International of European and Economic Studies
MSc in International Economics and Finance

Anti-dumping practices: A safety valve or trade impediment?

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Credits

This diploma thesis is the final stage of my postgraduate studies in the Department of European and Economic Studies focusing on International Economics and Financial. First of all, I would like to thank my supervisor Mr. Chatzipanagiotou Panagiotis for his valuable help and his advice throughout this assignment and the teachers of this postgraduate program who tried to communicate both their knowledge and their spirit, for continuous professional improvement and development. In addition, I am grateful to my parents as well as to everybody who support me in every effort.

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Abstract

The present study aims to analyze the phenomenon of dumping. More specifically, it is presented information concerning trade across the world as well as how this is formed by dumping and trade barriers. The methodology is based on the collection of data collected them from scientific books, articles as well as from official websites.

In order to be fully understood, there is an introduction which explains what dumping is, starting from a historical review and mentioning the objectives and the types of it. Moreover, observing the diagram of dumping it becomes obvious the profitability of it.

The next chapter focuses on antidumping actions as a reaction to dumping, citing some historical data as well as their effects worldwide. In 1948, it was important to establish a trade agreement intending to reduce tariffs highlighting the pros and cons of it, mentioning also the impact of trade liberalization. In addition to this, there is both an extended analysis of anti-dumping regulations under WTO and under EU.

Finally, it is extremely important to consider a case study concerning a product and specifically solar panels. Solar panels are one of the most important instances of dumping cases while lots of enterprises are interested in importing and exporting this kind of product abroad increasing their revenues. In this analysis, there is a particular emphasis on financial relations between China and European Union.

At the end of the paper, conclusions are summarized.

1. Introduction

Economists deem that trade liberalization is better than trade protection. In reality, they consider that country which do not has trade barriers earns more profits from imports. Despite this claim, the protection of trade exists until nowadays and is widespread worldwide.

In this paper, there is an analysis of economic relations among countries which try to create transactions either using legal or illegal ways. The evolution of these financial transactions is constantly being examined through some regulations which lead to decisions concerning the economic situation of countries.

It is absolutely clear that each country wants to protect its production from harmful imports and is able to use every legal measure is needed for this purpose. This happens when each country realize that is threatened from other economies in a way that is analyzed below.

The above-mentioned cases are described in detail below based on two basic phenomena which are called “dumping” and “anti-dumping”.

2. The meaning of dumping

2.1 Definition

Dumping is a phenomenon which occurs under imperfect competition[1] and this happens when firms charge different prices across countries because they deem that this pricing strategy is profitable for them. Specifically, dumping occurs when a foreign firm sells a product abroad at a price that is either less than the price it charges in its local market, or less than its average cost to produce the product.

Dumping is an old phenomenon in international market and in the literature, there are two views on the concept of dumping. Traditionally and according to Viner (1931), dumping has been defined as pure discrimination between national markets. This view is also codified in article VI of the GATT. According to Article 2(a) of the Anti-Dumping Code under the GATT that is analyzed in a next chapter of this assignment, dumping exists when price of the product exported from one country to another is less than the comparable price, in the ordinary course of trade, for the like product when destined for consumption in the exporting country. Recent experience of developed countries has however led to an alternative view. Very recently, Ethier (1982) has de-emphasized the element of price discrimination in dumping and has defined dumping as an act of selling the product in the foreign market as well as in the home market at below-average cost price in times of depression and unemployment.

Numerous cases exist of dumping in the form of price discrimination. For instance, the Japanese steel industry has been identified recently as a dumper for indulging in dual pricing as mentioned by Dale (1980). Lloyd (1977) also cites cases where developing countries have dumped their primary goods at prices lower than their domestic prices to increase the income of producers of agricultural commodities.

2.2 Historical review of dumping

The concept of "dumping" in international trade has a long history.[2] Jacob Viner, the first scholar to pull together previous writings on the subject of dumping, noted a sixteenth-century English writer who charged foreigners with selling paper at a loss to smother the infant paper industry in England[3].

[1]Under imperfect competition goods are differentiated and firms can influence the price they charge.

[2]According to Jackson and Vermulst the first use of the term "to dump" seems to have been 1868, in the Commerce and Financial Chronicle (VI. 326/I) where it was said "…new stock secretly issued (was) dumped on the market for what it would fetch". They suggest that for the purposes of tracking down the genesis of the term "dumping" in international trade, focus should be on the United States congressional debate in 1884. They also recommend a further reading of the Supplement to the Oxford English Dictionary Volume 1, A-G, 884 1972. See Jackson and Vermulst in Antidumping Law and Practice: A Comparative Study (1989)

[3]Viner Dumping: A Problem in International Trade (1923)

Viner also noted an instance in the seventeenth century in which the Dutch were accused of selling at low prices in the Baltic regions in order to drive out French merchants. He further noted statements made by Alexander Hamilton in debates in the USA in 1791 warning about foreign country practices of underselling competitors in other countries so as to "…frustrate the first efforts to introduce a business into another by temporary sacrifices, recompensed, perhaps by extraordinary indemnifications of the government of such country…"[4] Hamilton further declared that the greatest obstacle encountered by new industries in a young country was the system of export bounties, which foreign countries maintained in order to "enable their own workmen to undersell and supplant all competitors in countries to which these commodities are sent."[5]He drew attention to the possibility that unofficial bounties were being given by combinations of producers: "…combinations by those engaged in a particular branch of business in one country to frustrate the first efforts to introduce it into another by temporary sacrifices, recompensed, perhaps by extraordinary indemnification of the government of such a country, are believed to have existed and are not to be regarded as destitute of probability."[6]Viner further records that Adam Smith not only disapproved of the practice by which governments stimulated exports at prices lower than those current in their domestic markets through the grant of official bounties, but that he also gave an instance from personal observation of the grant of bounties on exports by a private combination of producers in order to reduce the supply available for the domestic market.[7]Other instances of allegations of dumping by British manufacturers into the new American market are reported, and public discussion of this problem as well as various legislative attempts to deal with it were reported during most of the nineteenth century.[8] Jackson and Vermulst record that one of the first laws of the USA dealing with international trade was concerned with dumping. In the early twentieth century dumping was widespread in Germany. During and after World War 1, the US Congress enacted several antidumping statutes. It is important to note that trade between industrialized nations did occur for at least half a century before the adoption of these antidumping measures. During that period, dumping was pervasive, and its dynamics and effects were widely reported and discussed. Many countries, including the USA, were relatively unaffected by dumping because high tariff walls severely limited import competition. A typical example of a

[4]Hamilton "Report on Manufacturers 1791". Cited by Viner
[5]Hamilton see fn 4.
[6]See Wealth of Nations, Book IV, Chapter V: "l has known the different undertakers of some particular works agree privately among themselves to give a bounty out of their own pockets upon the exportation of a certain proportion of goods which they dealt in. This expedient succeeded so well that it more than doubled the price of their goods in the home market, notwithstanding a considerable increase in the produce." Cited by Viner Dumping
[7]Viner Dumping 38-39
[8]Jackson and Vermulst Antidumping Law and Practice

fully industrialized country that elected to avoid any policy action against dumping and to remain in effect an “open dumping ground” for a protracted period is Britain.

2.2.1 Dumping by Germany

There is general agreement that before 1914, export dumping was more widespread and more systematically practiced in Germany than any other country. The resort to export dumping by Germany seems to have been facilitated by the high tariffs and by the complete organization of large-scale industry into cartels or industrial selling and buying combinations. These two factors monitored price competition in the domestic market. Cartels monitored price competition from outside Germany and the combinations monitored the German producers themselves. In concert, they made it possible for many of the cartels to adopt as a definite price policy the maintenance of domestic prices at the foreign level plus the full amount of the German import duties and the sale for exports at best prices obtainable, even if these should be substantially below domestic prices. It is obvious that systematic and continued dumping is not likely to arise if the dumping concern must share the higher domestic prices with the competitors and must bear by itself the cost of the export dumping. The cartel method in Germany provided the machinery whereby, without the loss of individuality of the separate concerns, the benefits and burdens of export dumping could be equitably distributed among the domestic producers. The effects of the protective tariff were such that foreign competitors were prevented from sharing in the high domestic prices resulting from the price fixing activities of the cartels. However, export dumping by German industries and especially by the iron and steel trade began in the nineteenth century, long before the establishment of cartels. Since 1914, writers have always made the charge hostile to Germany and all her works that much of the German dumping was actuated by predatory motives. Some writers have gone so far as finding “a manifestation of a deep-laid conspiracy between the German government and industry to destroy the competing industries of foreign countries.”

2.2.2 Dumping in the United States of America

Since the late eighties of the nineteenth century, export dumping on a continued and systematic scale has been a common practice of American manufacturers. There is according to Viner, immeasurable evidence available both in official and non- official sources, which is conclusive in this respect, and which further demonstrates beyond doubt that a substantial fraction of the American export trade in manufactured commodities had, before 1914, been developed and maintained on the basis of sale at dumping prices. The abundance of evidence is more significant and convincing because American exporters who resorted to dumping generally endeavored to conceal their export prices from the

general public. Export price lists and quotations were carefully kept out of domestic circulation. In 1902, a Committee of the Democratic Party seeking campaign material succeeded in obtaining from a foreign subscriber a copy of the discount sheet of an American journal, which contained the lowest export prices. A New York Tariff Reform pamphlet, published in 1890, presented many instances of dumping. What followed was a buildup of evidence of the prevalence of dumping. In the USA, the systematic and continued practice of dumping appears to have been largely either confined to the dominant concerns (trusts) of the staple industries or to manufacturers of specialties. In other countries, and especially Germany, even the smallest concerns participated in exportation at reduced prices through their membership in cartels or producer's combinations and through the use of export bounties.

2.2.3 Recent Cases of dumping

Dumping cases exist until nowadays across the world. For instance, the [9]EU has decided to impose provisional anti-dumping duties on seamless pipes and tubes of iron or steel originating in China. This product is typically used in power stations, the construction industry and the oil and gas industry. The Commission's investigation confirmed that the Chinese products had been sold in Europe at high-priced dumped prices. In order to give European companies, the necessary freedom of movement, the Commission imposed tariffs ranging between 43.5% and 81.1%. This is expected to avoid damaging the European companies involved in the production of steel tubes of all kinds. The procedure was initiated on 13 May 2016 following a complaint lodged by the industry.

The EU now has an unprecedented number of trade defense measures for illegal exports of steel products from third countries totaling 40 anti-dumping measures and anti-subsidy measures, eighteen of which concern products originating in China.

In addition to this, facing the challenges of growing energy consumption and climate change, the EU launched the climate and energy package as a set of binding legislation for its targets for 2020. The solar panel industry has thus witnessed a growing demand in the EU market. China, on the other hand, seized the opportunity to develop the solar PV manufacturing in its coastal provinces. As the Chinese solar panel products gradually dominated the EU market and crowded out the EU manufactures, the EU launched the anti-dumping and anti-subsidy investigation on solar panels imported from China on the request of EU manufactures, which later gave rise to the largest trade dispute between the EU and China.

[9] Agrocapital.gr (2006)

Since the trade relationship between the EU and China is admittedly too big to fail, settling the solar panel dispute can be considered successful for having avoided a trade war. It is crucial for both the EU and China to maintain good trade relations based on mutual benefit. However, differing trade interests with China of Member States have divided the EU in the negotiations. In facing the increasing bargaining power of China, a joint effort among the EU Member States is advisable.

For the solar manufacturing industry, global competition has resulted in reduced prices. The lower solar panel prices bring benefit to the customers, as well as the Member States that are promoting the adoption of renewable energy consumption by subsiding the installation of solar panels.

Meanwhile, fair competition should be guaranteed under the WTO and other legal frameworks. Competition should be more geared toward productivity increases rather than gearing price advantages. In this sense, the settlement by way of a minimum price agreement is a reasonable way to protect the manufacturers from further price wars.

2.3 Objectives of Dumping

There are four main objectives[10] of dumping which are described below:

→ TO FIND A PLACE IN THE FOREIGN MARKET

A monopolist resort to dumping in order to find a place or to continue himself in the foreign market. Due to perfect competition in the foreign market he lowers the price of his commodity in comparison to the other competitors so that the demand for his commonly may increase. For this reason, he often sells his commodity by incurring loss in the foreign market.

→ TO SELL SURPLUS COMMODITY

When there is excessive production of a monopolist's commodity and he is not able to sell in the domestic market, he wants to sell the surplus at a very low price in the foreign market. This happens occasionally.

→ EXPANSION OF INDUSTRY

A monopolist also resorts to dumping for the expansion of his industry. When he expands it, he receives both internal and external economies which lead to the application of the law of increasing returns. Consequently, the cost of production of his commodity is reduced and by selling more quantity of his commodity at a lower price in the foreign market, he earns larger profits.

[10] Smirti Chand, "Dumping – Meaning, Types, Price Determination and Effects of Dumping" http://www.yourarticlelibrary.com/ [access 23/9/2017]

→ NEW TRADE RELATIONS

The monopolist practices dumping in order to develop new trade relations abroad. For this, he sells his commodity at a low price in the foreign market, thereby establishing new market relations with those countries. As a result, the monopolist increases his production, lowers his costs and earns more profit.

2.4 Types of dumping:

Dumping can be classified in four basic ways:

a) *Sporadic or Intermittent Dumping:*

It is adopted under exceptional or unforeseen circumstances when the domestic production of the commodity is more than the target or there are unsold stocks of commodity even after sales. In such a situation, the producer sells the unsold stocks at a low price in the foreign market without reducing the domestic price. This is possible only if the foreign demand for his commodity is elastic and the producer is a monopolist in the domestic market. His aim may be to identify his commodity in a new market or to establish himself in a foreign market to drive out a competitor from a foreign market. In this type o dumping, the producer sells his commodity in a foreign country at a price which covers his variable costs and some current fixed costs in order to reduce his loss.

b) *Persistent Dumping:*

When a monopolist continuously sells a portion of his commodity at a high price in the domestic market and the remaining output at a low price in the foreign market, it is called persistent dumping. This is possible only if the domestic demand for that commodity is less elastic and the foreign demand is highly elastic. When costs fall continuously along with increasing production, the producer does not lower the price of the product more in the domestic market because the home demand is less elastic.

