

The Defects of "Zeroing" in WTO Anti-Dumping Agreement and Legislative Amendment

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Abstract. Zeroing has long been one of the most controversial practices in WTO anti-dumping law. It refers to the method by which investigating authorities set negative dumping margins to zero when calculating overall dumping margins, artificially inflating final duty rates. The WTO Appellate Body has repeatedly ruled zeroing inconsistent with core provisions of the Anti-Dumping Agreement (ADA), including Article 2.4 (fair comparison), Article 2.4.2 (calculation methods), and Article 9.3 (duty limitation). However, systemic legal ambiguities, selective national implementation, and persistent protectionist incentives have allowed residual zeroing to persist in administrative reviews, sunset reviews, and targeted dumping analyses. This paper defines zeroing and its operational forms, analyzes its legal, economic, and systemic defects under the ADA, reviews the evolution of WTO jurisprudence, and proposes targeted legislative amendments to clarify prohibitions, unify calculation standards, and strengthen multilateral enforcement. The paper argues that only explicit textual reform can resolve the long-standing conflict between judicial rulings and administrative practice, restore fairness to anti-dumping calculations, and uphold the integrity of the WTO dispute settlement system.

Keywords: WTO, Anti-Dumping Agreement, Zeroing, Dumping Margin, Fair Comparison

1. Introduction

Since the establishment of the WTO, anti-dumping measures have become one of the most frequently applied trade remedy tools worldwide [1]. The core premise of any legitimate anti-dumping proceeding is an accurate and fair calculation of the dumping margin, which measures the extent to which export prices fall below normal value [2]. Among all methodological disputes, zeroing stands out as a practice that systematically distorts this calculation [3]. Zeroing occurs when investigating authorities disregard negative dumping margins—situations in which export prices exceed normal value—by assigning them a value of zero before aggregating individual results into an overall margin [4]. By excluding offsetting effects of non-dumped transactions, this method systematically inflates the overall dumping margin and leads to the imposition of duties higher than justified by actual price differences [5]. Over the past two decades, zeroing has been the subject of numerous WTO disputes, resulting in a largely consistent line of rulings condemning the practice [6]. Yet textual ambiguity in the ADA and divergent national approaches have allowed zeroing to

persist in modified or context-specific forms, undermining legal certainty and the credibility of the multilateral trading system [7, 8].

Despite extensive judicial clarification, significant research gaps remain [9]. First, existing literature largely focuses on WTO case law rather than proposing concrete legislative amendments [5, 6]. Second, the economic distortions caused by zeroing have not been systematically integrated into legal reform proposals [10]. Third, few studies examine how developing countries can effectively challenge residual zeroing practices [8]. This paper addresses these gaps by posing three research questions: (1) How does zeroing operate in different procedural contexts, and what are its legal and economic defects? (2) How has WTO jurisprudence evolved, and why does zeroing persist despite consistent rulings? (3) What specific legislative amendments to the Anti-Dumping Agreement (ADA) are necessary to eliminate zeroing completely?

Using doctrinal legal analysis and case-based reasoning, this paper examines WTO dispute reports, treaty provisions, and economic evidence to develop targeted reform proposals [1-4]. The research aims to provide a clear legal basis for amending the ADA, offer practical guidance for WTO members seeking compliance, and contribute to ongoing negotiations on anti-dumping reform [8]. By proposing explicit textual prohibitions and enhanced transparency mechanisms, this paper seeks to restore fairness and predictability to anti-dumping calculations and strengthen the rule of law in international trade [9, 10].

2. Definition and operational forms of zeroing

To understand the controversy, it is essential to clarify how zeroing operates across different procedural and methodological contexts [3, 5]. In its basic form, zeroing intervenes at the aggregation stage: instead of summing both positive and negative margins to produce a net result, authorities replace negative values with zero, thereby ensuring that only underpriced transactions contribute to the final margin [4].

In practice, zeroing appears in three main forms [2, 3]: Model zeroing applies when normal value and export prices are split by product type; negative margins for specific models are zeroed before overall aggregation [2]. Simple zeroing occurs when a weighted average normal value is compared to individual export transactions, with negative per-transaction results excluded [3]. A third variant emerges in targeted dumping analyses, where authorities use weighted-average-to-transaction comparison while zeroing negative outcomes to justify higher duties [4, 6]. Zeroing is not limited to original investigations but also affects administrative reviews, which determine final duty assessments, and sunset reviews, which evaluate whether dumping would continue or recur if measures expire [4, 7]. In each context, the practical effect is the same: dumping margins are inflated, and exporting enterprises face higher and less predictable trade barriers [5, 10].

3. Legal and economic defects of zeroing

3.1. Legal violations under the ADA

From a legal perspective, zeroing violates multiple core provisions of the WTO ADA [1-4]. The most fundamental violation concerns Article 2.4, which requires a fair comparison between the normal value and the export price [1]. A fair comparison, as repeatedly affirmed by the Appellate Body, demands symmetrical treatment of all price differences: positive margins indicating dumping and negative margins indicating non-dumped sales must both be fully counted [2, 3]. Zeroing is

inherently biased because it treats identical price differentials asymmetrically, recognizing underpricing while ignoring overpricing [4].

