the US market price of LRWs[401]. To put it simply, if the slope of the supply curve had become vertical due to the complete absence of production facilities for LRWs in Korea, the actual and counterfactual level for export volume measured as Q^2_x and Q^3_x would have been zero, which means the amount of NOI will be captured by zero at its maximum. More generally, the level of NOI could have been described as the formula like $P^3_x \times Q^3_x - P^2_x \times Q^2_x$ if the arbitrator had taken the actual market conditions – i.e. substantially downsized production facilities in Korea – into account in establishing the actual and counterfactual level for export value.

The decision not to opt for this formula based on the actual export value in 2017 as well as on the downsized production capacity is interpreted to follow the consistent line of prior arbitration practices. The practice that arbitrators refused to consider the foregone export revenue caused by factors other than the violation is fairly applied to the context of this case. Considering that the appropriate counterfactual was not the withdrawal of a WTO-inconsistent AD/CVD measure, but a mere reduction of those duties to certain degree, it is almost impossible to discern to what extent the non-conforming measure caused the firms to transfer their production facilities. Certainly, even the withdrawal of the WTO-inconsistent AD/CVD measure cannot ensure the firms" decision for production

[401] Large Residential Washers, Investigation No. TA-201-076 (Safeguard), USITC Publication 4745 (December 2017), V-18.

relocation. In other words, the reduced size in actual volume of exports from Korea during the period in which the RPT ended is not solely attributable to the non-compliance, rather to the numerous factors that affected the decision to shift production, including the US temporary trade barrier regardless of its WTO-consistency or not. Without accurately segregating the effect of the inconsistent measure out of the entire foregone revenue of export, there exists a concern that the level of NOI might be overestimated. On the other hand, it is quite questionable if the current method would be able to serve as the correct proxy to approximate the equivalence standard even in the case that the arbitrator determines the country hopping activity is entirely caused by the WTO-inconsistent AD/CVD measure.

The second circumstance in support of the arbitrator's decision to reject the market share of Korea in 2017 relates to the administrative review system of the United States. Unlike the system of most countries, the United States uses a "retrospective" anti-dumping system under which final amount of AD duties is determined in a periodic (yearly) review of the order[402]. Therefore, "as applied" measure in respect of the originally challenged AD orders no longer exists in 2017 in which the RPT ended. Although WTO-inconsistent AD duties are still in place and being collected in 2017, those duties are subject to non-compliance with "as such" measure relating to the differential pricing methodology (DPM). As the Appellate Body clarified in *US – Zeroing (EC)*, any "successive administrative, changed circumstances, and sunset review determinations issued in connection with the measures at issue in the original proceedings" should be considered "separate and distinct" measures[403]. In that regard, it is reasonable to

[402] 19 CFR § 351.212
[403] Appellate Body Report, *US – Zeroing (EC)*, *supra* note 76, para. 192.

infer that the US market share of Korea in 2017 is affected more directly by the AD duties determined in the periodic reviews – as shown in Table 7 – rather than by the originally imposed AD duties. To summarize, estimating the foregone export revenue based on the most recent US market share of Korea might be controversial because of a "remoteness" between the export volume in 2017 and the WTO-inconsistent original AD duty rate.

Table 7. The result of the AD investigation and reviews in the LRWs case

[unit: %]

Date of final determination	Samsung	LG	Daewoo
December 26, 2012	9.29	13.02	82.41*
September 16, 2015	82.35	1.38	79.11
September 12, 2016	(no review)	1.62	(no review)
September 12, 2017	(no review)	0.00	(no review)
February 26, 2019	(no review)	0.00	(no review)

Note *: AD duty rate was amended as 79.11% at the issuance of the order.

Obviously, the Washing Machines case where the arbitration panels chose the market share of 2012 instead of 2017 – whatever the intent of using it - makes a new practice deviating from the other previous decisions that strongly relied on the most recent period data regardless any attempt of compliance being made, and thus the original violation not existing at the end of RPT.