However, he keeps a low price in the foreign market because the demand is highly elastic there. Thus, he earns more profit by selling more quantity of the commodity in the foreign market. As a result, the domestic consumers also benefit from it because the price they are required to pay is less than in the absence of dumping.

c) *Predatory Dumping:*

Predatory dumping refers to a situation in which a foreign firm sells at a price below its average costs with the intention of causing home firms to suffer losses and eventually to leave the market because

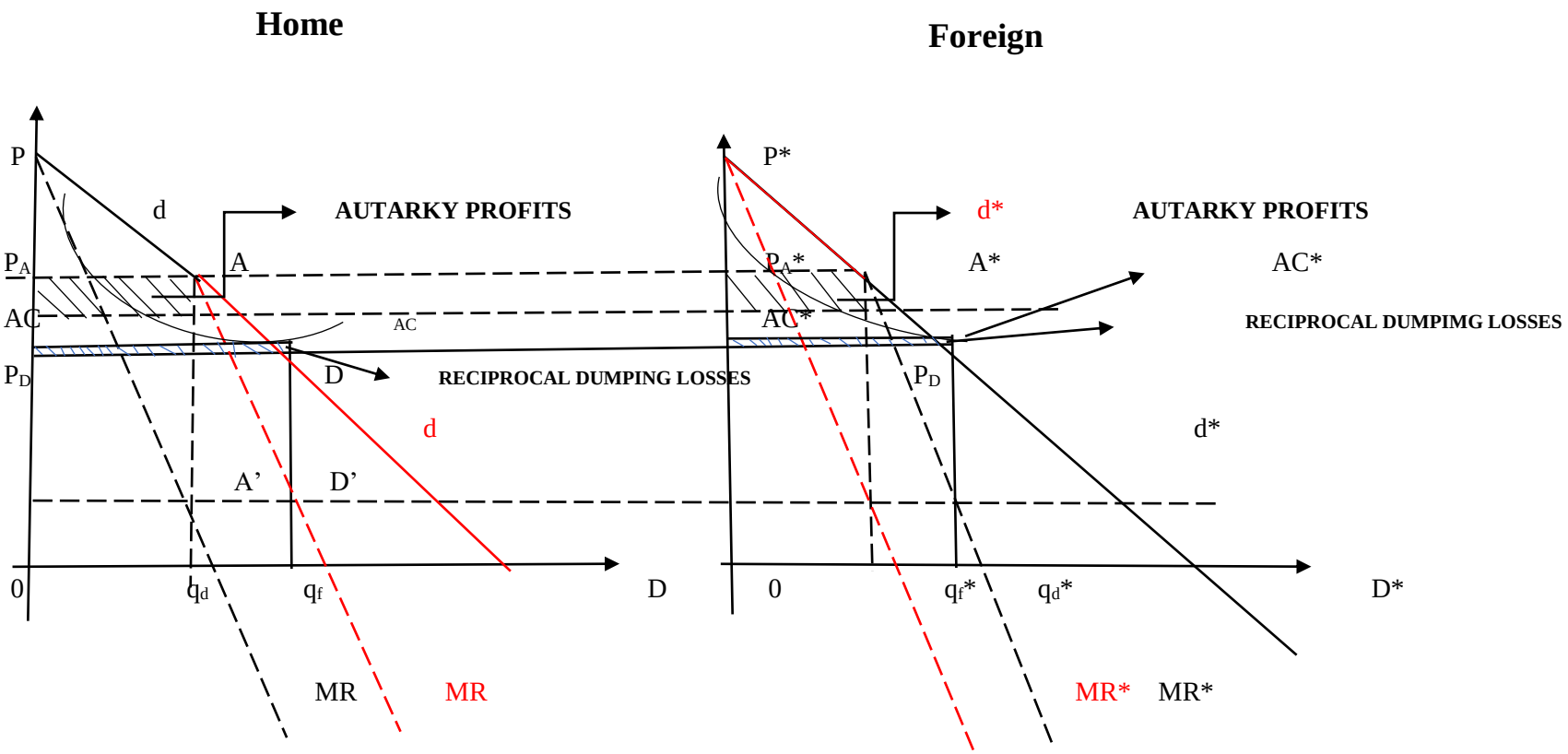
of bankruptcy. According to economist's predatory behavior is rare and the firm engaged in the predatory pricing behavior must believe that it can survive its own period of losses for longer than the firm or firms it is trying to force out of the market. Furthermore, the other firms must have no other option except to exit the market even though the firm using the predatory pricing can survive.

Therefore, predatory dumping is deemed successful only if some conditions are applied. More specifically, the foreign firm should have enough sources in order to survive until the home firm withdraws from the market. When the foreign firm achieves to disappear the home firm then it should establish some restrictions on the entry of new firms into the market because in the absence of them the firms would enter the market in order to take advantage of the monopolistic prices abolishing its monopoly position. So, the exporter should convince the government to prevent international competitors to enter the market. In fact, all these conditions are rarely applied. That's why the appropriate political reaction in the predatory dumping is the existence of competitive markets with few restrictions. In most countries, the monopolistic behavior is illegal and the only way to deter the predatory dumping is the strict application of laws which protect the free entry in markets.

d) Reciprocal dumping:

As we described above the phenomenon of "dumping" in international trade can be explained by the standard theory of monopolistic price discrimination. If a profit maximizing firm believes it faces a higher elasticity of demand abroad than at home, and it is able to discriminate between foreign and domestic markets, then it will charge a lower price abroad than at home. Brander (1981) shows how dumping arises for systematic reasons associated with oligopolistic behavior, so he develops a model in which the rivalry of oligopolistic firms serves as an independent cause of international trade and leads to two-way trade in identical products. So, the oligopolistic rivalry between firms naturally gives rise to "reciprocal dumping" according to which each firm dumps into other firms' home markets. It is shown that is robust to a fairly general specification of firms' behavior and market demand and according to Helpman (1982) the crucial element is the perception of "segmented markets", that is, each firm perceives each country as a separate market and makes distinct quantity decisions for each.

Reciprocal dumping is rather striking in that there is pure waste in the form of unnecessary transport costs. Without free entry, welfare may improve as trade opens up and reciprocal dumping occurs, but it is also possible that welfare may decline. With free entry both before and after trade, the opening of trade (and the resultant reciprocal dumping) is definitely welfare improving for the Cournot case.



Red lines: foreign firm

Black lines: home firm

Figure 1: Reciprocal Dumping

Home demand: Uniform demand, MC=MR': A' so in home market sales q_d at P_A and $P_A > AC$: profits in the shadowed area.

Foreign firm comes in home market and at lined from the point A and below (the red part) the remaining part of the demand becomes foreign's demand and has MR (red line). Foreign market has MC=MR at point D' with q_F and P_D, so P_D <AC and P_D < P_A so this small shadowed area is losses. So, the home firm accuses the foreign firm for ***dumping.***

The conditions above describe the situation for foreign firm also. The foreign firm accommodates the red part of demand (d*, P_A until point A) and MC, AC are the same as before. Following the same procedure, we conclude that the foreign firm accuses home firm for ***dumping.***

- **Theoretical model of reciprocal dumping**

In the sequel, a simple model of Cournot duopoly and trade is presented which shows how reciprocal dumping can occur as well as the welfare analysis.[11]

We assume that there are two identical countries, one "domestic" and one "foreign", and that each country has one firm producing commodity Z. There are transport costs incurred in exporting goods from one country to the other. The main idea is that each firm regards each country as a separate market and therefore chooses the profit-maximizing quantity for each country separately. Each firm has a Cournot perception: it assumes the other firm will hold output fixed in each country.

The domestic firm produces output x for domestic consumption and output x* for foreign consumption. Marginal cost is a constant, c, and transport costs of the "iceberg" type imply that the marginal cost of export is c/g, where $0 \leq g \leq 1$. Similarly, the foreign firm produces output y for export to the domestic country and output y* for its own market, and faces a symmetric cost structure. Using p and p* to denote domestic and foreign price, domestic and foreign profits can be written, respectively, as:

$\pi = xp(Z) + x^*p^*(Z^*) - c(x + x^*/g) - F$ (1)

[11] James Brander, Paul Krugman "A reciprocal dumping model of international trade", Journal of International Economics 15 (1983) 313-321. North Holland

$\pi^*=yp(Z)+y^*p^*(Z^*)-c(y/g+y^*)-F^*$ (2)

where asterisks generally denote variables associated with the foreign country and F denotes fixed costs. A little inspection reveals that the profit-maximizing choice of x is independent of x* and similarly for y and y*: each country can be considered separately. By symmetry we need consider only the domestic country.

Each firm maximizes profit with respect to own output, which yields the first-order conditions:

$$\pi_x = xp' + p - c = 0 \qquad (3)$$

$$\pi_y = yp' + p - c / g = 0 \qquad (4)$$

where primes or subscripts denote derivatives. These are "best-reply" functions in implicit form. Their solution is the trade equilibrium. Using the variable σ to denote y/Z, the foreign share in the domestic market, and letting ε=-p/Zp΄, the elasticity of domestic demand, these implicit best-reply functions can be rewritten as:

$p=c\varepsilon/(\varepsilon+\sigma-1)$ (3΄)

$p=c\varepsilon/g(\varepsilon-\sigma)$ (4΄)

Equations (3΄) and (4΄) are two equations that can be solved for p and σ. The solutions are:

$p=c\varepsilon(1+g)/g(2\varepsilon-1)$ (5)

$\sigma=(\varepsilon(g-1)+1)/(1+g)$ (6)

These solutions are an equilibrium only if second-order conditions are satisfied:

$$\pi_{xx} = xp'' + 2p' < 0 \qquad \pi^*_{yy} = yp'' + 2p' < 0 \qquad (7)$$

We also impose the following conditions:

$$\pi_{xy} = xp'' + p' < 0 \qquad \pi^*_{yx} = yp'' + p' < 0 \qquad (8)$$

Conditions (8) mean that own marginal revenue declines when the other firm increases its output, which seems a very reasonable requirement. They are equivalent to reaction functions (or best-reply functions) being downward sloping. They imply stability and, if they hold globally, uniqueness of the demand structures, but cases

would have to be considered unusual. In any case, pathological examples of no cooperative models are well understood. Accordingly, we assume (7) and (8) are satisfied.

Positive solutions to (5) and (6) imply that two-way trade arises in this context. A positive solution will arise if $\varepsilon<1/(1-g)$ at the equilibrium since this implies that price exceeds the marginal cost of exports ($p>c/g$) and that $\sigma>0$. Subject to this condition, and given (7) and (8), unique stable two-way trade equilibrium holds for arbitrary demand. At equilibrium, each firm has a smaller market share of its export market than of its domestic market. Therefore, perceived marginal revenue is higher in the export market. The effective marginal cost of delivering an exported unit is higher than for a unit of domestic sales, because of transport costs, but this is consistent with the higher marginal revenue. Thus, perceived marginal revenue can equal marginal cost in both markets at positive output levels. This is true for firms in both countries, which thus gives rise to two-way trade. Moreover, each firm has a smaller markup over cost in its export market than at home: the f.o.b price for exports is below the domestic price, and therefore there is reciprocal dumping.

The case of constant elasticity demand, $p = AZ^{-1/\varepsilon}$, is a useful special case which is illustrated in figure 2. For profit maximization by the domestic firm, p is decreasing in σ, while condition (4′) for the foreign firm has price increasing in σ. The intercepts on the price axis are, respectively, $c\varepsilon/(\varepsilon-1)$ and c/g. Thus, provided $c\varepsilon/(\varepsilon-1)>c/g$ the intersection must be at a positive foreign market share. This condition has a natural economic interpretation, since $c\varepsilon/(\varepsilon-1)$ is the price which would prevail if there were no trade, while c/g is the marginal cost of exports. What the condition says is that reciprocal dumping will occur if monopoly markups in its absence were to exceed transport costs.

Clearly, the reciprocal dumping solution is not Pareto efficient. Some monopoly distortion persists even after trade, and there are socially pointless transportation costs incurred in cross-hauling. What is less clear is whether, given a second-best world of imperfect competition, free trade is superior to autarky. This is a question with an uncertain answer, because there are two effects. On the one hand, allowing trade in this model leads to waste in transport, tending to reduce welfare. On the other hand, international competition leads to lower prices, reducing the monopoly distortion.

If demand is assumed to arise from a utility function that can be approximated by the form U=u(Z)+K, where K represents consumption of a numerical competitive good, then the welfare effects of trade can be measured by standard surplus measures.

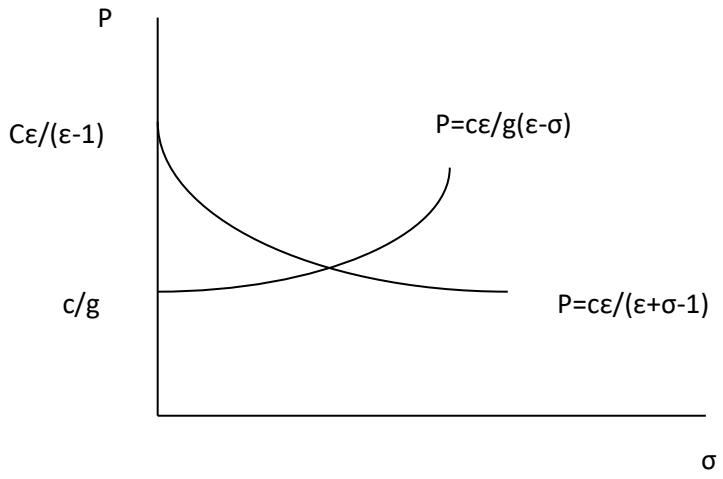


Figure 2: Effects on welfare

Figure 2 illustrates the point that there are conflicting effects on welfare. In the figure Zo is the pre-trade output of the monopolized good, p_0 is the pre-trade price, and c is marginal cost. After trade consumption rises to Z_1 and price falls to p_1. But output for domestic consumption falls to x, with imports y. As the figure shows, there is a gain from the "consumption creation" $Z_1 - Z_0$, but a loss from the "production diversion" Z_0-x.

