



# Antidumping duties and price undertakings: A welfare analysis<sup>☆</sup>



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## ABSTRACT

In this paper we examine differences in welfare implications between two trade protection measures: antidumping (AD) duties and price undertakings. Based on a stylized model of duopolistic competition under an effective AD law, we first analyze the case where a foreign firm convicted of dumping is required to pay an AD duty. We then examine the case in which a convicted foreign firm has the option of (i) paying an AD duty or (ii) accepting an undertaking by raising product price to its “normal value.” Taking into account the GATT/WTO policy that an AD duty rate must not exceed the margin of dumping, we show conditions under which a foreign firm chooses to evade its AD fine by a price undertaking. We find that the welfare-maximizing AD duty rate for a dumped product depends crucially on its normal value. If the foreign product’s normal value is “critically high,” the optimal AD rate is set to fully reflect the dumping margin. Otherwise, the optimal AD rate is set lower than the dumping margin. From the perspective of social welfare, these findings help to identify the economic conditions under which one policy instrument is chosen over the other against foreign dumping.

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## 1. Introduction

From the perspectives of importing countries, the use of antidumping (AD) policy to protect domestic industries has a long history spanning more than a century. The literature on the economic effects of AD policy is huge.<sup>1</sup> Under the GATT/WTO AD code, foreign firms convicted of dumping violations may have the discretion to choose between paying an AD duty and raising product price to its normal value. The latter option available to the convicted foreign firms is referred to as price undertakings.<sup>2,3</sup> The aim of this paper is to analyze how the availability of price undertakings affects an importing country’s decision on setting its optimal AD duty against a dumped product. In the analysis, we take into account the GATT/WTO regulation that an AD duty rate must not exceed the margin of dumping.

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<sup>1</sup> For studies on dumping under the traditional antidumping law, see, e.g., Dixit (1988), Prusa (1992, 1994), Fischer (1992), Reitzes (1993), Anderson (1992, 1993), Anderson, Schmitt, and Thisse (1995), Blonigen and Prusa (2003), Gao and Miyagiwa (2005), Wu et al. (2011), and Dinlersoz and Dogan (2010). For issues related to administered protection and the political economy of antidumping, see, e.g., Finger, Hall, and Nelson (1982), Tharakan (1991), Niels (2000), Irwin (2004), and Nelson (2006). For other issues on AD such as the Continued Dumping and Subsidy Offset Act implemented by the U.S. government under which the revenues from AD fines are redistributed to domestic firms alleging harm see, for example, Collie and Vandenbussche (2006), Evenett (2006) and Chang and Gayle (2006). For other issues related to AD measures and their various economic effects see, e.g., Vandenbussche and Wauthy (2001), Pauwels and Springael (2002), Belderbos et al. (2004), Moore (2005), and Ishikawa and Miyagiwa (2008).

<sup>2</sup> An undertaking is a commitment by an exporter to raise the export price of its product or to restrain its exporting volume to avoid the possibility of an AD duty. In general, undertakings may take the form as a price increase or a volume reduction. Given that many cases of undertakings involve setting products at their normal values, we focus our analysis on price undertakings. Price undertaking measures are usually regarded as a “softer option” than a definitive duty because the foreign firms can pocket the price differences by raising product prices to the levels of their normal values.

<sup>3</sup> It should be noted that an importing country’s government has the discretion to decide whether it wants to offer price undertaking or not.

When imported products are placed on AD orders because foreign firms dump the products at prices below their normal values,<sup>4</sup> the firms may accept price undertakings as a business strategy to evade their payments of AD duties. In this paper, we argue that the availability of price undertakings to foreign exporters imposes a significant constraint on the government of an importing country in setting its welfare-maximizing AD duties. We show that the socially optimal AD duty rate on a dumped product depends crucially on its margin of dumping or the foreign import's normal value. If the foreign product's normal value is "critically high," the optimal AD duty rate on the product is set to fully reflect its dumping margin. Otherwise, the optimal AD duty rate is set lower than the dumping margin. To demonstrate these results, we present a simple model of duopolistic competition between home and foreign firms under an effective AD law. We first examine the "traditional" case where a foreign firm convicted of dumping is required to pay an AD duty. We then analyze the alternative case in which a convicted foreign firm has the option of paying an AD fine or accepting a price undertaking.

The acceptance of price undertakings by foreign firms as a settlement strategy plays a role in affecting the termination of AD cases in the European Economic Community (EEC). It has been observed that the EEC countries frequently allow foreign firms to accept price undertakings. In an interesting contribution, Zanardi (2006) remarked that out of 578 affirmative AD actions for the EEC between 1981 and 2001, as high as 40.6% of these cases were terminated by price undertakings.<sup>5</sup> However, using the more updated data from 1995 to 2008, Rovegno and Vandebussche (2011) indicate that the use of price undertakings in the EU has decreased steadily and in favor of AD duty.<sup>6</sup> Most price undertakings in the EU were granted to firms from New EU Member States. Once these countries joined the Union, and no AD could be targeted at them, the number of price undertakings dropped.