6.2. Limitations of Using an Economic Model

The second aspect worth of examination in *US – Washing Machines (Art. 22.6)* is the use of the partial equilibrium model, which normally includes several simplifying assumptions. The analysis aims at considering the effect of a given policy action only – i.e. difference in tariffs that are WTO consistent and that are not – in the market, keeping all other economic variables required in the model

pre-determined. As it is inherently exposed to a paradox itself where the level of NOI is severely reduced when the model uses the complainant's injured market share at the end of RPT, the model simply disregards the long-standing practice to consider the end of the reasonable period of time as the cut-off date for calculating the level of NOI.

While adopting the partial equilibrium model has many advantages for trade policy analysis, it equally has some fundamental disadvantages, in particular, that the analysis done on the set of pre-determined economic variables is sensitive to a few behavioral elasticities. The *US – Washing Machines (Art. 22.6)* decision presents the same problem for the Armington based partial equilibrium model adopted by the arbitrator. The Armington model adopted by the arbitrator is illustrated by the following equations[404]:

$$\mathrm{E} = \mathrm{k}\mathrm{P}^{1+\epsilon} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.. (1)$$

$$\mathrm{P} = \left(\sum_{i=1}^{J} \omega_i^{-\sigma} (p_i(1+t))^{1-\sigma}\right)^{\frac{1}{1-\sigma}} \ldots\ldots\ldots\ldots\ldots..(2)$$

$$m_i = \omega_i^{-\sigma} (p_i(1+t))^{-\sigma} P^{\sigma-1} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

$$x_i = \lambda_i p_i^{\eta} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(4)$$

$$m_i = x_i \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(5)$$

E denotes the total demand of the importing country. P is a weighted sum of the prices from the different countries of origin. m_i is the quantity of import demand, x_i the quantity of export supply, p_i the export price, and t the ad-valorem duty rate, σ the substitution elasticity, ε the demand elasticity in the

[404] Arbitration Report, *US – Washing Machines (Art. 22.6)*, *supra* note 153, para. 3.94.

domestic market, and η the export supply elasticity. Accordingly, equation (5) represents market equilibrium where the export supply and the import demand intersect.

The basic idea of this model is that varieties of goods are differentiated by country of origin and that consumers view products from different countries as imperfect substitutes[405]. The Armington model incorporates substitutability with two overarching assumptions: (a) elasticities of substitution between products in any competing markets are constant, irrespective of the market size; and (b) the elasticity of substitution between any two products is the same as that between any other pair of products competing in the same market[406]. Along with the criticism raised in the academic literature that those assumptions are too restrictive or unrealistic for international trade analyses[407], the use of substitution elasticity – also called the Armington elasticity – raises two major concerns in the *US – Washing Machines (Art.22.6)* case.

The first assumption of the Armington model that products are differentiated "by source countries" does not account for the reality where the products of different origins are not very different. Despite the temporary tariff barriers against Korea, the fact that only a small number of firms – Whirlpool, Samsung, LG, and GE – accounted for more than 83% of the LRWs market in the United States in 2017[408] demonstrates that products are differentiated by manufacturing companies, not by country of origin. Considering that the exports of LRWs from

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[405] Armington, Paul S. "A theory of demand for products distinguished by place of production." Staff Papers 16, no. 1 (1969), p.171.

[406] *Ibid.,* p.161.

[407] See Yang, Seung-Ryong, and Won W. Koo. "A generalized Armington trade model: Respecification." 9(4) *Agricultural Economics*, 347 (1993); Alston, Julian M., Colin A. Carter, Richard Green, and Daniel Pick. "Whither Armington trade models?." 72(2) *American Journal of Agricultural Economics* 455 (1990).

[408] Arbitration Report, *US – Washing Machines (Art. 22.6), supra* note 153, para 3.57.

China replacing the exports from Korea originated from the same companies, one cannot expressly argue that the substitutability is always same between any kind of pair made from (i) the domestic like product, (ii) subject imports, and (iii) non-subject imports. To put it straightforwardly, the elasticity of substitution between subject and non-subject imports made by Samsung and LG is totally infinite, according to the definition that a perfect substitute is "[a] good that is regarded by its demanders as identical to another good"[409]. The heterogeneous nature of the elasticity of substitution between home and foreign goods and between varieties of foreign goods has been examined by Feenstra et al (2018). Using highly disaggregated US production data matched to imports, this paper finds the evidence that the substitution elasticity among import sources, the so-called micro-Armington elasticity, is often larger than the elasticity between domestic and import sources, the so-called macro-Armington elasticity[410]. The formula run by the General Algebraic Methodology System (GAMS) in this case treats domestically produced and imported LRWs from countries other than Korea together, allowing the LRWs market of the United States to be merely divided into two, i.e. imports from Korea and others mixed with domestic products and non-subject imports. Accordingly, designating the elasticity of substitution from 3 to 5 is likely to mislead in yielding a correct form of the relationship between the import demand and price index.