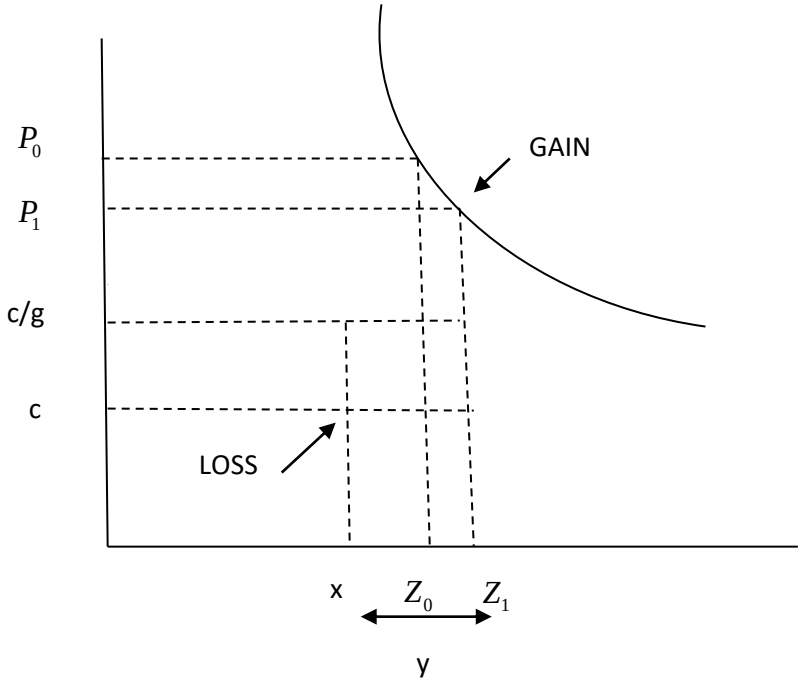


Figure 3: Gains and Losses from trade

There are two special cases in which the welfare effect is clear. First, if transport costs are negligible, cross-hauling, though pointless, is also costless and the pro-competitive effect insures that there will be gains from trade.

At the other extreme, if transport costs are just at the prohibitive level, then decline slightly so that trade takes place, such trade is welfare reducing. This is easily shown as follows. Overall welfare is given by:

$W=2[u(Z)-cZ-ty]-F-F^*$ (9)

where we now use t to denote per unit transport costs instead of the iceberg notation. The 2 arises because there are two symmetric countries. A slight change in t alters welfare as indicated:

$dW/dt=2[(p-c)dZ/dt-tdy/dt-y]$ (10).

Starting at the prohibitive level, p=c+t and y=0 therefore since dZ/dt=dx/dt+dy/dt,

eq. (10) reduces to: $dW/dt=2(p-c)dx/dt=2tdx/dt>0$ (11)

A slight fall in transport costs tends to make x fall (as imports y come in) implying that dW/dt is positive. Therefore, a slight fall in t from the prohibitive level would reduce welfare. The intuition runs along the following lines. A decrease in transport

costs has three effects. First, costs fall for the current level of imports, which is a gain. Second, consumption rises so, for each extra unit consumed, there is a net gain equal to price minus the marginal cost of imports. Finally, there is a loss due to the replacement of domestic production with high cost imports. For near prohibitive levels of transport costs the first two effects are negligible, leaving only the loss.

2.5 Diagram of Dumping

In order to illustrate how dumping can be profitable, we use the example of a foreign monopolist selling both to its local market and exporting to home. In international trade the pricing strategy that is used is called price discrimination which means that firms can both charge a price that is higher than their marginal cost and choose to charge different prices in their domestic market than in their export market.

Foreign Discriminating Monopoly

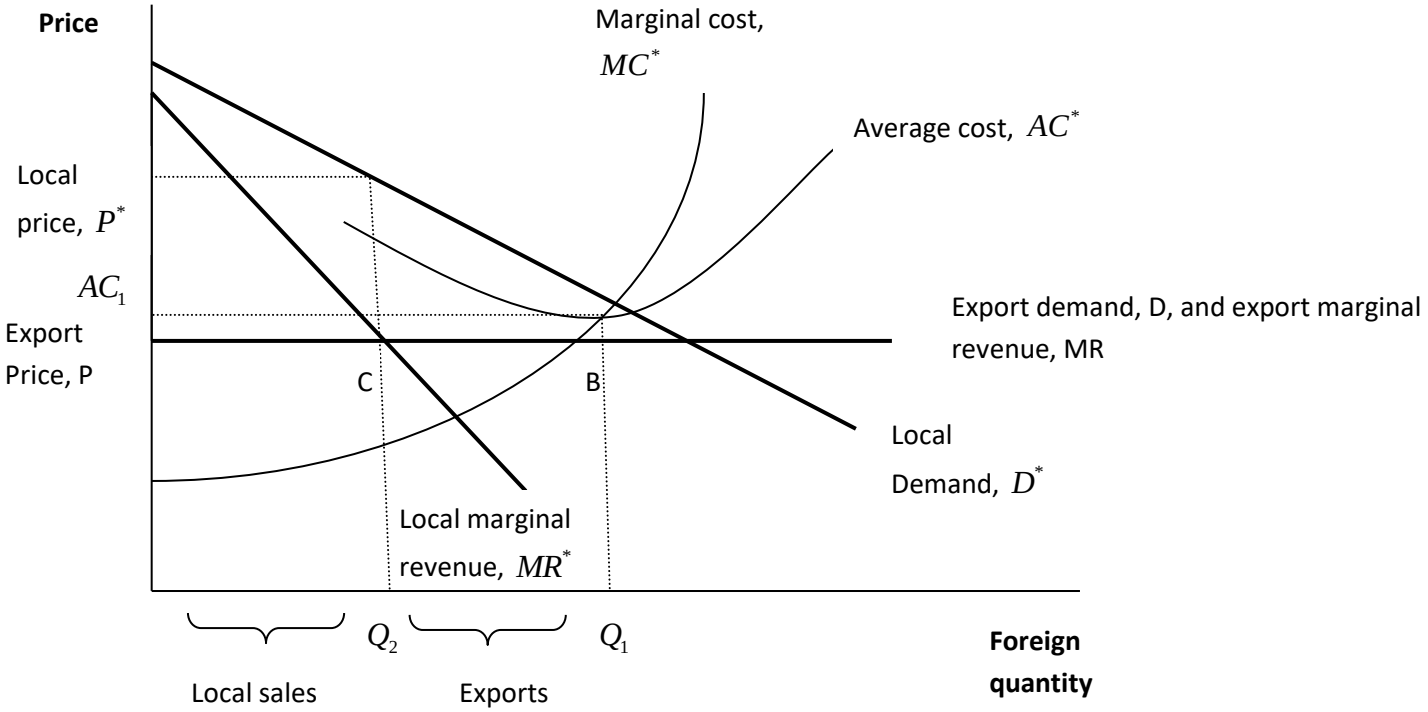


Figure 4: Diagram of dumping

$P^* > AC^*$ in the local market

P< $AC_1 < P^*$ in the export market

The local demand curve for the monopolist is D^*, with marginal revenue MR^*. We draw these curves as downward-sloping for the monopolist because to induce additional consumers to buy its product, the monopolist lowers its price (downward-sloping D^*), which decreases the revenue received from each additional unit sold (downward-sloping MR^*).

In the export market, the foreign firm will face competition from other firms selling to the Home market. Because of this competition, the firm's demand curve in the export market will be more elastic, it will lose more customers by raising prices than it would in its local market. If it faces enough competition in its export market, the foreign monopolist's export demand curve will be horizontal at the price P, meaning that it cannot charge more than the competitive market price. If the price for exports is fixed at P, selling more units does not depress the price or the extra revenue earned for each unit exported. Therefore, the marginal revenue for exports equals the price, which is labeled as P.

Equilibrium Condition:

For the discriminating monopoly, profits are maximized when the following condition holds: $MR = MR^* = MC^*$. This equation looks similar to the condition for profit maximization for a single-market monopolist, which is marginal revenue equals marginal cost, except that now the marginal revenues should also be equal in the two markets.

Specifically, if the foreign firm produces quantity Q_1, at point B, then the marginal cost of the last unit equals the export marginal revenue MR. But not all of the supply Q_1 is exported; some is sold locally. The amount sold locally is determined by the equality of the firm's local marginal revenue MR^* with its export marginal revenue MR (at point C), and the equality of its local marginal cost MC^* with MR (at point B). All three variables equal P, though the firm charges the price P^* to its local consumers.

The Profitability of Dumping:

The foreign firm charges P^* to sell quantity Q_2 in its local market (from Q_2, we go up to the local demand curve D^* and across to the price). The local price exceeds the

price P charged in the export market. Because the Foreign firm is selling the same product at a lower price to the export market, it is dumping its product into the export market.

At total production of Q_1 at point B, the firm's average costs are read off the average cost curve above the point, so average costs equal AC_1, lower than the local price P^* but higher than the export price P. Because average costs AC_1 are above the export price P, the firm is also dumping according to this cost comparison**.** But we will argue that the Foreign firm still earns positive profits from exporting its goods at the low price of P.

2.6 Effects of Dumping

The effects of dumping on the country, in which a monopolist dumps his commodity, depend on whether dumping is for a short period or a long period and what are the nature of the product and the aim of dumping.

Initially, if a producer dumps his commodity abroad for a short period, then the industry of the importing country is affected for a short while. Due to the low price of the dumped commodity, the industry of that country has to incur a loss for some time because less quantity of its commodity is sold. In addition to this, dumping is harmful for the importing country if it continues for a long period. This happens because it takes time for changing production in the importing country and its domestic industry is not able to bear competition. But when cheap imports stop or dumping does not exist, it becomes difficult to change the production again.

If the dumped commodity is a consumer good, the demand of the people in the importing country will change for the cheap goods. When dumping stops, this demand will reverse, thereby changing the tastes of the people will be harmful for the economy. Moreover, if the dumped commodities are cheap capital goods, they will lead to the setting up of a now industry. But when the imports of such commodities stop, this industry will also be shut down. Thus ultimately, the importing country will incur a loss. Another effect of dumping is the fact that if the monopolist dumps the commodity for removing his competitors from the foreign market, the importing country gets the benefit of cheap commodity in the beginning. But after competition

ends and he sells the same commodity at a high monopoly price, the importing country incurs a loss because now it has to pay a high price.

If a tariff duty is imposed to force the dumper to equalize prices of the domestic and imported commodity, it will not benefit the importing country. But a lower fixed tariff duty benefits the importing country if the dumper delivers the commodity at a lower price. Antidumping and Countervailing duties essentially seek to remedy the same problem: artificially low-priced imports. The root cause of the artificially low price is what differentiates antidumping and countervailing duties. Anti-dumping duties are for combating "dumping", which means that an exporter is setting prices at such a low point, that they are intentionally losing money in order to harm the domestic producers of the importing country. It is a predatory pricing model where the exporter prices its goods below production costs or below what they sell for in their home market.

Countervailing duties seek to counteract artificially low prices that are a result of subsidies. Governments often offer all sorts of subsidies on exports in the form of tax breaks and credits. Because of these subsidies, exporters are able to offer lower prices than domestic producers in the importing country. Countervailing duties level the playing field and negate the advantage that exporters get from subsidies.

Antidumping and countervailing duties go hand in hand. In fact, a petitioner can file both antidumping and countervailing duty petitions as a single document.

Dumping leads to the erosion and in some cases the disappearance of industries in markets where dumping is occurring for reasons unrelated to the relative competitiveness of those industries—put most simply, dumping enables less efficient firms to prevail over more efficient firms in international competition. Competitive outcomes are determined by market distortions, that is, the factors that make dumping possible, rather than the relative competitiveness of individual producers. This occurs for two reasons:[12]

→ Capacity utilization. Over the short run, other things being equal, dumping firms tend to enjoy lower unit costs than comparable firms in markets where

[12] Thomas R. Howell, Dumping: Still a problem in international trade, "International friction and cooperation in High-technology development and trade" (1997)

dumping is occurring because dumpers can operate their plants at higher rates of capacity utilization—a factor that often has a far greater impact on cost than any other consideration. Firms in the market where dumping is occurring cannot respond in kind if the market of the dumper is closed to them. In this way, a relatively inefficient plant run at 100 percent utilization rates may well enjoy lower unit costs than a state-of-the-art facility run at a 50 percent rate.

→ Investment deterrent. Over the longer term, dumping discourages investment in markets where dumping is occurring, and, at the same time, encourages higher levels of investment in the protected markets from which dumping is taking place. This occurs because investment risks are higher, and returns lower, in markets where dumping is taking place, and risks are lower, and returns higher, in the protected market from which dumping is taking place. The short-run cost advantage that dumping firms enjoy is thus eventually translated into a capital and technological advantage as investment dries up in the one market and intensifies in the other.

The fact that unconstrained dumping can gradually lead to a shift in competitive advantage has implications that extend beyond the firms directly affected. A given nation's economic well-being, standard of living, and security are all determined in significant part by the composition of its industrial base. The ultimate implication of the competitive dynamics of dumping is that the industrial base can be altered in deleterious ways as a result of market distortions abroad, such as protected markets and cartels that make dumping feasible. Because such distortions can be deliberately created and manipulated, whether by governments or by private syndicates enjoying the toleration or tacit encouragement of state authorities, the decision to permit unrestricted dumping is a decision to allow a national economy to be shaped by anticompetitive strategies and market distortions that are engineered in other countries. Although experience has shown that GATT signatories will accept, as part of the price of an open trading system, the need for adjustment by domestic industries that have lost international competitiveness, it is quite another matter to expect signatories to accept the burdens of adjustment that arise out of anticompetitive practices in other countries. It is unlikely that many nations would accept such a result

for any sustained period. It is equally unlikely that a political consensus could be sustained for any multilateral regime that attempted to enforce it through proscriptions on national antidumping measures.

2.7 Dumping in International markets and welfare

The model is described below is about a general equilibrium analysis of traditional dumping from the point of view of the exporting country.[13] The country's export good is produced by one domestic producer who faces an imperfectly elastic demand schedule by domestic consumers and a perfectly elastic demand schedule by foreign consumers. Also, the existence of a perfectly competitive import sector is assumed.

→ *The model:*

There are two sectors: an export sector and an import sector. The full employment equations and the average-cost-price equation for the import sector are below:

$$C_{L1}(w/r)Q_1 + C_{L2}(w/r)Q_2 = L \qquad (12)$$

$$C_{K1}(w/r)Q_1 + C_{K2}(w/r)Q_2 = K \qquad (13)$$

$$C_{L2}(w/r)w + C_{K2}(w/r)r = P_2^* \qquad (14)$$

Where $Q_i^{'}s$ are the respective outputs, $C_{ij}^{'}s$ are the respective factor coefficients, L and K are the given total supplies of labor and capital and P_2^* is the given international price of good 2.