Studies on the economic effects of price undertakings include the contributions by Stegemann (1990), Vandebussche and Wauthy (2001), Pauwels and Springael (2002), Belderbos, Vandebussche, and Veugelers (2004), Moore (2005), and Ishikawa and Miyagiwa (2008). Stegemann (1990) contends that price undertakings are a "legally" implemented collusive device as convicted foreign firms may find it beneficial to raise their product prices without paying AD fines. Pauwels and Springael (2002) examine the welfare implications of AD duties and price undertakings in EU. The authors show that social welfare is greater under an AD duty than under a price undertaking, regardless of whether (i) home and foreign firms compete in a Cournot or Bertrand fashion or (ii) the competing firms move simultaneously or sequentially in their output decisions. Vandebussche and Wauthy (2001) analyze how the product quality decisions of firms may be affected by AD measures in EU. They show that price undertakings lead to low product quality in the domestic competitive industries of an importing country. Belderbos et al. (2004) examine the incentives for foreign firms to engage in foreign direct investment (FDI) under AD duties and price undertakings. The authors indicate that an importing country's government chooses price undertakings over AD duties in order to lower the incentives of international firms in FDI. Moore (2005) compares the effects of price undertakings and voluntary export restraints (VERs) in a model of international Bertrand duopoly. An interesting finding is that the imposition of a VER can result in lower domestic prices and profits than that of a price undertaking. Ishikawa and Miyagiwa (2008) further show the differences between price undertakings and VERs in affecting the incentives of FDI by international firms. These studies have made significant contributions to our understanding of price undertakings and their effects on different economic issues. A striking feature of the majority of these analyses is the assumption that the amounts of AD duties are exogenously given.<sup>7</sup>

In this paper, we examine differences in the welfare implications between AD duties and price undertakings in an import-competing market. We consider the case that the optimal amount of AD duty on a foreign import is determined endogenously. Importing countries may not necessarily pursue the goal of maximum welfare in setting their AD fines. But, as in most studies in the international trade literature, we adopt the assumption of social welfare optimization in order to look at the efficiency aspect of the alternative AD measures when equal weights are placed on domestic consumers and producers.<sup>8</sup> We discuss the economic determinants of a socially optimal AD duty on a dumped import under the condition that a foreign firm has the discretion to choose between an AD fine and a price undertaking. In the analysis, we consider a simple three-stage game. At stage one, an importing country's government determines its optimal AD duty, taking into account two constrained conditions. One condition is the GATT/WTO policy that the amount of AD duty must not exceed the dumping margin. The other condition is that a convicted foreign firm has the option of paying an AD duty or raising product price to its normal value in order to waive the AD fine. At stage two, the foreign firm decides whether it wants to pay the AD fine or to accept a price undertaking. At the third and last stage of the game, the home and foreign firms independently and simultaneously make their output decisions that maximize respective profits. We use backward induction to solve for the sub-game perfect Nash equilibrium.

<sup>4</sup> Dumping investigations frequently involve some complicated steps in calculating the difference between a foreign product's price in the market of the exporting country (referred to as the "normal value") and the appropriate price in the market of the importing country. If sales in the exporting country market are unavailable, two alternative bases can be used to measure the foreign product's normal value. One is the price of the product sold to a third country. The other is the foreign product's "constructed normal value," which is calculated according to its production cost, "plus selling, general, and administrative expenses, and profits." For guidelines set forth by the GATT/WTO to calculate a product's constructed normal value and to determine its dumping margin, see: [http://www.wto.org/english/tratop\\_e/adp\\_e/adp\\_info\\_e.htm](http://www.wto.org/english/tratop_e/adp_e/adp_info_e.htm).

<sup>5</sup> The number of price undertakings accepted has varied considerably over time in the EEC. Tharakan (1991) indicates that, out of 249 affirmative case decisions for the period 1980–1987, as high as 72% were terminated by the acceptance of undertakings in the EEC.

<sup>6</sup> Rovegno and Vandebussche (2011) note that the average use of AD duty in EU for the period 1995–2008 is more than 76%.

<sup>7</sup> Cheng, Qiu, and Wong (2001) examine an optimal incentive-compatible AD measure to induce firms to reveal their truthful cost information. The analysis ignores the possibilities of price undertakings accepted by the convicted foreign firms. The authors employ a cost-based dumping definition in calculation dumping margin. In our paper, we follow Pauwels et al. (2001) and Evenett (2006) by looking at the normal value of a dumped import.

<sup>8</sup> One notable exception is the contribution by Tharakan (1991) that looks at the political economy of price undertakings and analyzes motivations of governments for choosing to offer the option of raising prices. The author indicates that price undertakings may reduce the tension of trade retaliation for a political reason. For other studies that examine issues related to the regulation of international firms and possible compensation to foreigners for protectionist policies see, e.g., Hillman and Ursprung (1988, 1990).

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