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The Estey Centre Journal of
**International Law
and Trade Policy**

Technical Annex

**Why Did the Byrd Amendment Not Fly with the WTO?:
An Economic Analysis of the Byrd Amendment¹**

Ben Harris

Graduate student, Department of Agricultural Economics, University of Idaho

Stephen Devadoss

Professor, Department of Agricultural Economics, University of Idaho

This document is the technical annex to the full paper “Why Did the Byrd Amendment Not Fly with the WTO?” which is available separately.

Although the litigation of the Byrd Amendment turned into a mostly legal dispute, the bottom line in the discussion – touched on by both the complainants and the panel’s final decision – is a matter of economics. As the panel ruled, by combining antidumping duties and the distribution of offset payments, the CDSOA effectively imposes “double protection” for U.S. producers (WTO, 2002). Although both sources cite the economic reasoning, neither truly provides an explanation, much less economic analysis, of the situation. Such an economic analysis and explanation are provided here to demonstrate that (1) the argument that “the continuation of dumping after antidumping measures have been taken indicates that it has not been effectively neutralized” is fallacious, and (2) combining antidumping measures and offset payments effectively provides a “double whammy” against dumping and subsidization.

Figure 1 begins the discussion by establishing the equilibrium free trade² conditions. In the figure, the United States is depicted in the left panel as the importing country (as domestic price is above the world price), the world market is in the middle panel, and the right panel depicts an aggregate of all exporting countries.³ In this initial condition, one universal commodity price exists at P_W with U.S. domestic demand at Q_D and U.S. domestic production at Q_S with imports Q_I .⁴ In the middle panel, the downward sloping excess demand (ED) curve is derived as the difference between the U.S. domestic demand (D_{US}) and supply (S_{US}) curves. Likewise, the upward sloping excess supply curve (ES) is derived as the difference between the exporting countries' supply (S_{ROW}) and demand (D_{ROW}) curves. The intersection of the ED and ES curves determines the world equilibrium price at P_W .

The United States contends that the exporting countries are unfairly subsidizing their producers (right panel – exporting countries), artificially inflating their production and shifting their supply curve⁵ to the right from S_{ROW} to S'_{ROW} , which causes their excess supply curve to shift right also from ES to ES' as exporters dump their excess supply onto the world market. The new world price (P'_W) is determined to be the equilibrium for ED and the new ES'. P'_W is below P_W , as the increased commodity supply in the world market drives equilibrium price down. As the United States contends, the foreign subsidization and subsequent dumping of the commodity depresses prices and domestic production in the United States, where production decreases from Q_S to Q'_S . The new, lower price stimulates domestic demand, which increases from Q_D to Q'_D . With domestic supply in decline and domestic demand up, imports jump from Q_I to Q'_I (the difference between Q'_D and Q'_S). This type of scenario is the reason why countries – the United States included – enact antidumping laws, to protect themselves and their producers from the damaging effects of dumping.

So, in order to protect its producers, the United States creates an antidumping order and implements countervailing duties on the dumped commodity. With the duty in place, U.S. importers are willing to pay less for the foreign-produced commodity, as they must pay the duty (T) to bring the foreign commodity into the United States. With the duty in effect, importers are specifically willing to pay T less for each unit of commodity, as they must now pay that amount (T) for each unit of commodity imported. This shifts the ED curve down by T to a new effective excess demand curve (ED'). World price falls to P''_W as demand for the commodity on the world market is dampened by the imposed duty. The price in the United States, however, goes up as importers – forced to pay the duty of T – sell the commodity in the United States for

$P''_w + T$. If T is assigned properly, the import duty will restore the domestic conditions in the United States to their pre-dumping state with price at P_w , domestic supply at Q_s , domestic demand at Q_D , with imports of Q_I .

At this point it is quite apparent that, regardless of whether or not the exporting nations continue to subsidize their producers and dump their excess product in the world market, the damaging effects of dumping on U.S. producers have been compensated for and totally rectified. From the economic perspective, it is quite clear that all necessary actions have been taken and the situation has been thoroughly and effectively dealt with. From the political perspective, however, this does not seem to be sufficient: because imports are still coming in and subsidization still occurs, the problem has not been solved. This strongly held view was the underlying motivation for passing the Byrd Amendment; i.e., as long as foreign dumping and subsidization occur, they are a problem that needs to be dealt with.