In the export sector, since the monopolist faces two different markets, profit maximization implies that the marginal revenues from the two markets be equal. The marginal revenue from the domestic market equals $P_1(1-1/e_1)$, where P_1 is the price paid by domestic consumers and e_1 is the absolute value of the price elasticity of demand for good 1 by domestic consumers. We assume a homothetic utility function for domestic consumers, so that e_1 is determined only by the price ratio facing the consumers. Thus, $e_1 = e_1(P_1/P_2^*)$. Quite plausibly, we assume further that $e_1^{'}(P_1/P_2^*)$ is non-negative, i.e. the price increase of a product makes its demand more elastic. The

[13] S.P Das and A.K. Mohanty, Dumping in international markets and welfare (1984)

marginal revenue in the perfectly competitive international market equals the given international price of good 1, say P_1^*. Thus, we have:

$P_1(1-1/e_1(P_1/P_2^*)) = P_1^*$ (15)

The other profit-maximizing conditions are that the marginal revenue products equal the respective factor prices:

$P_1^* F_{1L} = w \qquad P_1^* F_{1K} = r$ (16) where F_{1L} and F_{1K} are the respective marginal products. Constant returns to scale imply that $Q_1 = F_{1L}L_1 + F_{1K}K_1$, and using (16) this implies:

$C_{L1}(w/r)w + C_{K1}(w/r)r = P_1^*$ (17)

This states that the price in the international market exactly covers the average cost or, in other words, profits are earned only because of monopoly power in the domestic market. Finally, we must specify that the domestic demand for good 1 must be equal to the supply of the monopolist to the domestic market (X_1):

$D_1(P_1, P_2^*, Y) = X_1$, where Y is the aggregate income. (18)

Welfare implications in the presence of dumping depend crucially on the impact on the domestic consumption of the export good X_1. We examine the effect of increase in a factor supply, labor, on X_1 and we notice that from (15) P_1 remains unchanged when P_1^* and P_2^* are given. Thus, $\partial X_1 / \partial L = (m_1 / P_1)\partial Y / \partial L$, (19')

where m_1 is the marginal propensity to consume good 1.

The aggregate income in the model equals earnings to labor and capital (wL+rK) plus the profits in the export sector $(P_1 - P_1^*)X_1$. Thus,

$\partial Y / \partial L = w + (P_1 - P_1^*)\partial X_1 / \partial L = w + (P_1 / e_1)\partial X_1 / \partial L$ using (15). Substituting this in (19'): $\partial X_1 / \partial L = m_1 w / [(1 - m_1 / e_1)P_1]$. (19)

From (15) e_1 must be greater than one and, assuming good 1 to be a normal good,

$0 < m_1 < 1$. Hence, $\partial X_1 / \partial L > 0$. The domestic consumption of the export good increases as the supply of any factor goes up.

The impact of a change in the terms of trade (P_1^* / P_2^*) on the domestic consumption of the export good is ambiguous, because of the conflicting income and substitution effects. As for income distribution, we note from (14) and (17) that factor endowments do not affect factor price and a change in the terms of trade affects w and r. We recognize from (15) that the consumer price ratio is uniquely determined by the terms of trade.

3. Anti-Dumping Policies

Anti-dumping (AD) is the case where an importing country tries to protect itself from international price discrimination (dumping). There are two basic reasons why a country could adopt AD measures: the LTFV (less than fair value) and material injury. The former occurs when foreign exporters set the price of a product below the price they charge in other markets or below their cost of production, while the latter occurs when the domestic industry suffers from dumped imports

3.1 History of Antidumping Regulation

At the end of the nineteenth century, global industrialization led to increased concern for the domestic effects of international trade, and international tariff structures faced limits in their application and efficacy. Antidumping legislation arose as a policy alternative. This is evidenced in the ideas of Canada's father of antidumping legislation, Finance Minister William S Fielding who in 1904 claimed that it was unscientific to meet special and temporary cases of dumping by general and permanent rising of the tariff wall, and that the appropriate method was to impose special duties upon dumped goods. Widespread adoption of antidumping legislation occurred in the early twentieth century. Canada was the first country to initiate general antidumping measures under the Customs Act of 1904. Several other Commonwealth countries followed thereafter. New Zealand initiated hers in 1905, Australia in 1906, and South Africa in 1914. While instances of dumping certainly occurred before these countries adopted antidumping legislation, the rise of Germany as an industrial power had a tremendous impact on the increased appeal of antidumping legislation. In numerous sectors, German industry developed into a cartel structure, particularly in industries such as chemicals, in which Germany held scientific superiority and expertise. The chemical industry was susceptible to dumping, due to its capital-intensive nature, which resulted in barriers to entry and fixed costs. The cartel organization provided "machinery whereby, without the loss of the individuality of the separate concerns, the benefits and burdens of export dumping could be equitably distributed among domestic producers." Market power allowed German chemical companies to flex their muscles internationally, and dispose of surplus stocks. Countries other than Germany were known to resort to dumping practices, but German actions received the greatest scrutiny, particularly as political

tensions increased in the Pre - World War 1 period. German export sales below home market prices were aided by a protective tariff and cartel organization which combined to allow a high domestic price due to lack of competition.

Over the last 20 years it has become much easier for American firms to successfully block certain imports from other countries by claiming that they are being sold or "dumped" in the United States at artificially low prices and thus should be subjected to high import duties. But while these so-called "antidumping" claims are now a more prominent feature of American trade policy, the number of products targeted in complaints has actually fallen since the mid-1980s.

In the rise of U.S. Antidumping Action in Historical Perspective,[14] antidumping actions, in this era of trade liberalization, have become one of the few legal ways for countries to protect domestic firms from foreign competition. Irwin also notes that the current interest in antidumping laws - best known of late for their use in slowing imports of cheap steel - is largely uninformed by an historical view of their application. He suggests that there has been insufficient appreciation of the political and economic variables that have made antidumping claims today's import-fighting weapon of choice. A key finding of Irwin's study is that throughout much of the 20th century American firms have routinely tried to slow imports of a wide variety of products by claiming that they were being sold to U.S. customers at a price that was either below production costs or less than their fair market value. Contrary to the conventional wisdom that there were not many antidumping cases prior to 1980, Irwin shows that the number of antidumping investigations in the 1930s, 1950s, and 1960s was roughly equivalent to the current rate. Irwin identifies two major differences between pre- and post-1980 antidumping policy. In the past, most antidumping complains did not result in the imposition of import duties. Today's antidumping cases are much more likely to be successful. Irwin attributes the high success rate of today's cases not to an increase in dumping but to "legal changes and bureaucratic incentives." For example, legislation was enacted in 1980 stripping the authority to review antidumping cases from the Treasury Department, which many in Congress considered unsympathetic to domestic industry concerns, and giving the authority to what was widely seen as the more business-friendly Commerce Department.

[14] NBER Research Associate Douglas Irwin (1998) Working Paper No, 10582,

The other difference is that contemporary cases usually charge that the dumping involved imports from several countries simultaneously. Indeed, the rise of multiple petitions that accuse several countries of dumping the same product accounts for much of the post-1980 increase in antidumping actions. But if measured by the number of products subjected to complaints, antidumping complaints peaked around 1985 and declined since then. This is also attributable to legislative changes. In 1984, the International Trade Commission, which reviews complaints after the Commerce Department, was directed to add up the total value of the imports involved when calculating whether a domestic industry had suffered any harm. This shift motivated companies to file antidumping complaints that focused on many countries. An antidumping complaint that includes petitions targeting imports from more than one nation boosts the total value of what's being labeled as suspect, thus increasing the chances of gaining a favorable decision. "*This gave import-competing firms an incentive to file more antidumping petitions against other countries for a given product*," Irwin states. The combination of a particularly favorable venue and the shift to multi-country complaints appears to have dramatically altered the dynamic in favor of domestic industries alleging harm. Irwin finds that prior to 1980, most cases alleging dumping were rejected at an early stage; of those given a full review, only about one quarter - or five percent of all cases - were decided in favor of the domestic industry. But he notes that since the mid-1980s, almost every antidumping complaint has gotten a full review. And, in roughly half of the complaints the government determined that dumping had in fact occurred and that punitive duties should be imposed. Irwin reports that other variables can make antidumping complaints more likely in a given year. These include a rise in the value of the dollar, which makes imports cheaper, and a rise in the unemployment rate. Also, that the attractiveness of antidumping complaints is influenced by international trade agreements, which are producing ever lower tariffs. According to Irwin, "*this decline in trade barriers exposed many industries to foreign competition and may have pushed them toward using antidumping duties to protect them*."

3.2 Chilling trade effects

According to Vandenbussche, H. & Zanardi, M, August (2010) there is a link between the financial crisis of 2008 and the rising of protectionism and anti-dumping. AD has been increasingly practiced over the last years from many countries.

The interesting thing though is that it is not only developed countries which use AD, but also developing, and in an increasing rate. Figure 5, based on the authors' calculations, presents that upward trend of AD laws use. As illustrated, there has been a worrying increase in AD since 1980.

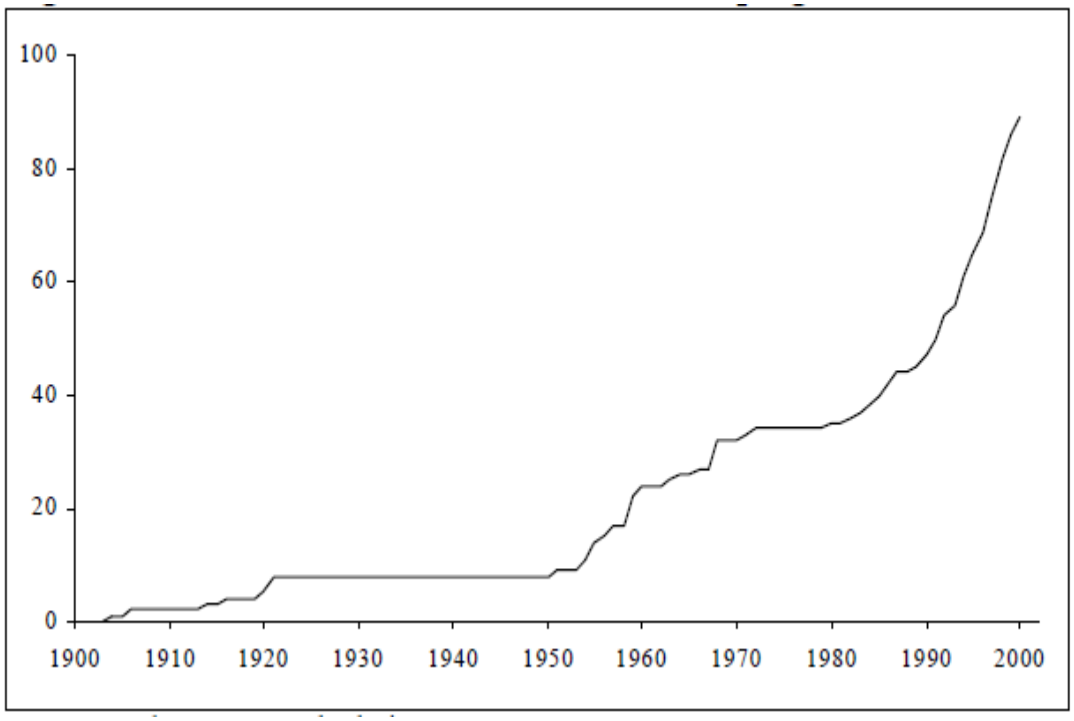


Figure 5: Number of Countries with AD laws, 1900-2000. *Source: Vandenbussche & Zanardi (2010)*

It would be hard to examine the relationship between anti-dumping and trade in the US and EU, due to the fact that developed countries of those regions have been practicing AD for a long period (i.e. since the 20th century). Therefore, this analysis is focused on developing countries that have recently adopted anti-dumping laws. AD does not affect only the specific products that aim to protect but also a wider range of products related to the targeted one.

Methodology and Data

In order to reach their conclusions, Vandenbussche & Zanardi (2010) use the following model:

$$X_{ijt} = f\ (adoption_{jt}, overall\ AD\ use_{\ jt-1}, GDP_{jt}, GDP_{it}, population_{jt}, population_{it}, distance_{ij},$$

$$Border_{ij}, Language_{ij}, Colony_{ij}, RER_{ijt}, WTO_{jt}, RTA_{ijt}, Openness\ index_{jt,} Year\ dummies)\ \textbf{(1)}$$

where, X is the real value of exports from country i to country j in period t. Adoption is a dummy variable (1 to indicate the year when an importer country started using AD law, and 0 to indicate years before the adoption of AD law). Overall AD use denotes the extent of AD by importing countries. GDPj denotes importing country's demand and GDPi denotes supply effects (exporter's GDP). Population variables express the total population (expressed in millions). Distance variable measures the distance between the capitals of the trade partners. Border is a dummy variable, which is equal to 1 when countries share a land border. Language is a dummy variable, which equals 1 when countries share an official language. Colony is also a dummy variable that is equal to 1 when countries have colonial ties. RER denotes the real exchange rate. WTO is a dummy variable which equals 1 when an importing country is a member of WTO. RTA is a dummy variable which equals 1 if countries have formed regional trade agreements. Openness index captures the freedom of trade (it takes values between 0-10). Finally, year dummies include data regarding the number of years since a country joined WTO (there are also separate dummies regarding the number of years since a country joined WTO after 1994 and before 1995). Vandenbussche & Zanardi, estimate their model a number of times, while focusing on specific sectors and users of AD.

Vandenbussche & Zanardi (2010) suggest that a country's adoption decision is mainly based on retaliation motives and adoption decisions by neighbor countries, WTO entry and overall trade openness. It is highly possible countries to adopt an AD law while being a member of WTO for a long period. Moreover, that argument becomes more apparent when examining countries that entered the WTO after the Uruguay Round. As the retaliation effect predicts, the probability of anti-dumping laws to increase in cases where countries have been targeted by other countries in the past is

also high. Another important factor is the level of trade liberalization, which also leads to an increase in AD laws.

A key point to Vandenbussche & Zanardi analysis though, is that they conclude that what really matters is the enforcement of anti-dumping laws rather than the initiation of anti-dumping. Practically, they claim that we should pay attention on the cases were AD laws were actually enforced and led to import restrictions, rather than the number of AD initiations.

Another important fact is that the overall use of anti-dumping measures can harm an exporting country even if these measures were not to aim it in first place (the deterrent effect).

Regarding the distinction between tough and weak users, Vandenbussche & Zanardi claim that the results are mainly driven by the tough users of AD. Therefore, new tough users of anti-dumping measures are more likely to chill their aggregate imports.

Regarding the distance between countries, they also agree with the traditional belief that the further away two countries are, the smaller the trade between them, while the openness of the importing country is also a crucial determinant of trade.

The GDPs of both countries (importing and exporting country), play a significant role on trade. On the other hand, though, only the importing country`s population plays an important role on trade, which could be explained by examining what drives aggregate demand in the importing country. Regarding common border, common language, colonial ties and regional trade agreement are also significant factors that explain the effect on aggregate trade between the countries. Finally, regarding the real exchange rate, their results seem again straightforward; a depreciation of the importing country's currency leads to lower exports for the exporting country.