The second one relates to the reliability of data. As the United States described in this case, the elasticity estimate was determined by the USITC "after analyzing responses from purchasers, producers, and importers to questionnaires

[409] U.S. Responses to Advance Questions (Public Version), 14 May 2018, para. 91.
[410] Feenstra, Robert C., Philip Luck, Maurice Obstfeld, and Katheryn N. Russ. "In search of the Armington elasticity." 100(1) *Review of Economics and Statistics* 135 (2018).

concerning the LRWs market, as well as arguments made by interested parties"[411], which is the only source that the arbitrator was able to rely on to obtain the relevant elasticity. While there have been several studies estimating Armington elasticities at a fairly disaggregated level by using different econometric models[412], the resulting estimations lacked the consensus on point estimates, which implies the sensitivity of the estimation to the technique used[413]. The USITC approach based on the limited responses of the survey involves a higher risk of arbitrary estimates than the econometric models because it might be easily affected by the number of responses and other qualitative factors of the survey.

The elasticity of substitution that can be often chosen arbitrarily has a relatively significant effect on the level of NOI when the figure remains single digit. Figure 4 illustrates that the margin of increase is initially high but then slowly decreased as the value of elasticity increases. For example, while the level of NOI increases by 45% when the elasticity of substitution changes from 1 to 2, a shift from 2 to 3 in the elasticity of substitution leads the level of NOI to increase by 27% only. The simulation points out that the level of NOI can be fluctuating depending on the value selected as an appropriate elasticity when the value exists in the range

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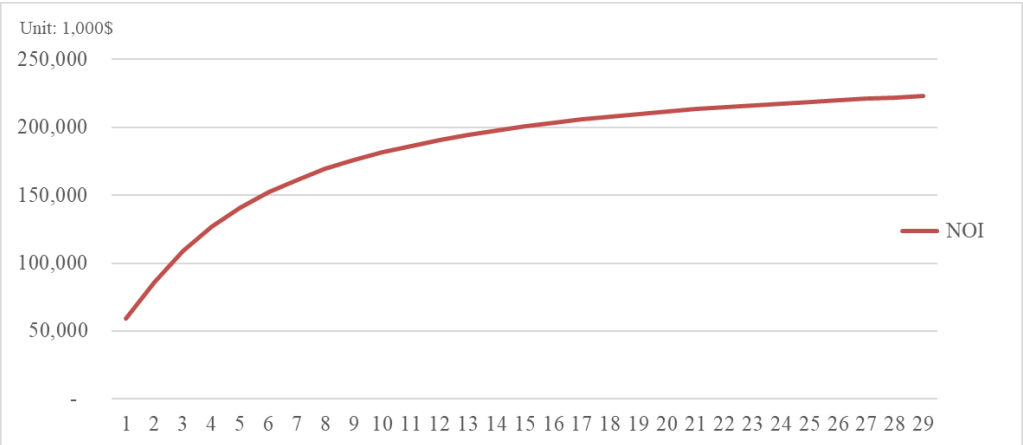
411 U.S. Comments on Korea's Responses to Questions Following the Arbitrator Meeting, June 28, 2018, para. 70.

412 For studies estimating Armington elasticities, see Gallaway, Michael P., Christine A. McDaniel and Sandra A. Rivera, "Long-Run Industry-Level Estimates of U.S. Armington Elasticities," Office of Economics Working Paper, 2000-09-A, U .S. International Trade Commission (2000); Reinert, Kenneth A. and David W. Roland-Holst, "Armington Elasticities for United States Manufacturing Sectors," 14(5) *Journal of Policy Modeling* 631 (1992); Shiells, Clinton R., Robert M. Stern and Alan V. Deardorff. "Estimates of the Elasticities of Substitution between Imports and Home Goods for the United States" 122(3) *Review of World Economics* 497 (1986); Shiells, Clinton R. and Kenneth A. Reinert. "Armington Models and Terms-of-Trade Effects: Some Econometric Evidence for North America." 26(2) *Canadian Journal of Economics* 299 (1993); Stern, Robert M., Jonathan Francis, and Bruce Schumacher. *Price Elasticities in International Trade: An Annotated Bibliography*. (London: Macmillan Press LTD, 1976).