Equally important, zeroing violates Article 2.4.2, which governs permissible methods of comparison: weighted-average-to-weighted-average, transaction-to-transaction, and weighted-average-to-transaction in limited targeted dumping circumstances [1, 6]. The Appellate Body has clarified that all these methods require full aggregation of results without exclusion of negative values [2, 3]. By truncating negative margins, investigating authorities depart from the prescribed calculation framework [4].

Furthermore, zeroing breaches Article 9.3, which stipulates that anti-dumping duties shall not exceed the dumping margin [1]. When margins are artificially inflated, duties imposed routinely exceed the actual level of dumping, creating an unlawful penalty [5, 9]. Beyond the ADA, zeroing also conflicts with GATT 1994 Article VI:2, which defines dumping based on the overall relationship between export price and normal value, not selective subsets of transactions [1, 6].

3.2. Economic distortions and systemic harms

Beyond its legal violations, zeroing has been widely associated with economic distortions and imposes unjust burdens on international trade. By design, zeroing increases measured dumping margins, often by substantial percentages. Empirical studies indicate that zeroing can raise margins by 30% to 150% compared to a full aggregation approach, leading to over-deterrence and excessive protection [5, 10]. For exporters, especially those from developing countries, this means that even enterprises with mostly non-dumped sales may face significant duties, as lawful higher-price transactions cannot offset isolated underpriced sales [8, 9].

In broader markets, the use of zeroing distorts trade flows, raises consumer prices, and shelters inefficient domestic industries from legitimate international competition [5, 10]. It also creates profound uncertainty for business planning: exporters cannot reliably predict their potential duty liability because the calculation methodology can be manipulated through zeroing [7, 9]. For the WTO system as a whole, zeroing generates structural weaknesses. Persistent non-compliance with Appellate Body rulings erodes the authority and effectiveness of the dispute settlement mechanism [2-4]. Divergent national practices create a fragmented regulatory environment where similar cases yield different outcomes based on domestic methodologies rather than uniform rules [6, 8]. The continued use of zeroing also deepens divisions between developed and developing economies, which disproportionately bear its costs [8, 10].

4. WTO jurisprudence and legislative amendment proposals

4.1. Evolution of WTO jurisprudence

WTO dispute settlement bodies have developed a clear and consistent jurisprudence against the use of zeroing [2-4]. The landmark case *EC–Bed Linen* in 2001 marked the first authoritative rejection of model zeroing in weighted-average-to-weighted-average comparisons [2]. The Appellate Body emphasized that the dumping margin must reflect the full range of transactions for the product as a whole, not just selected segments [1, 2]. In the 2006 *US–Zeroing (EC)* case, the Appellate Body expanded its reasoning to invalidate simple zeroing in transactional comparisons, holding that zeroing is unlawful "as such" regardless of procedural context [3, 6]. One year later, in *US–Zeroing (Japan)*, the Appellate Body completed its legal framework, ruling that zeroing is prohibited in all

stages of proceedings, including original investigations, administrative reviews, and sunset reviews [4, 7].

Despite these clear rulings, full and uniform implementation has not been achieved [5, 8]. Some WTO members have revised their methodologies in prospective applications but retained exceptions for targeted dumping or pending proceedings [3, 6]. Others have adopted narrower interpretations of rulings to preserve residual zeroing practices [4, 7]. The gap between judicial rulings and administrative reality reflects the deeper problem of textual ambiguity: because the ADA does not explicitly name or ban zeroing, members committed to protectionist goals can maintain contested practices under the guise of interpretive discretion [1, 8, 9].

4.2. Factors underlying the persistence of zeroing

Several interconnected factors explain the persistence of zeroing despite consistent adverse rulings [5, 6, 8]. One important factor is the textual silence of the ADA [1]. The treaty does not explicitly prohibit zeroing, leaving its status dependent on interpretive reasoning rather than direct command [2, 3].

Second, strong domestic political economy pressures push investigating authorities toward protectionist outcomes [5, 10]. Third, selective compliance weakens multilateral discipline [6, 8]. Fourth, the WTO's enforcement mechanisms are structurally limited [7, 9]. Together, these factors allow zeroing to survive in modified forms, perpetuating systemic unfairness [8, 10].

4.3. Legislative amendment proposals

To resolve this prolonged controversy surrounding zeroing and restore integrity to anti-dumping regulation, targeted amendments to the WTO ADA are both necessary and urgent [4, 8, 9].

First, greater textual clarity could be introduced into Article 2.4 to clarify that all positive and negative margins must be fully aggregated [1-3]. A straightforward additional paragraph would state that authorities shall not assign zero value to negative comparison results and shall calculate the overall dumping margin based on the full set of transactions for the product as a whole [1, 6].

Second, Article 2.4.2 should be amended to reinforce mandatory full aggregation across all three permitted comparison methods and to limit weighted-average-to-transaction comparison to genuine targeted dumping with strict procedural safeguards to prevent abuse [1, 3, 6].