Their overall results suggest that AD measures reduce imports. Moreover, as illustrated in Figure 6, trade liberalization and AD measures tend to have an inverse relationship, especially when talking about new adopters.

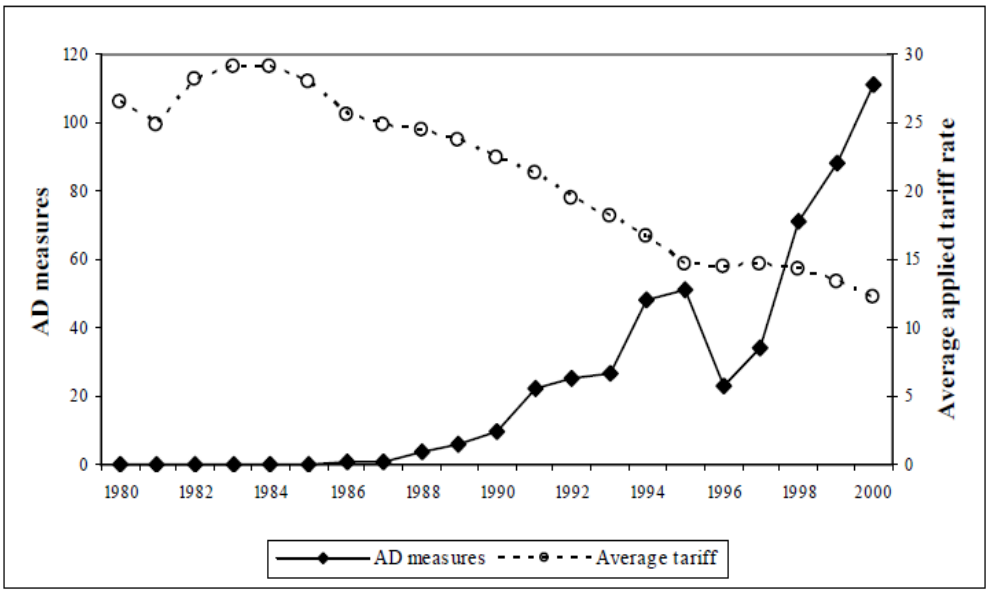


Figure 6: New adopters: Evolution of tariffs versus antidumping measures, 1980-2000. *Source: Vandenbussche & Zanardi (2010)*

However, these findings concern specific sectors. The majority of anti-dumping cases by the new adopters are from the iron, steel, chemicals, textile and agricultural sectors. They argue that the spillover effect is predominant and occurs in the products of the sectors mentioned above, which is quite significant since these sectors represent the 25% of total aggregate trade. Hence, it easy to understand that the overall trade reduction is caused by a few large sectors, which is equally felt across trade partners.

Regarding the economic significance, the annual reduction of global imports is 5.9% and is caused by the new tough users. Moreover, the final remark is that the overall reduction of trade is too large and significant to be ignored.

3.3 Calculation of Antidumping duty

The calculation of an antidumping duty creates a strong incentive for foreign firms to raise their export prices to reduce or avoid the duty. This increase in the import price results in a *terms-of-trade loss* for the Home country.

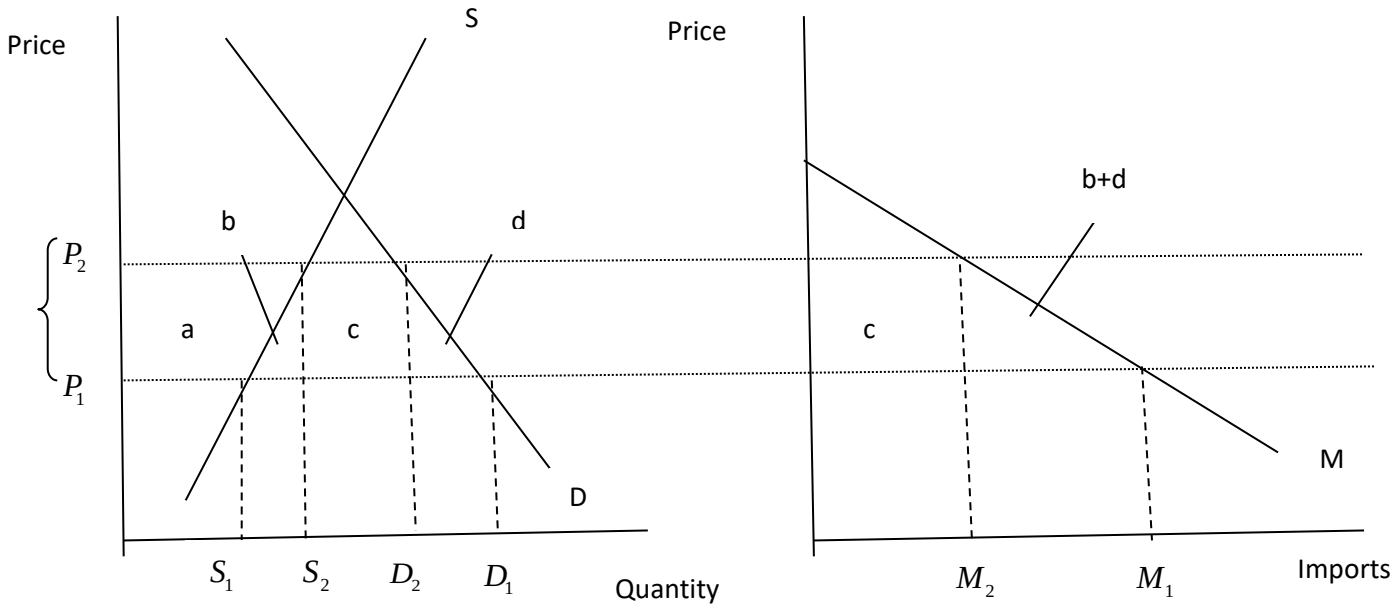


Figure 7: Calculation of Antidumping duty

P_1 to P_2: Foreign exporters increase their prices to home due to the threat of antidumping duties being applied.

The aforementioned increase in the import price is illustrated in the above diagram

(P_1 to P_2). This price increase leads to a gain for Home firms of area a, but a loss for Home consumers of area (a +b +c +d). There is no revenue collected when the duty is not imposed, so the net loss for the Home country is area (b +c +d). This loss is higher than the deadweight loss from a tariff (which is area b + d) and illustrates the extra costs associated with the threat of an antidumping duty.

The fact that foreign firms will raise their prices to reduce the potential duty gives Home firms an incentive to charge foreign firms with dumping, even if none is occurring: just the threat of an antidumping duty is enough to cause foreign firms to raise their prices and reduce competition in the market for that goods.

AD law can have significant effects on firms' strategies, prices, and profits even if duties are never levied. The fact that AD law changes firms' behavior, of course, is not entirely unexpected. In fact, the original intention of AD law was to deter foreign firms from engaging in predatory pricing, so policy makers would likely view the law as a failure unless some response was induced. Duties can only be levied if two

criteria are satisfied “less than fair value” sales (by the foreign industry) and “injury” (to the domestic industry). As it turns out, the likelihood that these criteria are satisfied depend significantly on how domestic governments interpret the GATT guidelines. The cavalier manner which many governments use AD law suggests that foreign firms must be concerned about AD actions; even if they are confident they are not dumping. Foreign firms, however, can influence the likelihood that dumping actions will be brought against them by changing their pricing strategy. Not surprisingly, this involves raising the price charged in the domestic market. More interesting, domestic firms can also influence the likelihood of dumping duties by changing their pricing strategies. However, in many circumstances it will not pay the domestic firm to change its behavior. When AD law does influence the domestic firm’s behavior, it can result in either higher or lower prices. The domestic firm attempts to induce AD protection by feigning injury.

Both foreign and domestic firms alter their behavior in order to influence the outcome of a case. More specifically, the foreign firm attempts to decrease, and the domestic firm to increase, the probability that duties will be levied. Interestingly, even though both firms’ strategies suggest they are willing to sacrifice short-run profit for long-term benefits, there are circumstances when both firms can earn higher current period profit. In this case, AD law facilitates collusive behavior. Both domestic and foreign firms may prefer to operate in an environment where there is the threat of an AD action. Thus, AD law can have a deleterious welfare effect even if duties are never levied.

3.4 Channels through which antidumping can affect trade

The recent financial crisis results in rising protectionism and so the use of antidumping measures is on the rise. In the last fifteen years many more developing countries have introduced and started using AD laws. Since the early ‘80s, the number of countries that adopted an AD law has nearly doubled. While 37 countries had such laws in 1980, this number increased to 93 countries by the end of 2000. Most of the “new adopters” are developing countries like Asia, Latin America and Eastern Europe.

These channels are indicative of trade effects that may go beyond the products involved in AD cases. Theory suggests that the effects of AD on aggregate trade flows could be positive or negative.

A. Trade destruction effects

Several studies have pointed out the first-order effect of anti-dumping where imports are destroyed in the very specific products targeted by anti-dumping. However, thus far nobody has pointed out that anti-dumping can have externalities that spread to other imported products from the same targeted countries and to products from importing countries.

B. Trade diversion effects

Anti-dumping protection can give rise to trade diversion whereby some of the fist-order negative trade destruction effects of product-level imports are offset by an increase in product-level imports from other partner countries not subject to anti-dumping. Several studies (e.g. Prusa 1997; Konings et al., 2001) have empirically documented the existence of trade diversion that typically results in a net decrease in overall product-level imports. The import demand of substitute products may also be affected. Ad protection chills aggregate trade flows and this is an indication that product-level protection has implications for many products than just the protected ones.

C. Downstream effects

Anti-dumping may also affect more downstream products using the protected one as an input. While anti-dumping is likely to result in a trade chilling of the imports of targeted upstream intermediates, little is known about how anti-dumping protection on intermediates will affect the imports of more downstream products. In the sequel, two instances are presented which suggest that anti-dumping may well be trade enhancing. First, when a country uses anti-dumping measures to protect an intermediate input like steel used in the assembly of downstream products like cars, this may negatively impact the competitiveness of domestically assembled cars visa-a-versa foreign ones. In turn, this may result in increased imports of foreign cars increasing the likelihood of an aggregate increase in imports. Second, when a country uses anti-dumping measures to protect an unrefined product (e.g. raw shrimps), this will create incentives

for partner countries to further process the unrefined product and turn it into a higher value-added product (e.g. processed breaded/frozen shrimps), thus leading the importing country to increase its imports of the high value-added product, again increasing the likelihood of an aggregate increase in imports.

D. Deterrent Effects

Anti-dumping laws and their use can have a deterrent effect on trade partners (Staiger and Wolak, 1994)[15], making them more cautious when shipping their goods to countries that signal to be frequent and tough users of AD. Among others, Reitzes (1992) shows that the threat of anti-dumping duties causes significant strategic effects, depending if firms compete in quantities or prices. These are likely to result in higher prices and lower volumes since trade partners "learn" how to avoid dumping complaints. When exporters ship goods to a country, they will never be quite sure whether they will be facing trade protection. Therefore, due to the deterrent effect of existing of anti-dumping laws and previous use of anti-dumping measures in the country of destination, shipments are likely to be lower than they would have been in the absence of any anti-dumping threat.

E. Collusive device

Several contributions have shown that anti-dumping protection can result in the formation of international cartels and tacit collusion (e.g., Messerlin, 1990; Staiger and Wolak, 1992; Prusa, 1992; Veugelers and Vandenbussche, 1999; Zanardi, 2004b). This anticompetitive nature of anti-dumping laws is also likely to result in chilled trade. It is important to note that the effect of collusion on imports may depend on whether trade is measured in volumes versus values. If our aggregate price deflator is affected by price increases in a single product/sector as a result of collusion arising from anti-dumping, we cannot exclude the fact that collusion may result in an increase in "measured" imports whenever a positive price effect dominates a negative quantity effect. If empirically, however, we find that anti-dumping protection negatively impacts aggregate "measured" imports this would suggest that even in the presence of a positive price effect, the negative effect on imported volumes dominates although

[15] Staiger and Wolak (1994) is one of the earliest studies of this effect, which they call "harassment effect"

we may understand the true fall in imports compared to what would be measured in volumes.

F. FDI effects

Anti-dumping protection can trigger inward foreign direct investment (FDI) which may result in less trade. Exporters may decide to "jump" AD measures by setting up a production plant within the protected market. This can be profitable strategy, provided that the previously exporting firm has a firm-specific advantage that can be transferred across borders to overcome the fixed cost of setting up an extra plant. It should therefore hardly be surprising that predominantly Japanese firms have engaged in an AD jumping response, as shown empirically, among others, by Blonigen (2002) for the US and by Girma et al. (2002) for the UK. In this case, trade and FDI are substitutes. Therefore, anti-dumping FDI can have a trade chilling effects.

Alternatively, trade enhancing effects are also possible after foreign firms have engaged in FDI as shown by Blonigen and Ohno (1998). Once foreign firms have located production in the home country, they have an incentive to engage in "protection building trade" where they start to use AD as insiders. In order to increase protectionist pressures in the home country against foreign competitors that have not engaged in FDI, they may first increase their own exports to the home country to endogenously trigger protection and to erect larger barriers against other foreign competitors in future periods. Empirically this effect remains to be confirmed but it is clear that protection building trade may initially have a trade enhancing effect on imports.

G. Retaliation effects

A number of papers have argued that in many cases, political and strategic considerations related to retaliation explain the use of AD laws. New users of AD seem to predominantly target traditional users and other new tough users. A priori, it is not clear in which direction the proliferation of AD laws is going to affect trade flows. It depends on the equilibrium that will emerge. If this proliferation results in a Nash equilibrium in which every country is using AD, imports are likely to be reduced. Alternatively, proliferation may result in a politically optimal equilibrium in which imports are expanded because everyone has liberalized and the capacity of everyone to access AD prevents defection from the cooperative equilibrium.

4. Trade Agreements

Below is presented an extended analysis concerning both the General Agreement on Tariffs and Trade and the World Trade Organization as well as their role in the global economy and how can affect it.