413 Mc Daniel, Christine A., and Edward J. Balistreri. "A review of Armington trade substitution elasticities." 2 *Economie internationale* 301 (2003), p.305.

of single digit.

Figure 8. The amount of NOI by elasticity of substitution



Note: Simulated by author using the General Algebraic Methodology System (GAMS) with the data available from the *US – Washing Machines (Art. 22.6)*. The counterfactual level for WTO-consistent AD/CVD duty is redacted in the arbitration report; hence, the author applies 3% of AD/CVD tariffs as a counterfactual level for simulation.

Besides the issue of substitution elasticities, the Armington based partial equilibrium model rests on many other simplifying assumptions. One important assumption affecting the level of NOI is that a change in tariffs is completely passed through to import prices. This assumption has often been demonstrated especially in recent literature. Amiti et al. (2019) found US tariffs were almost completely passed through into US domestic prices in a way that the average domestic price for common goods increases by 9.95% when the average tariff at HS6 level increases by 10%[414]. Similarly, Fajgelbaum et al. (2019) find complete pass-through of tariffs to various levels of import prices[415]. Meanwhile, several

[414] Amiti, Mary, Stephen J. Redding, and David Weinstein. "The Impact of the 2018 Trade War on US Prices and Welfare." No. w25672. *National Bureau of Economic Research* (2019), p.19.
[415] Fajgelbaum, Pablo D., Pinelopi K. Goldberg, Patrick J. Kennedy, and Amit K. Khandelwal. "The Return to Protectionism". No. w25638. *National Bureau of Economic Research* (2019).

studies have presented the opposite empirical findings. For instance, Feenstra (1989) estimated incomplete pass-through of exchange rates and tariffs by using data on US imports of Japanese cars, trucks, and motorcycles, the result of which varied across all products[416]. In the context of an emerging market economy, Mallick and Marques (2007) examined data for a panel of disaggregated sectors in India over the period from 1990 to 2001, finding that pass-through of changes in tariffs and exchange rates into import prices are incomplete and imperfect[417]. Irwin (2014) provided the empirical evidence that the degree of pass-through US sugar tariffs to consumer prices appears to be asymmetric depending on positive or negative signs of changes in tariffs. In other words, he found that a tariff reduction is completely passed through to consumer prices whereas a tariff increase is only 40% passed through to consumer prices[418]. The latest study, which analyzed pass-through effect of US consecutive import restriction policies to LRWs, estimated that a tariff elasticity of consumer prices ranges from 107% to 226% for the 2018 global safeguard tariffs while anti-dumping duties on Korea and Mexico in 2012 have a negative pass-through to consumer prices[419]. Based on the large literature focusing on the tariff pass-through into prices, the model should be considered likely to overestimate the NOI depending on the case at hand without adjusting for the change in tariffs to account for the appropriate change in prices. Figure 9 presents the result of simulating the GAMS where the

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[416] Feenstra, Robert C. "Symmetric pass-through of tariffs and exchange rates under imperfect competition: An empirical test." 27(1-2) Journal of international Economics 25 (1989).