With this politically motivated argument, the discussion focuses on “extra” measures taken by congressional lawmakers to “effectively neutralize” dumping and subsidization in a manner “sufficient” to completely eradicate it – enter “offset payments”. As figure 1 demonstrates, all conditions in the United States have been restored to their pre-dumping conditions by the antidumping duty. With the Byrd Amendment, “affected domestic producers” are now provided with an “offset payment” – in effect they are provided with a nonspecific cash subsidy. As previously footnoted, a nonspecific lump sum of cash provided to producers may act as a supply shifter in any of a number of ways – by allowing the recipient to upgrade technology or train their workforce, or by acting as a discount for purchasing inputs.

By implementing these “offset payments” the United States is engaging in exactly the same subsidizing activities it accused exporters of and which it used as a justification to impose antidumping duties. Graphically (see figure 2) this action looks just like the subsidies initially provided to producers in the exporting countries, only this time it is the U.S. domestic supply curve that shifts to the right from S_{US} to S^*_{US} . As figure 2 shows, this new domestic supply curve brings about a new excess demand curve, ED^* (the difference between D_{US} and S^*_{US}), below ED in the world market. As ED has effective excess demand ED' , ED^* has effective excess demand ED'^* , shifted down by T , because the antidumping duties are still in place. Finally, because of the additional supply from domestic producers in the United States, the world price is pushed even further down to P^*_w with the domestic price in the United States at P^*_{US} , the world price (P^*_w) plus the tariff (T). Domestic production is significantly higher (Q^*_s) because of the offset payments, and domestic demand is slightly higher (Q^*_D)

because of the lower prices. Overall imports are reduced to Q^*_I (the difference between Q^*_D and Q^*_S).

At first glance, with the new domestic price P^*_{US} below the old domestic price, it may seem as though domestic producers are not benefiting from the subsidy. In actuality, the “affected” domestic producers are receiving P^*_{US} for their commodity, *as well as* the subsidy payment from the government. Their total welfare, then, additionally includes the shaded area in the left panel of figure 2. This subsidy amount is generated by the tariff receipts, represented by the shaded portion of the middle panel of figure 1 (imports Q_I multiplied by the tariff amount, T). It is worth noting that the Byrd Amendment will hurt domestic non-“affected producers”, who now face the lower domestic price without the benefit of the offset payments.

From table 1.A it is clear that both the complainants and the panel were correct in their analysis of the economic effects of the Byrd Amendment. As established by the first portion of this analysis, the antidumping duties *did* effectively neutralize the dumping and subsidization as the complainants held in their arguments, returning U.S. price, supply, demand, and imports to their pre-dumping levels. Additionally, as shown by the second half of the analysis and summarized in table 3, the “offset payments” provide double protection for “affected domestic producers” and provide them with an unfair competitive advantage over both domestic non-“affected producers” and foreign producers and exporters alike.

Table 1.A Summary of Economic Analysis

Trade condition	Price (US)	Price (World)	Production (US)	Demand (US)	Imports (US)
Free trade	P_W	P_W	Q_S	Q_D	Q_I
Dumping/subsidization	P'_W	P'_W	Q'_S	Q'_D	Q'_I
Antidumping measures	P_W	P''_W	Q_S	Q_D	Q_I
Antidumping & offsets	P^*_{US}	P^*_W	Q^*_S	Q^*_D	Q^*_I