- *The General Agreement on Tariffs and Trade* was the first worldwide multilateral free trade agreement. It was in effect from June 30, 1948 until January 1, 1995. It ended when it was replaced by the more robust World Trade Organization. GATT was created by a conference of the 45 allied nations, hosted by the United Nations, in Breton Woods, New Hampshire at the end of the World War II. The "Breton Woods" conference was part of the plan for general economic recovery after ravages of the war. It included a reduction in international tariffs and other similar trade barriers. The conference essentially sought to regulate the international monetary and financial order post World War II. The ensuing GATT as an international union was established in 1947. The purpose of GATT was to eliminate harmful trade protectionism. That had sent global trade down 65 percent during the Great Depression. By removing tariffs, GATT boosted international trade. It restored economic health to the world after the devastation of World War II. The GATT resulted from a round of negotiations held in Geneva in 1947 to create an International Trade Organization. A major goal of the GATT was to reduce and eliminate barriers to trade, and two of its most fundamental principles and policies were and are the Most Favored Nation principle (MFN) and tariff bindings. According to the MFN principle, whatever forms of protection a member country maintains should be imposed on a nondiscriminatory basis to imports from other countries. Tariff bindings prohibit a country from later raising tariffs that it has reduced. The US antidumping law was seemingly at odds with this goal and these two principles. By insisting that foreign firms selling in the US market not differentiate in pricing or receive subsidies from their governments without demanding the same of US firms selling in the US market, and by imposing added duties on imports from firms engaging in these practices, the USA was in fact imposing trade barriers. Antidumping duties varied from

country to country, thereby violating the MFN principle. Furthermore, by changing from year to year in response to foreign behavior they would violate tariff bindings. The original GATT agreement, however, included an exception to allow for antidumping duty law subject to certain restrictions. On its face, Article VI is clearly at odds with the GATT goal and principles. Some analysts believe that at least part of it may be necessary in order to maintain political support for an open international trading system. Much of the history of the GATT negotiations is in fact the history of negotiating a charter for an international trade organization. The GATT began as a makeshift accord to implement the first set of tariff reductions. At that time, the prospect was that the international trade organization would ultimately be the institutional framework for coordinating national trade policies. When the international community could not agree on the terms for establishing the international trade organization, the GATT became the framework for international trade regulation. The USA provided the basic working documents for the international trade organization deliberations and the suggested charter contained most of the provisions on antidumping that are now in GATT Article VI. Through GATT's first two decades, antidumping was a major instrument of trade policy in Australia, Canada and South Africa. But it was a minor concern on the international scene.

- The World Trade Organization is an international organization which makes the rules for the global trading system and resolves attendant disputes between its member's countries who have all signed around 30 agreements governing trading relations between them. Its headquarters are located in Switzerland and in December 2005, it had 149 members. All 25 states of the European Union (EU) are represented as the 'European Communities'. However, GATT still functions as the medium for negotiating lower customs duty rates and other similar trade barriers. Since 1995, a revised and updated GATT serves as the WTO's umbrella organization for trade in goods. It is mandated to deal with particular sectors such as agriculture and textiles, and with issues including state trading, product standards, subsidies and anti-dumping actions. It started its operations on January1, 1995, but its trading system is half a century older. Since 1948, the General Agreement on Tariffs and Trade (GATT) had

provided some general rules and regulations for the system. The largest GATT round, was the Uruguay Round which lasted from 1986 to 1994 and led to the WTO's creation. GATT had a short dimension which mainly dealt with trade in goods whereas the WTO has come up with a broad dimension which covers trade in services, and in traded inventions, creations and designs (intellectual property).

4.1 Advantages and Disadvantages of GATT-WTO

4.1.1 Advantages

For 47 years, GATT reduced tariffs. This boosted world trade 8% a year during the 1950s and 1960s.[16] That was faster than world economic growth. Trade grew from $332 billion in 1970 to $3.7 trillion in 1993. It was seen as such a success that many more countries wanted to join. By 1995, there 128 members, generating at least 80 percent of world trade.[17] By increasing trade, GATT promoted world peace. in the 100 years before GATT, the number of wars was ten times greater than the 50 years after GATT. Before World War II, the chance of a lasting trade alliance was only slightly better than 50/50. By showing how free trade works, GATT inspired other trade agreements. It set the stage for the European Union. Despite the EU's problems, it has prevented wars between its members.[18] GATT also improved communication by providing incentives for smaller countries to learn English, the language of the world's largest consumer market. This adoption of a common language reduced misunderstanding. It also gave less developed countries a competitive advantage. English gave them insight into the developed country's culture, marketing and product needs[19].

4.1.2 Disadvantages

Low tariffs destroy some domestic industries, contributing to high unemployment in those sectors. Governments subsidized many industries to make them more competitive on a global scale. Nevertheless, this is not the efficient solution for the

[16] Kimberly Amadeo (April 13, 2017) Article: "The First Global Trade Agreement saved us from the depression"
[17] "Gatt Members," WTO
[18] "Can Trade Prevent War?" Stanford University, May 28, 2014
[19] E. Kwan Choi, "Trade and the Language War: Chinese and English," Iowa State University, September 2001

prevalence of competition. Industries should not rely on governments' subsidiaries because they are not permanent and the sudden absence of them creates the same problems as before. U.S. and EU agriculture were major examples. In the early 1970s, the textile and clothing industries were exempted from GATT. When the Nixon Administration took the U.S. dollar off the gold standard in 1973, it lowered the value of the dollar compared to other currencies. That further lowered the international price of U.S. exports. By the 1980s, the nature of world trade had changed. GATT did not address the trade of services. That allowed them to grow beyond any one country's ability to manage them. For example, financial services became globalized. Foreign direct investment had become more important. As a result, when U.S. investment bank Lehman Brothers collapsed, it threatened the entire global economy. Central banks scrambled to work together for the first time to address the 2008 financial crisis. They were forced to provide the liquidity for frozen credit markets.

Like other free trade agreements, GATT reduced the rights of a nation to rule its own people. The agreement required them to change domestic laws to gain the trade benefits. For example, India had allowed companies to create generic versions of drugs without paying a license fee. This helped more people afford medicine. GATT required India to remove this law. That raised the price of drugs out of reach for many Indians.

Trade agreements like GATT often destabilize small, traditional economies. Countries like the United States that subsidize agricultural exports can put local family farmers out of business. Unable to compete with low-cost grains, the farmers migrate to cities looking for work, often in factories set up by multi-national corporations. Often these factories can move to other countries with lower-cost labor, leaving the farmers unemployed.

Farmers that stay often grow opium, coca or marijuana, just because they can't grow traditional crops and stay in business. Violence from the drug trade may force them to emigrate to protect themselves and their children[20].

[20] CAFTA and the Forced Migration Crisis," Eyes on Trade, September 26, 2014

4.2 GATT and Anti-Dumping Regulation

Due to the EU's membership of GATT, the primary source of anti-dumping regulation in the European Union is Art. VI of GATT's Anti-Dumping Agreement ('Agreement') which came into force in 1948. Art. VI specifies anti-dumping duties to be effected when:

a) Goods have been introduced into the commercial arena at less than their "normal value"

b) The dumping must cause/threaten material injury to an established domestic industry or retard materially the establishment of a domestic industry.

The Agreement specifies four steps to be taken, to ascertain whether goods have been dumped:

1) the 'normal' value of the goods need to be determined
2) the export price of the goods needs to be ascertained
3) there will need to be a comparison between the normal value of the goods with its export price
4) the differences between the the goods' normal and export prices needs to be calculated to find the dumping margin.

Value Determination

According to the Agreement, the normal value of the goods is based upon the standard price paid or payable by buyers in the exporting country. In this situation, three matters are to be considered:

1. the physical nature of the goods
2. the time of sale
3. the level of trade.

In some instances, the normal value of the goods is not able to be based upon their sale price, for example:

1. Where there has been no sale of like goods by the exporter in the exporting country
2. Where sales volumes are insignificant, say, less than 5%
3. Where there are exporting country sales, but those which are not made in the ordinary course business. For example, where the exporting country sales are at a price below the production costs due to market conditions.

Generally, when this happens, the normal value of the goods is calculated by reckoning the cost of production in the originating country, coupled with uplift for sales, general and administrative costs and an allowance for profit. However, the

Agreement specifies that normal value may also be determined by using a sample of export prices to third countries. For other than market economies, normal value is determinable on the basis of the price, or assessed value in a market economy third country, or the price from such a third countries, including the EU, or where such determination are not possible, on any other reasonable basis, including the actual price payable, or paid in the EU for a similar product, adjusted as required, to account for profit margins.

For Anti-dumping investigations concerning non-market economies generally, normal value is determined on the basis of the price paid/payable by customers in the exporting country, where it can be established that market economy conditions prevail for the exporter in respect of the manufacture and sale of the type of product in issue.

The written claim will need to point to evidence that the producer is operating under market economy conditions in terms of:

1. decisions regarding prices and the production of the goods, are made in response to market triggers that reflect supply and demand, without significant State interference;

2. that there are one clear set of basic accounting records independently audited in line with international accounting standards and applied for all purposes,

3. that production costs and financial accounting situations are not subject to significant distortions carried over from a former non-market economy system;

4. that the exporting firms are subject to bankruptcy and property laws which guarantee legal certainty and stability for the operation of firms, and

5. exchange rate conversions have been carried out at the market rate.

Export Price Determination

According to the Agreement, the export price is the actual price paid, or payable for the goods when they are sold for export to the EU. In cases where there is no export price or the price is unreliable because of an association of sorts between the exporter and importer – for example, in group, or jointly owned, or similar companies – the

export price can be assessed using the price at which the imported goods are first sold again, or by any other reasonable methods.

Prices Comparison

By the Agreement, prices comparison, must be fairly made between the export price and the normal value of the goods in similar situations having regard to matters which may affect price comparability. However, where the normal value and the export price cannot be fairly compared, adjustments, will need to be made for differences in such aspects which are claimed, and shown, to affect prices and comparability issues. The adjustments may reckon differences in commissions paid, transport, handling and discount costs. Issues such as rebates, condition of the goods, level of trade, import charges and indirect taxes may also be put into the frame. The adjustments may either increase or decrease the dumping margin.

Dumping Margin Calculation

The Agreement sets the dumping margin calculation to be th amount by which the normal value is greater than the export price. The Anti-dumping duty is levied on the differential unless the injury margin is lower. In the basic formula used in the EU, the export price is deducted from the normal value and the result is calculated as a percentage of the CIF (cost, insurance, freight) value.

4.3 GATT's Rounds

4.3.1 The Kennedy Round

The biggest leaps forward in international trade liberalization have come through multilateral trade negotiations or "trade rounds" under the patronage of GATT[21].

Most of GATT's early trade rounds were devoted to continuing the process of reducing tariffs. Although the GATT came into force in 1948, the contracting parties did not canvass themselves about the use of antidumping until 1958. Antidumping first became a noteworthy GATT issue at the Kennedy Round of 1964-1967.

One reason why many countries did not enforce antidumping laws was that high tariffs adequately protected their firms. As subsequent GATT rounds reduced tariffs,

[21] ANON "The Roots of the WTO". Available at http//www.econ.iastate.edu/classes/ econ355/choi/wtoroots/htm (accessed 09-08-06).

however, more countries began enforcing such laws, which then led to complaints and disputes. The antidumping dispute in the Kennedy Round brought forth arguments that were later on discussed in both the Tokyo and Uruguay Rounds. Not surprisingly, the Kennedy Round was the first to tackle the issue of Non-

Tariff Measures and in that context, antidumping and countervailing duty practices of contracting parties. The USA had its own objectives in the antidumping negotiations of the Kennedy Round. While the USA was a frequent user of antidumping law, American exporters regularly faced accusations of dumping. They found judgments in many countries on USA dumping to be inexplicable because the relevant facts and reasoning were not made public; hence the USA sought to improve transparency in the administration of other countries' antidumping laws.

On the other hand, many countries viewed various aspects of USA antidumping laws as unfair.[22]

The result of the antidumping negotiations in the Kennedy Round was the "Agreement on the Implementation of Article VI"[23]. The Antidumping Code was created as a separate document from the General Agreement, and the contracting parties remained free to sign the Code or refrain from doing so. The Code was only applicable to those contracting parties who signed it, and signatories had to agree to stand by its regulations and review their national legislation to bring it in line with the specifications of the Code[24].

The Antidumping Code included such items as the definition of dumping, the determination of injury, antidumping investigation and management procedures, antidumping duty and temporary measures, as well as the question of adopting antidumping measures on behalf of a third country.

4.3.2 The Tokyo Round

The seventh GATT round, the Tokyo Round of Multilateral Trade Negotiations, was conducted between 1973 and 1979. This Round adopted a new "Agreement on

[22] The USA was a major target of criticism because of the importance of its market to the world economy, the advanced state of development and specificity of its antidumping law, and transparency of its antidumping proceedings, which made the workings of the system visible for all to see and criticize.

[23] This Agreement is often referred to as The Antidumping Code. It came into force on 1 July 1968.

[24] Stewart *et al Antidumping: The GATT Uruguay Round: A Negotiating History*

Implementation of the General Agreement on Tariffs and Trade", called "Antidumping Regulation 1979"[25]. It continued GATT's efforts to progressively reduce tariffs, and was indeed a more sweeping attempt to extend and improve the system. Antidumping law was again an issue, and the increasing use of subsidies led to subsidies and countervailing duty law becoming issues as well. The negotiations on these issues resulted in some modifications to the Antidumping Code. Among the changes to the Antidumping Code was no longer to require that dumping be the principal cause of injury to meet the material injury requirement for imposing duties. The Tokyo Round Agreement revised the Antidumping Code, so that it was no longer necessary to show that dumping was the principal cause of injury when other contributing factors existed. The first part of the Code reiterated the basic principles of Article VI of the GATT, and elucidated a series of important concepts that have close correlation with the understanding and implementation of antidumping measures. The second part elaborated the consultation, conciliation and dispute settlement procedures for establishing a committee on antidumping practices. The third part elaborated some related legal procedure, such as acceptance, accession, reservation and the use of force. Indeed, practice proved that the Antidumping Code 1979 was an important step in the development of antidumping regulation under the GATT. However, it still had limitations. It could not solve the problems of implementing antidumping measures, and could also not solve new problems which arose in antidumping actions. Generally, domestic antidumping laws lacked transparency. This gave administering authorities too much discretion.

4.3.3 The Uruguay Round

The seeds of the Uruguay Round were sown in November 1982 at a ministerial meeting of GATT members in Geneva. As negotiations unfolded in the Uruguay Round, it turned out that many contracting parties were dissatisfied with GATT regulation of antidumping procedures and substantive rules.[26] The USA and the EU were, on the other hand, concerned about gaining GATT acceptance for the use of certain devices to prevent the circumvention of antidumping duties. The latter were

[25] The aim of the Antidumping Code 1979 is:
"…to interpret the provisions of Article 6 of the General Agreement on Tariffs and Trade and elaborate rules for their application in order to provide greater uniformity and certainty in their implementation; ...and to provide for the speedy, effective and equitable resolution of disputes arising under this Agreement."