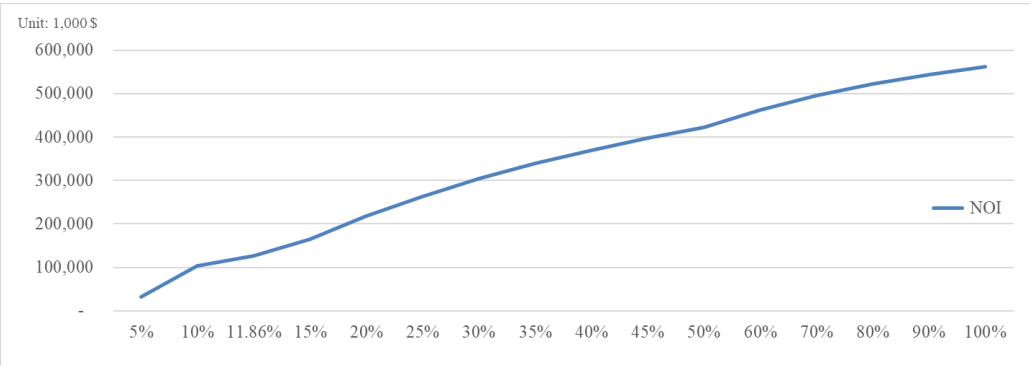
[417] Mallick, Sushanta, and Helena Marques. "Passthrough of exchange rate and tariffs into import prices of India: currency depreciation versus import liberalization." 16(4) *Review of International Economics* 765 (2008).

[418] Irwin, Douglas A. "Tariff Incidence: Evidence from US Sugar Duties, 1890-1930." No. w20635. *National Bureau of Economic Research* (2014).

[419] Hortacsu, Ali, Felix Tintelnot, and Aaron Flaaen. "The Production, Relocation, and Price Effects of US Trade Policy: The Case of Washing Machines." *University of Chicago, Becker Friedman Institute for Economics Working Paper* (2019).

amount of NOI continues to increase as the WTO-inconsistent AD duty rates increases, although the incremental amount slowly decreases. Simply speaking, the level of NOI when the WTO-inconsistent AD duty is 50% is four times larger than the level of NOI at 10% of AD duty, which is unrealistic or unacceptable in practice.

Figure 9. The amount of NOI by WTO-inconsistent AD duty rate



Note: Simulated by author using the General Algebraic Methodology System (GAMS) with the data available from the *US – Washing Machines (Art. 22.6)*. Since the counterfactual level for WTO-consistent AD/CVD duty is redacted in the arbitration report, the author applies 3% of AD/CVD tariffs as a counterfactual level for purpose of simulation.

7. Concluding Remarks

A complainant's request for authorization of a retaliatory measure under Article 22 of the DSU is the "last resort" that it can rely on against non-compliance of a respondent in the WTO. The permissible level of the retaliatory measure is prescribed in Article 22.6 of the DSU to be "equivalent" to the nullification or impairment of benefit sustaining to the complainant, which can vary significantly depending on the data and the model used. Calculating the NOI concerning WTO-inconsistent AD/CVD measures requires special consideration

in the choice of an appropriate time-frame for analysis because such measures involve their own distinct changes in market which other import restrictive measures hardly involve. Given the ambiguous relationship between a strategic decision of businesses and anti-dumping measures, it is hard for the arbitrator of the *US – Washing Machines (Art. 22.6)* case to stick to the conventional approach where the most recent period as close to the end of reasonable period of time as possible was normally considered the relevant period for analysis.

In terms of methodology, arbitrations under Article 22.6 of the DSU tend to favor the economic methodology by which arbitrators adopt certain economic assumptions in their framework and then use several economic parameters. The arbitration award in the *US – washing Machines (Art. 22.6)* shows how the foregone export revenue can differ significantly by the assumption made and the parameter used. It gives us an implicative lesson that the economic model was originally expected to calculate the "equivalent" level of nullification or impairment of benefit accurately, but indeed it turned out it was not the case. Especially, the case reveals how vulnerable the trade effect is to the Armington assumption or the Armington elasticity, which are irrelevant or not easy to prove its feasibility accurately. In this regard, a further research would be needed to develop the methodology to fully account for the reasonable level of nullification or impairment.

Given that the initially requested amount for suspension were US $711 million (plus annual adjustment based on growth rate) and $2.32 million by Korea and United States, respectively, this arbitration result seems to support again the proposition that arbitrators simply split the difference, thereby making the whole complicated process of quantification just intended for a diplomatic resolution[420].

[420] Spamann, Holger (2006), *supra* note 323, p. 76-7. Also *see* Bernstein, Jason, and David Skully

Whatever the result finally determined, this arbitration revealed vulnerability of trade-effects approach as proper criterion for measuring the NOI even in the case where WTO-violation concerns typical tariff-related measures. This study attempted to show how the level of NOI might be susceptible to slight changes in elasticities, tariffs, and other relevant variables used. Especially, by incorporating into the economic model the market share data when the WTO-inconsistent measures are to be imposed, this case does not take into account the actual level of export value. In this aspect, it is dubious whether the arbitrator correctly quantified the foregone Korean exports.