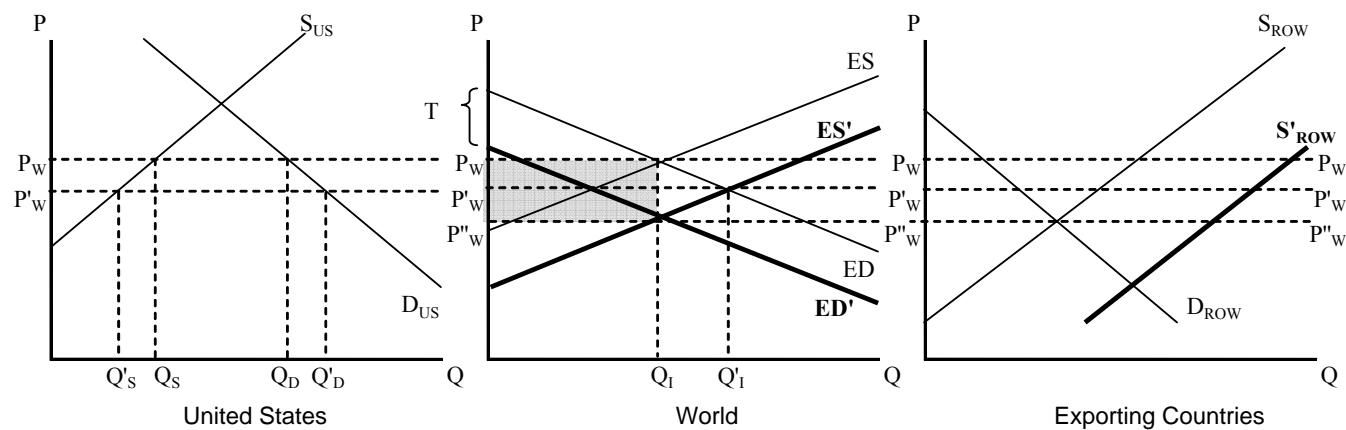


Figure 1

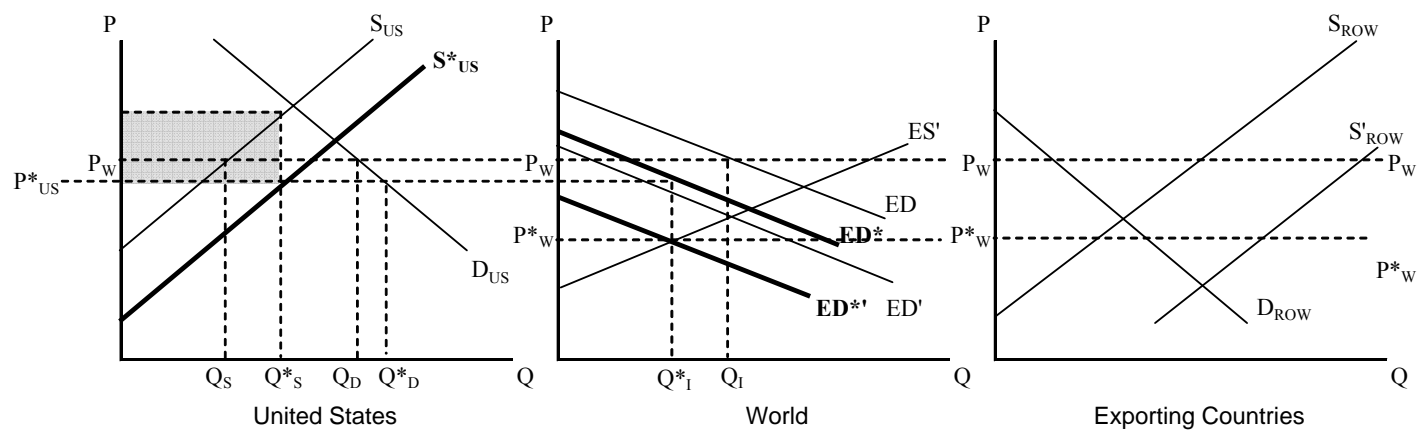


Figure 2

Endnotes

1. Our analysis is performed under the simplifying assumption of perfect competition. The existence of dumping indicates that firms have market power to price discriminate, a violation of the assumptions of perfect competition. This simplification does not render the findings of this analysis spurious, but should nonetheless be noted.
2. The analysis is valid whether the initial condition is free trade or not. The important matter is establishing some constant starting point for the analysis. For the sake of discussion, this analysis will assume that initial condition to be free trade, as it allows for the least complicated demonstration and analysis.
3. For the given commodity under discussion only. The type of partial equilibrium analysis employed here allows for the discussion of a single commodity at a time.
4. Defined as the difference between QD and QS.
5. Cramer, Jensen, and Southgate (1979, 231) allow, "Supply shifts are caused by changes in technology, labour productivity, input prices, and other external factors affecting production." Nonspecific government subsidies may shift supply through any of the listed methods – they could be used to improve technology, train labour to increase productivity, or serve as a discount toward input prices.