Third, Article 9.3 should be revised to specify explicitly that anti-dumping duties must be based solely on non-zeroed, fully aggregated margins and that zeroing shall not be used in any retroactive duty reassessment [1, 4, 5].

Fourth, Article 11.3 should be amended to prohibit zeroing in sunset reviews, ensuring that assessments of future dumping risk are based on lawful calculations [1, 4, 7].

Beyond textual refinement, members should establish enhanced transparency standards requiring public disclosure of full calculation methodologies, including detailed explanations of aggregation practices [8, 9]. A technical oversight committee should be created to review national anti-dumping methodologies and issue regular compliance reports to promote consistent application [8, 10]. Finally, members should expand technical assistance programs to support developing countries in reforming their domestic procedures and training officials to implement lawful calculation methods [8, 9].

4.4. Challenges and pathways forward

Adopting these amendments faces predictable political and institutional challenges, particularly from traditional users of zeroing who view it as a tool to protect domestic industries [5, 6, 10]. Nevertheless, feasible pathways for progress exist [8, 9]. A ministerial mandate could direct the Negotiating Group on Rules to finalize a streamlined text focused exclusively on zeroing [8]. A plurilateral approach, in which a group of committed members adopts binding no-zeroing commitments, could create a model for wider adoption [9, 10]. Over time, the codification of well-established Appellate Body principles into treaty text would transform judicial norms into binding legal obligations, reducing discretion and enhancing compliance [2-4, 8].

5. Conclusion

This paper has examined the practice of zeroing in WTO anti-dumping proceedings from both legal and economic perspectives. It has defined zeroing and its three operational forms—model zeroing, simple zeroing, and zeroing in targeted dumping analyses—and demonstrated how these practices artificially inflate dumping margins by excluding negative results.

From a legal perspective, the paper has shown that zeroing violates Articles 2.4, 2.4.2, and 9.3 of the Anti-Dumping Agreement, as well as GATT Article VI:2, because it undermines fair comparison, departs from prescribed calculation methods, and results in duties exceeding actual dumping margins. Economically, zeroing distorts trade flows, over-deters legitimate competition, raises consumer prices, and creates uncertainty for exporters, particularly those from developing countries.

The paper has also reviewed the consistent WTO jurisprudence—from EC–Bed Linen to US–Zeroing (Japan)—which has repeatedly rejected zeroing. Despite these rulings, zeroing persists due to textual ambiguity in the ADA, protectionist incentives, selective compliance, and weak enforcement mechanisms. To eliminate zeroing completely, this paper has proposed specific legislative amendments: an explicit prohibition in Article 2.4, mandatory full aggregation in Article 2.4.2, duty limitations in Article 9.3, and a ban on zeroing in sunset reviews under Article 11.3, supplemented by transparency standards, a technical oversight committee, and enhanced technical assistance.

This paper is subject to several limitations. First, it focuses primarily on WTO jurisprudence and does not conduct empirical case studies of individual WTO members' domestic anti-dumping proceedings. Second, the economic analysis relies on existing empirical studies rather than original quantitative modeling. Third, the legislative proposals, while detailed, do not address the political feasibility of achieving consensus among all WTO members.

Future research could address these limitations by conducting country-specific empirical studies on zeroing practices, developing economic models to quantify the trade effects of zeroing more precisely, and exploring plurilateral or alternative institutional pathways to reform in the absence of full WTO consensus. Comparative studies of regional trade agreements that have successfully banned zeroing could also provide valuable lessons for multilateral reform.

References

- [1] WTO. (1994) Agreement on implementation of article VI of the general agreement on tariffs and trade 1994 (anti-dumping agreement).
- [2] WTO Appellate Body Report, European communities-anti-dumping duties on cotton-type bed linen from India, WT/DS141/AB/R, 2001.

- [3] WTO Appellate Body Report, United States – laws, regulations and methodology for calculating dumping margins (zeroing), WT/DS294/AB/R, 2006.
- [4] WTO Appellate Body Report, United States – measures relating to zeroing and sunset reviews, WT/DS322/AB/R, 2007.
- [5] Prusa, T. J., & Vermulst, E. (2014) Zeroing: Trade effects and WTO compliance. World Bank Policy Research Working Paper.
- [6] Mavroidis, P. C. (2008) Zeroing: where we stand. *World Trade Review*, 7(3): 445–472.
- [7] Horlick, G., & Pallett, A. (2012) US changes policy on zeroing in administrative reviews. *ASIL Insights*, 16(5).
- [8] WTO Negotiating Group on Rules. (2023) Proposals for anti-dumping reform.
- [9] Brink, T. (2019) Zeroing and the WTO appellate body: a reassessment. *Journal of International Economic Law*, 22(2): 231–255.
- [10] Bown, C. P., & McCulloch, R. (2021) Zeroing and anti-dumping disputes: the economics of WTO litigation. *World Economy*, 44(6): 1689–1715.