As the ITO chapter correctly mentioned, the prominent matter in calculation of NOI would be whether the permissible level is considered "appropriate and compensatory," no matter what the counterfactual or the methodology used are. Furthermore, although the retaliatory level is fixed at "equivalent" level of NOI, it should be able to serve the objective of retaliation, i.e. inducing compliance, as the last resort under the WTO dispute settlement system.

(2003), *supra* note 322, p.389–96.

Chapter V. Conclusion

This study was started to provide some suggestions for improvement and refinement of the WTO anti-dumping and countervailing rules. It is a considerable advancement in the WTO that the panels and the Appellate Body filled the gaps in legal texts and thereby provided more elaborate regulatory norms for the WTO members. However, WTO laws on trade remedies have been gradually challenged by the rising conflicts in its interpretations and applications among the Member states and among the panels and the Appellate Body. The current structure of the WTO trade remedy system also faces the challenge in adapting itself to the rapidly changing world trading system in the context of GVCs. In this aspect, this study attempted to access the legal adequacy and economic reasonableness of the WTO's current trade remedy rules. This study particularly examined two specific topics, i.e. targeted dumping and input subsidies, which have a number of economic and legal problems in its national operation, but the WTO provides little disciplines regarding these matters.

As for targeted dumping, the study found that the targeted dumping issues was regarded as the last area that might authorize “zeroing,” the most controversial issue in the history of the WTO dispute settlement system. However, the ADA provides only one sentence, i.e. the second sentence of Article 2.4.2, regarding targeted dumping, thereby leading to a wide gap between the trade policies administered by nation-states. The study examined economic rationale by which,

apart from the disciplines on "ordinary dumping," "targeted dumping" should be disciplined. Moreover, this study critically examined the rulings of the Appellate Body in the *US – Washing Machines* case which first addressed the targeted dumping provision. The study finds that the AB's rulings do not make the function of the targeted dumping provision more feasible, and they do not resolve the fundamental problem of the zeroing issue. Therefore, the study suggests more discussion in negotiations should be made to address the loophole made by the targeted dumping provision.

As for input subsidies, the study addressed the possibility of disciplining input subsidies in the context of the WTO SCM Agreement. While input subsidies have long been the disputed subject among the states, the SCM Agreement does not contain specific provisions or guidance on input subsidies. Rather, some countries have been observed to inflate dumping margins recently by dealing with input subsidies in the context of the anti-dumping law. With the absence of the pertinent rules in the WTO in mind, this study first analyzed the US legislative history and the statue governing the upstream subsidies and the investigation cases initiated from 1994 to present. Then, it examined whether and to what extent the legal discussion and development on the disciplines on input subsidies have been made in the GATT/WTO. Lastly, the article examined the issue to be considered in developing the existing WTO rules and jurisprudence on input subsidies such as measuring the pass-through of the benefit or specificity test requirement.

In the first two studies (Chapters I and II), the possibility of the WTO to embrace more reasonable disciplines on such specific issues legally and economically was analyzed. Lastly, the study addresses the area of retaliation when it comes to non-compliance with WTO rulings in anti-dumping or countervailing disputes.

In particular, this article delved into the methodology and the assumptions adopted to calculate the retaliatory level in US-Washing Machines (Art. 22.6). The study finds that calculating the nullification or impairment (NOI) of benefit concerning WTO-inconsistent AD/CVD measures requires special attention because such measures involve their distinct changes in market that do not occur in other import restrictive measures. This study argues that, given the ambiguous relationship between a strategic decision of businesses and anti-dumping measures, it is not easy for the arbitrator in the *US – Washing Machines (Art. 22.6)* case to stick to the conventional approach where the most recent period closest to the end of the reasonable period of time was normally considered the relevant period for analysis. In terms of methodology, the study found how the foregone export revenue can differ significantly by the assumption made and the parameters used. Finally, this study critically concludes that the economic model, which was originally expected to calculate the "equivalent" level of the NOI, indeed embeds the vulnerability in itself in terms of assumptions and parameters and thus provides a limited level of analysis on the retaliatory level.