[26] Jackson *et al Legal Problems of International Economic Relations: Cases, Materials and Text* (1995)

also interested in regulating more closely the various procedures employed in antidumping actions in light of the increased use by Mexico and other developing countries of antidumping laws.

On the other hand, many of the countries commonly targeted by antidumping actions pressed for changes in the substantive rules applied in antidumping cases, so as to make them less susceptible to use for protectionist purposes.[27] The result of the negotiations was something of a compromise. The procedural rules were tightened, while there was some rather minimal tightening of the substantive rules. The Uruguay Round Antidumping Agreement came about as a result of this round.

Also, in consequence of winding up of the Tokyo Round and the enactment of the new Antidumping Code[28], the Committee on Antidumping Practices was established in accordance with Article 14. In addition to being responsible for carrying out assignments given to it by the Agreement or the Parties, the Committee provided the parties with the opportunity to consult on any matters relating to the operation of the Agreement and furtherance of its objectives. The 1994 Antidumping Code has indeed, brought about considerable progress in making the rules to be followed by national authorities when conducting antidumping procedures more precise. Together with the fact that they are binding on WTO members, this should considerably improve legal security and predictability for parties to such procedures and reduce the risk of protectionist application.

4.3.4 The Doha Round

The Doha Round is the latest round of trade negotiations among the WTO membership. Its aim is to achieve major reform of the international trading system through the introduction of lower trade barriers and revised trade rules. The work program covers about 20 areas of trade. The Round is also known semi-officially as the Doha Development Agenda as a fundamental objective is to improve the trading prospects of developing countries.

The Round was officially launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001. The Doha Ministerial Declaration provided the

[27] Countries in East Asia and Scandinavia serve as examples.

[28] This agreement entered into force on the 1 of January 1980.

mandate for the negotiations, including on agriculture, services and an intellectual property topic, which began earlier.

In Doha, ministers also approved a decision on how to address the problems developing countries face in implementing the current WTO agreements.

5. Impact of Trade Liberalization

The increase in world trade has been due to a number of factors. In the post-World War II period, vigorous expansion of the world economy, partly due to Government policies aimed at ensuring economic growth, has provided the principal impulse for the growth of world trade. The increase in overall growth rates also resulted in a vast and widely disseminated increase in personal incomes which gave rise to an increased demand for imports. Gradual liberalization of trade restrictions and import controls, reduction in customs tariffs and the vigorous export promotion activities have also contributed in the growth of world trade. The increased flow of funds from the economically advanced countries to the developing ones have also helped in the growth of world trade. Along with these the global peace, greater speed and capacity of communications, lower cost of transportation, and rapid development of Transnational Corporations (TNCs) have also contributed in the growth of world trade. They have recognized the markets, mobilized manpower and financial resources, developed and implemented research and have carried on manufacturing and marketing on a global basis.

The economic wellbeing of a country is associated closely to the availability of resources and the productivity of its workforce. Trade operates in a diversify ways to sustain the economic development process. It enhances competition and the linked thrust to innovation and specialization, and it provides a significant channel for international technology transfer. Therefore, it is not astounding that economists include trade among the classical drivers of economic growth.

Trade liberalization helps to enhance the economic growth of the nation and reduce the level of poverty:

(i) 3 per cent of world exports of goods, equivalent to $2,275 billion, were attributable to WTO/GATT's function in facilitating growth in trade more than 50 years in the year 2003.

(ii) In 1990, the average annual growth rate of more globalize developing countries were 5 per cent against 1.4 per cent for less globalize countries and over 2% a year in high income countries.

(iii) While achieving the highest growth rates, developing countries have been able to reduce the level of poverty remarkably. Share of population earning less than $1 a day halved from 30 per cent to 15 per cent in East Asia and cut down by a quarter from 42 per cent to 30 per cent in South Asia between 1990 and 2001.

(iv) Openness to international trade is connected with investment climate (both foreign and domestic), which is positively correlated with economic growth. When markets are open and are free from all barriers then private investors get better opportunity with reduced uncertainty whereas previous barriers might have restricted their business. Private investment brings intellectual capital and technology, and can also push other aspect of social infrastructure in a positive direction.

(v) The financial service sectors are also enhanced due to opening up of trade. This can mobilize resources for domestic and foreign investment.

World Output and Trade

Period	**Percentage growth in**	
	Output	**Trade**
1913-48	0.5	2.0
1948-73	5.0	7.0
1973-83	2.0	3.0
1980-91	2.3	5.1
1991-2000	2.3	6.8
April 2006*	4.9*	8.0**

*World Economic Outlook, International Monetary Fund, April 2006

**http://www.wto.org/english/news_e/press07_e/pr472_e.htm(World Trade 2006, prospects for 2007)

5.1 Results of trade liberalization of trade

According to Rabin Mazumder (2008) there is a large consensus on the overall benefits provided by trade and openness. Yet the debates are still going on, especially with respect to the measures of openness and the choice of base years. There are big uncertainties to the developing countries regarding the fairness and true objectives of the proposals originating from the developed countries. These uncertainties will continue if the developed countries keep up the practice of recommending selective trade openness (which seems to be proportional to the geopolitical weight of developed as well as developing countries), to protect their own sensitive sectors for their own interest. On the other hand, they oppose projects for abolishing barriers for the least developed countries.

Fair initiatives and concessions reaching to the poorest countries may imply losses for other developing countries augment competition between them and may also reduce preferences that they have been enjoying previously. The fact of Asian crisis has intensified the doubt of many developing countries that, globalization is a "rich country's game", whose rules favor the most competitive ones. Developing countries are conscious that even the few commodities they export are not always competitive. Moreover, especially in Sub- Saharan Africa, the *Breton Woods* institutions may have contributed to the erosion of the few comparative advantages that they possess. The impact of globalization and liberalization may lead to the coming out of new losers as well as winners to some of the countries. As we have seen that, trade liberalization helps to reduce poverty it may also increase poverty in certain cases, depending on the market structure, wages, level of skills in the export sector, and so on.

From surveys, it reveals the fact that in some countries, trade liberalization has intensified inequality. Positive link between growth and trade openness have been challenged by the number of scholars as measured by lower tariffs and non-tariff barriers. The matter of globalization in itself is not harmful or beneficial; it is formed by those who design the rules and regulations. Thus, Globalization can be the part of the solution provided; its benefits are shared equitably by all and not be the problem for the economy of the developing country.

5.2 Problems Facing Developing Countries

Most of the developing countries are exporters of primary goods. In the present-day world, the demand for food and agricultural raw materials has declined. During the 1990s, the share of agricultural trade in total merchandise trade had been declining continuously. In the developing countries, the share of agricultural exports in total merchandise exports had fallen from almost 50 per cent in the early 1960s to only 7 per cent in 2003. Until the early 1990s, the developing countries recorded an agricultural trade surplus. Over time, this traditional surplus position had been decreasing and right through most of the 1990s agricultural exports and imports in the developing countries were almost in balance, turning to a trade deficit in 1999.

Food and Agriculture Organization's (FAO) stance in 2030 suggests that, as a group, the developing countries will become net agricultural importers and projects a developing country agricultural trade deficit of $18 billion (in 1997/99 US dollar terms) in 2015, rising to $35 billion in 2030 (FAO, 2002). In the developing countries, the agricultural exports have fallen due to following factors:

(i) Technological advances leading to a drastic fall in the requirements for raw

materials and fuels per unit of manufacturing output in industrial countries.

(ii) Growing complexity and sophistication of final products, all of which tend to reduce the input of raw materials per unit of output;

(iii) The evolution and intensified use of manufactured (synthetic) raw materials, such as rubber, fibers and leather; and

(iv) The rising productivity of agriculture in the industrial countries.

Even though developing countries are major exporters of agricultural goods, their share declined from 45 per cent in 1970 to 29 per cent in 1987. The share of processed agricultural goods within total agricultural exports decreased from 23 per cent in 1980– 1983 to 18 per cent in 2000–2003 (UNCTAD 2006). In 2006, trade of agricultural products represents no more than 10 per cent of all merchandise trade (Doha Development Agenda 2006)8. With the conclusion of Uruguay Round of Trade

Negotiations and the proposed reduction in agricultural subsidies, the share of developing countries in farm exports was expected to increase but the hopes have not materialized.

Nowadays, developing countries are facing another problem regarding the increased volatility of world prices of agricultural goods since 1972. Again, the cyclical pattern in prices of agricultural commodities has not been affected by the WTO regime. For developing countries, the world agricultural prices have gone down below their (Developing Countries) prices in the last few years. As a result, demand for agricultural goods fall sharply in the world market. On the other hand, developed countries sale their agricultural goods in the world market at a low price compare to developing countries. So, the lion share of the world export of agricultural commodities has been captured by the developed countries.

The event of September 11, 2001 has hit the commodity prices so badly that most of the major commodity price indices showed substantial decline in 2001 and remained below the 1997 levels. There was large decline in the prices of tea and coffee, commodities of major interest to developing countries. Prices of rice, copper, cotton and natural rubber declined. The economic impact of this decline was reflected in a pronounced deterioration by an estimated 3 per cent in the terms of trade of developing countries. In fact, developing countries have been facing an adverse movement in their terms of trade. To understand how export and import prices affect a country's terms of trade, we consider an example in which a country exports rice and imports oil. Increases in the price of oil represent a deterioration of the terms of trade because the country will pay more for the goods it imports.

Conversely, increases in the price of rice increase the country's export earnings and represent an expansion in its terms of trade. Developing countries export more commodity products, whose prices are more volatile than those of manufactured goods. Moreover, because developing countries generally have a high degree of openness to foreign trade, these sharp swings in the terms of trade affect a large share of their economies.

6. Anti-dumping Regulations under EU

The Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 ('the 1994 Anti-Dumping Agreement') contains detailed rules, relating in particular to the calculation of dumping, procedures for initiating and pursuing an investigation, including the establishment and treatment of the facts, the imposition of provisional measures, the imposition and collection of anti-dumping duties, the duration and review of anti-dumping measures and the public disclosure of information relating to anti-dumping investigations.

Imposition of Anti-Dumping Duty in the EU

Injury Threat

Determination of threat of material injury must be strictly assessed. Changes in circumstances where the dumping would cause injury must be clearly foreseeable and unavoidable. As such, consideration is to be given to factors such as:

1. whether there has been a significant rate of increase of dumped imports;

2. where that is, or has been a substantial increase in the capacity of the exporter;

3. whether imports are entering the EU at prices which will have a significant depressing/ suppressing effect on domestic prices; and also

4. actual inventories of the product.

Issues of Causation

Causation of material injury consideration are assessed by volume and price. For volume, regard must be given to whether there has been a significant increase in dumped imports, relative to production or consumption in the EU. As regards price regard must be had to aspects of significant price undercutting by the dumped imports as compared with the price of a like product in the EU, or whether the overall effect of the imports is to depress prices to a significant level, or to prevent price increases in the main. The causal link is thus generally established by demonstrating that injury to importing country's industry corresponds with changes in the price or volume of the imports.

Community Interest

Council Regulation 384/96 requires that a determination as to whether the community interest calls for intervention needs to be made. This determination is to be based upon an appreciation of the various interests involved, including those of the Community industry, importers and consumers/ users. In that regard, it is to be noted that Anti-dumping measures may not be applied where it is not in the Community interest to apply such measures.

Procedural Matters

Proceedings may be initiated by the EU Commission initiating an investigation of its own accord. However, investigations usually happen when there is the submission of a complaint by/ on behalf of the Community industry involved. As such, any individual or association of individuals can submit in writing a complaint to the EU Commission alleging dumping by non-EU suppliers. Such complaints are made typically by associations representing firms in a section of the relevant Community industry. The Community industry is the domestic industry of the EU, consisting of all, or for the minimum, a proportion of, the producers of the like product within the community.

The submission should provide evidence of the dumping and its level; the injury being caused to the domestic industry and the causal link between dumping of products on the EU market and alleged injury caused. The Commission then will decide on the evidence before it to determine whether an investigation is to proceed.

Initiation of Proceeding

Once sufficient evidence to start proceedings has been submitted, the Commission must publish notification of the event in the official journal of the European Communities and simultaneously advise affected importers and exporters as well as representative of the concerned exporting countries and commence of its investigations into the alleged dumping and injury being caused.

Investigation

The investigation rules would require that the interested parties complete and return questionnaires within 30 days of receipt; for Member States to carry out checks and

inspections amongst importers, traders and community producers and the Commission representatives to visit the relevant third countries. Interested parties are able to seek an oral hearing and make written submissions. The investigation can be terminated without penalty where:

1. the complaint is withdrawn;

2. protective measures are unnecessary;

3. the dumping margin is less than 2% of the export price

4. the exporter undertakes to amend his prices and cease exporting at dumping prices

The EU authorities are obliged to give notification of the imposition of the provisional duties. The notification should explain the preliminary determinations on dumping and injury and refer to the matters of fact and law leading to the decision taken.

Judicial Review

The EU's Court of First Instance (CFI) and its European Court of Justice (ECJ)may hear anti-dumping cases. However, the CFI can only hear hear direct actions while the ECJ may hear direct actions as well as preliminary rulings referred to by the national courts. In accordance with Art. 173 of the EC Treaty, the CFI and ECJ can review whether acts of the EU council and Commission are lawful. As such, they are able to review Regulations and Decisions reached by the Commission or Council regarding: imposing provisional and set Anti-Dumping duties; in relation to the termination of investigations; acceptance of price undertakings, etc. The grounds upon which an application for judicial review may be brought are set out in the EC Treaty as:

1. lack of competence

2. Infringement of an essential procedural requirement.

6.1 Anti-dumping activity in the EU

According to WTO Antidumping Notifications (January 1995-June 2010) the EU ranks third both in terms of initiations and measures, only preceded by India and the USA. Figure presents the evolution of the number of AD initiations and measures by year of initiation. We divide the 15-year period 1995 to 2009in the following

diagram[29] into five sub-periods and present data for the top four heaviest users to which we add China and worldwide WTO Notification. Unlike the EU and USA, which are traditional users of AD, the other three countries considered did not use AD intensively until the 1990s. The evolution of AD activity was somewhat varied across users. In the EU, the number of initiations tended to decrease from a total of 100 cases in the first period to 41 in the latest. The share of measures on total initiations, on the other hand, does not present significant changes. Both the USA and India experienced a sharp peak in the use of AD in between 1998 and 2003, followed by a pronounced drop in the period started in 2004. China presents a much-reduced number of cases in the first period given that it started using AD only in 1997. However, it later experienced a considerable increase in AD activity. Overall, worldwide AD activity presented a peak in the second and third sub-periods, particularly driven by the sharp increases in the USA and India, with a later drop to levels similar to those of the first sub-period.