As examined above, the existing WTO trade remedy laws have many legal and economic problems that should be exploited and resolved. Many of them should be resolved through multilateral negotiations, rather than through interpretations made by panels and the Appellate Body who are frequently obsessed with the legality of the agreements. Reducing the ambiguity contained in the AD/CVD rules and regulation and curtailing the discretion left to the individual nation state are subject to further research. Moreover, legal disciplines on unfair trade need to be addressed from the economic and policy perspectives. This study on targeted dumping, input subsidies, and the level of retaliation regarding AD/CVD measures in implementation stage hopes to contribute to further discussions on possible reforms and refinement for WTO

trade remedy rules and ultimately on improvement of the WTO dispute settlement system.

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국 문 초 록

세계무역기구(WTO)는 출범 이후 지난 25 년 여간 다자통상기구로서 큰 성과를 거두어 왔지만 2019 년 12 월부터 상소기구 기능이 마비되면서 분쟁해결제도와 국제통상규범에 대한 근본적인 개혁의 필요성에 직면해 있다. 특히 불공정 무역과 관련된 무역구제 규범은 가장 빈번하게 WTO 분쟁 대상이 되었을 뿐 아니라 현재 WTO 개혁 논의 중 가장 핵심 이슈로 부각되고 있어 규범의 정비와 개정이 시급해 보인다. 이는 WTO 무역구제규범이 이미 태생부터 법적 모호성을 내포하고 있었을 뿐 아니라, 과거 전형적인 국가간 무역형태를 기반으로 만들어져 급변하는 경제적 현실과의 괴리가 커져갔기 때문이다.

먼저, WTO 반덤핑 협정과 보조금 및 상계조치에 관한 협정 문언의 모호성으로 인해 각 회원국이 시행하는 반덤핑 및 상계조치 정책 간에는 상당한 불일치 및 재량권 남용이 발생해왔다. 또한 '무역구제'와 관련된 분쟁에서 협정문의 모호성을 보완하기 위한 상소기구의 해석은 사법 적극주의로 종종 비판받으며, 일부 쟁점에 대해서는 패널과 해석 상의 갈등이 지속되어 WTO 분쟁해결제도 기능의 약화에도 공히 기여했다. 이러한 문제를 근본적으로 해결하기 위해 그동안 국내 정책상의 무역구제제도 활용과 WTO 분쟁해결절차의 판정 과정에서 WTO 무역구제 협정문이 어떻게 남용되거나 확대 해석되었는지를 면밀히 검토할 필요가 있다.

무역구제 규범의 재정비가 필요한 또 다른 배경은 WTO 무역구제 규범이 국가간 투자 확대, 초국경 기업들의 성장, 글로벌 공급망의 발전이라는 세계 통상환경의 변화를 적절히 반영하지 못하고 있다는 점이다. 현재 무역구제 규범의 기본 틀은 원재료 조달에서 상품의 생산이 모두 한 국가 내에서 일어난 뒤 다른 국가에서 소비되는, 이른바 '국가 영역' 개념에 기반한 전통적 형태의 상품무역 구조를 전제하고 있다. 현행 무역구제 규범이 지속되는 한 변화된 통상환경을 적절히 고려하지 못 해 개별 국가 차원의 무역구제 제도가 무차별적으로 제정, 적용될 수 있으며, 이로 인한 국가간 분쟁이 증가할 소지가 크다.

무역구제 규범과 관련된 상기 두 가지 과제를 염두에 두고, 동 연구는 현재 WTO 무역구제 규범의 법적 충분성과 경제적 타당성을 평가하고자 한다. 동 연구는 특히 WTO 법 상 구체적인 규율은 없는 반면 미국에서 별도의 규정을 두고 적용해 온 '표적 덤핑'과 '원재료 보조금' 문제를 법적 측면과 경제적 측면에서 검토하고 WTO 하에서 보다 타당한 규범의 정비 가능성에 대해 고찰하였다. 먼저, '표적 덤핑'은 WTO 무역구제 분쟁 역사 상 가장 큰 논쟁 대상이었던 제로잉이 허용될 수 있는 마지막 영역으로서 그동안 여겨져 왔던 반면, 반덤핑 협정문 자체는 표적 덤핑 하에서 예외적 가격 비교 방법을 허용하는 것 외에 이 문제를 다루는 별도의 규범을 두고 있지 않아, 각국의 관련 정책에 많은 차이와 남용을 야기하였다. 동 연구에서는 '표적 덤핑'이 일반적 덤핑의 개념과 구별되는 경제학적 근거가 있는지 살펴보고, '표적 덤핑' 조항의

발생 배경과 이 문제를 처음 다룬 *US-Washing Machine* 상소기구 판정을 비판적으로 검토하였다. 그 결과, 상소 기구의 판정이 표적 덤핑 조항인 반덤핑협정 제 2.4.2 조 제 2 문의 실질적 기능을 가능케 하기는 어렵다는 점을 사례 연구를 통해 확인하였으며, 제로잉에 대한 문제도 근본적으로 남아있다는 점에 비추어 동 항에 대한 재정비 필요성에 대해 모색하였다.

두 번째 연구에서는 WTO 하에서 원재료 보조금의 규율가능성을 검토하였다. 원재료 보조금은 지속적으로 국가간 통상분쟁을 야기해 왔는데, 이에 대한 구체적인 규율은 보조금 협정상 마련되어 있지 않다. 동 연구는 이미 1984 년 국내법 상 원재료 보조금 규정을 도입한 미국에서 해당 조항을 어떻게 적용해 왔는지 사례와 법규를 분석하며, WTO 하에서는 원재료 보조금 규율에 대한 법적 논의와 발전이 어떻게 있었는지 검토하였다. 그리고 간접 보조금으로서의 원재료 보조금을 규율할 경우 원재료의 범위를 정의하는 문제와 보조금 혜택의 크기 측정 문제에 대해 경제학적 측면에서 분석하고 원재료 보조금 규율 가능성의 한계를 분석하였다.

마지막으로, WTO 분쟁해결제도의 마지막 구제절차인 양허 또는 기타 의무의 정지, 소위 보복 조치와 관련하여, WTO 법 위반인 반덤핑, 상계관세 조치에 대한 불이행에 대해 보복조치 수준 계산 시 발생되는 방법론적 문제점을 분석하였다. 이 연구에서는 *US-Washing Machines (Art. 22.6)*에서 보복조치 수준을 산정한 방법론을 중심으로, '반덤핑 조치'와 관련된 보복조치 수준의 산정 방식은 중재 패널이 여타 수입 제한적 조치에 대해 산정해 온 전통적 방식과 유사하면서도

고유의 구별되는 시장 환경적 특징으로 인해 특별히 신중한 고려가 필요하다는 점을 분석한다. 특히 기업의 전략적 경영활동과 반덤핑 조치 간의 불명확한 인과관계, 기업과 국가에 귀속되는 무역흐름의 불일치를 고려할 때 기존에 '이행기간 종료일'에 근접한 최근 기간을 분석 기간으로 삼았던 관행을 수정하는 것은 다소 불가피한 측면이 있음을 확인하였다. 또한, 방법론 측면에서 경제학적 모델을 사용하여 무역효과를 산출할 때 사용되는 가정과 변수에 따라 무역효과가 얼마나 크게 변하는지 살펴보았다. 특히 세탁기 사건에 사용된 Armington 가정과 대체탄력성의 문제점을 검토함으로써 보다 정교한 무역효과를 산출할 것으로 기대되는 경제학적 모델이 '동등한' 수준의 이익의 무효화 또는 침해수준을 산정함에 있어 가정적, 데이터 측면에서의 취약성을 가지고 있으며, 상당히 제한된 수준의 분석을 제공한다는 점을 비판적으로 고찰하였다.

상기와 같이 '표적 덤핑' 과 '원재료 보조금', 그리고 반덤핑, 상계관세 조치 불이행시 '보복조치 수준의 산정'을 통해 본 연구가 추후 WTO 무역구제 규범 재정비와 관련된 논의에 도움이 되고, 궁극적으로 분쟁해결제도의 기능이 개선되는데 기여하고자 한다.

주요어: WTO 무역구제제도, 표적 덤핑, 원재료 보조금, WTO DSU 제 22.4 조, 미국 – 세탁기 사건

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