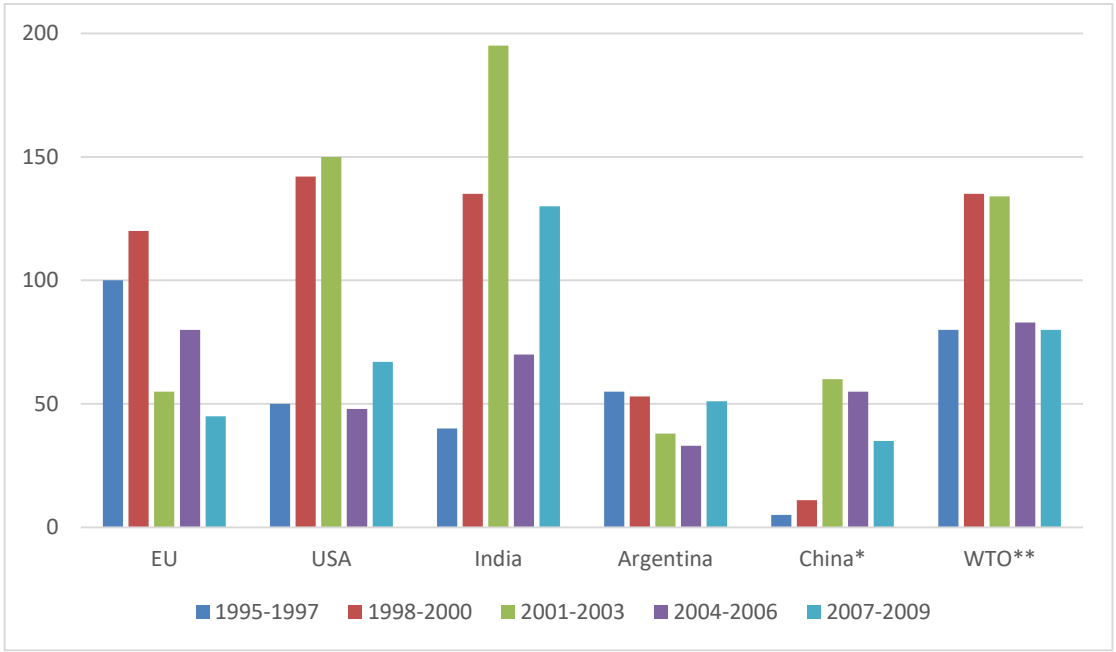
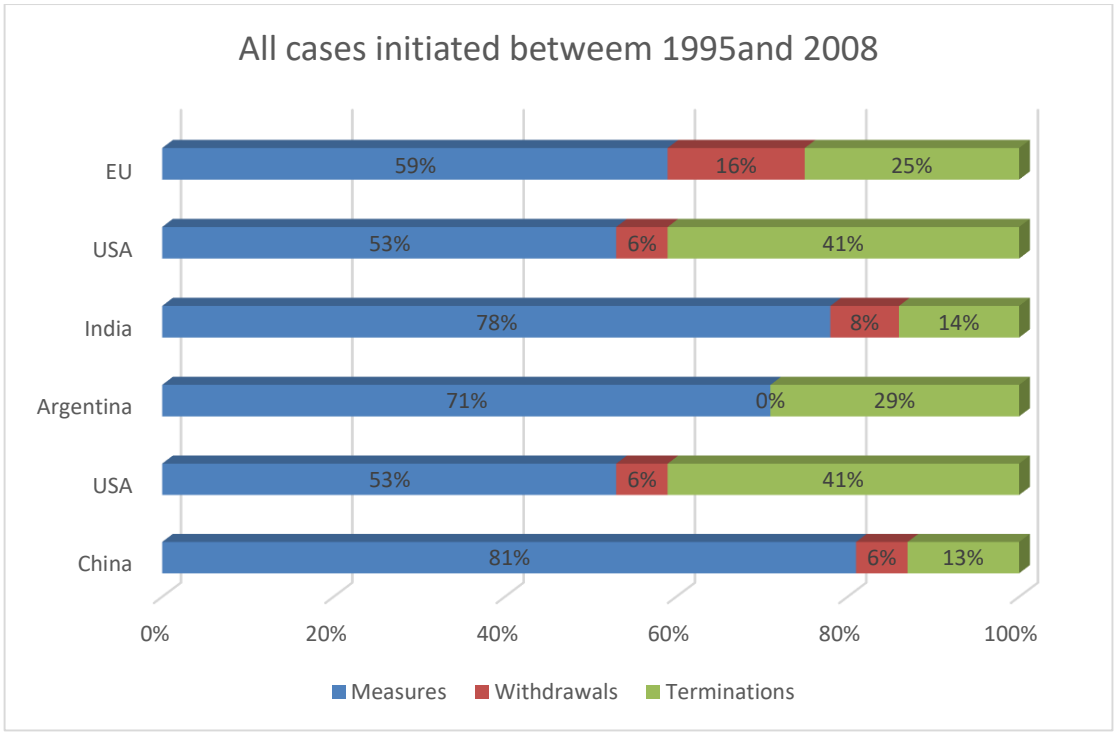


Figure 8: Number of anti-dumping initiations and measures between 1995 and 2009, Source: "Anti-dumping practices in the EU", Laura Rovegno and Hylke Vandenbussche (2011)

[29] "Anti-dumping practices in the EU", Laura Rovegno and Hylke Vandenbussche

6.2 Outcomes of AD petitions

In the following diagram is presented the desegregation of AD cases filed by these five users according to whether they resulted in measures, were withdrawn by petitioners or were terminated by the authorities. The EU presents a slightly higher share of cases resulting in measures than the USA, but much lower than the three new users considered. In fact, these countries present a particularly large share of cases resulting in measures, especially India and China where this ratio is around 80%. Regarding terminations, only a quarter of cases terminated in the EU, much lower than the 41% in the USA. The difference is partly explained by a much higher share of withdrawals at 16%. In fact, this seems to be a peculiarity of the EU compared to the other four users. In the second part, although there is some variation in the share of withdrawals, it has always been above 12%. Therefore, it seems that this is a characteristic of EU AD and has been so far, a long time. The economic literature has put forward evidence suggesting that many withdrawals may be the result of unofficial agreements between domestic and foreign firms leading to quantity restrictions and higher prices. In particular, Prusa and Zanardi present economic models where domestic firms strategically file for AD protection in order to induce foreign firms into such agreements; once this objective is achieved, the case is withdrawn. Zanardi tests this empirically using data and finds evidence supporting the hypothesis. The greater share of withdrawals in EU decisions is somewhat worrying, since it may be a symptom of AD being used more intensively as a collusive device between competitors.



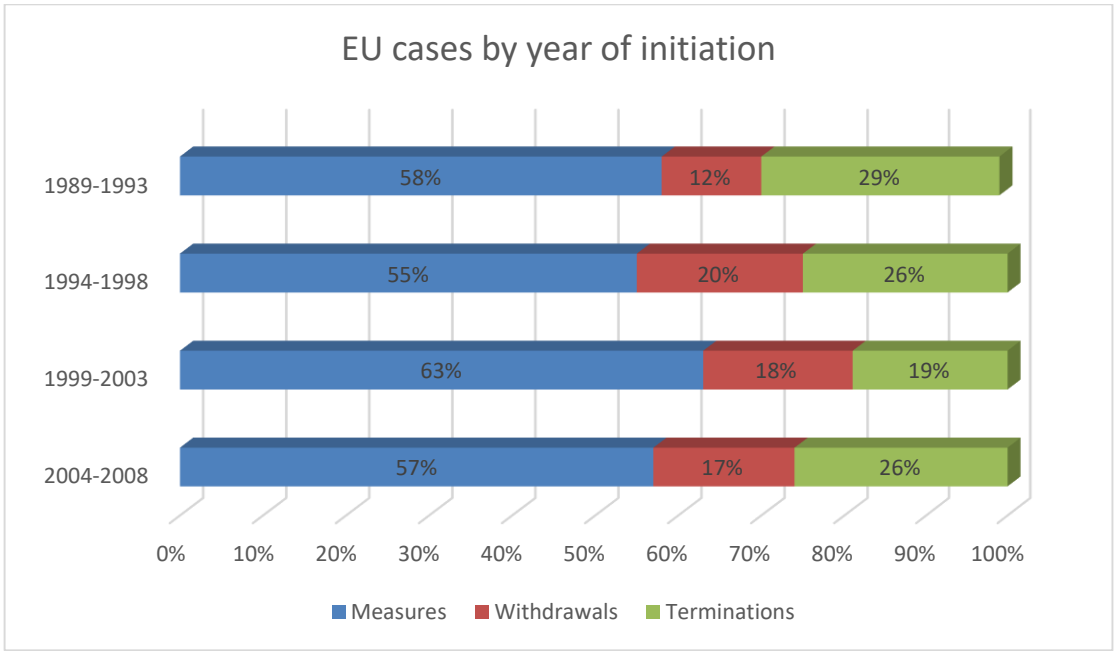


Figure 9: Anti-dumping investigations by outcome, cases initiated between 1995 and 2008, Source: *Calculations using data from the Global Antidumping Database(World Bank)*

7. The evolution of solar panels

In this part of this assignment is presented a case study concerning the evolution of solar panels and the impact of anti-dumping on these. It follows somehow a practical implementation of the aforementioned information and regulations on a sector which is evolving worldwide rapidly.

Solar panels, which refer to either a photovoltaic (PV) module or a set of solar PV modules, can directly convert solar energy into electricity and can be used in commercial and residential applications. The demand for solar panels in the EU market has been increasing in the past decade, with solar energy becoming an important source of renewable energy. Under the climate and energy package, the EU energy consumption produced from renewable resources would be raised to 20 per cent of total consumption by 2020 (the current share is about 13 per cent). [30]At the time of the investigation, the EU had the largest market demand for solar panels.[31] Member States have adopted their own energy policies to raise the share of renewable energy in their energy consumption by 2020, with different targets ranging from 10 per cent in Malta to 49 per cent in Sweden.[32]

Looking back, solar energy came to exert a strong appeal in the business world within the span of a few years. In the US, especially in sunny California**,** a number of firms started to manufacture chips, cells and /or panels. In Europe, a similar hype in solar energy took root in several countries, especially in Germany which had established a strong position with respect to silicon, a widely used material, and cell production. Elsewhere in Europe many firms in the energy sector, or even in plumbing, eagerly engaged in the solar sector, especially with respect to the installation of solar panels. The initially rather lavish subsidies to consumers by governments in a number of countries, propelled a booming business. Moreover, the installation of solar panels was viewed favorably by governments, on account of its labor-intensity. In Germany a law in 2000, aiming at developing renewable energies, provoked a real outburst of activities in solar energy. As a result, Germany had the world's highest output of solar

[30] European Commission. (2015). The 2020 climate and energy parckage http://ec.europa.eu/clima/policies/package/index_en.htm.

31 Coville, F. (2013, Feb 18). The 10 solar trends to watch in 2013. Business Spectator. http://www.businessspectator.com.au/article/2013/2/7/cleantech/10-solar-trends-watch-2013

32 European Commission.(2015). The 2020 climate and energy parckage.

energy by mid-2011. Italy and Spain, more generously gratified with sunshine, reached about the same modest, but rapidly rising, coverage of electricity needs.

China is a major trading partner of the European Union (EU), the destination of much Foreign Direct Investment (FDI) by EU firms – and by far the most targeted country of anti-dumping investigations by the EU (and other economies like the US). Meanwhile, China's solar manufacturing industry has been experiencing rapid growth since the year 2000. In the 1990s solar manufacturing had depended largely on the central government, as growth of solar energy production had been slow, due to the lack of government incentives for the production of and innovation in solar energy. After its accession to the World Trade Organization (WTO) in 2001, China's rise in the world economy influenced global trade by lowering prices in the manufacturing sector. In a decade's time, China became the world's largest producer of solar panels. More than 90 per cent of Chinese production are exported, and of this, about 80 per cent goes to the EU market. In the spring of 2012, the European Union and China got embroiled in a tense dispute about trade in the novel but rapidly growing solar energy field. In 2012, the European Commission launched an anti-dumping and anti-subsidy investigation on solar panels imported from China after a petition was filed by Prosun, the association for European solar manufacturers. As solar panel imports from China in 2011 were valued at more than EUR 20 billion, the probe became the EU's largest trade investigation and the solar panel case by far the largest EU-China trade dispute.

The surge in EU imports of such goods from China - especially of solar panels used in the last stage in the production sequence of photovoltaic energy - prompted a group of EU-located producers of solar equipment to request trade defense measures from the European Commission. The influx of Chinese solar panel products to the EU market was an issue for local competitors. The European solar manufactures contended that Chinese manufacturers were receiving heavy subsidies from the government and banks due to the fact that the Chinese government had announced that it would provide rather generous subsidies to the enterprises that would enter this new field, which were initially focused on wind energy. Many EU manufactures felt crowded out of the market. Solarworld, the largest German manufacturer, lodged a petition to the European Commission asking for an anti-dumping and anti-subsidy investigation. Based on the investigation, the European Commission concluded that "the fair value

of a Chinese solar panel sold in Europe should be 88 per cent higher than the price at which it is sold".

After conducting investigations, the Commission imposed a provisional anti-dumping duty on such imports in June 2013 while threatening to impose significantly heavier levies on solar panel imports from China if no satisfactory arrangement could be found before 6 August 2013. Thus, from August 2013 the duty on Chinese exports was increased from an initial 11.8 per cent to 47.6 per cent. In response, China immediately decided to launch an anti-dumping and anti-subsidy probe into wine imports from the EU and threatened to conduct another probe against luxury cars. The trade relationship was marred in tension. Close to that deadline, an amicable 'understanding' was reached, whereby China agreed to reduce its overall quantity of exports to the EU and put a floor price on those exports. Thus, a major trade conflict about the largest contested trade volume ever was averted.

In the solar panel case, the main dispute was pricing. Chinese exports of solar panels enjoyed lower prices in the EU market, which, according to the EU solar industry, resulted from cheap loans and government subsidies as we mentioned above. Following the introduction of the Five-Year Solar Plan by the Chinese government, the price of a Chinese solar module fell dramatically from EUR 3 per watt peak (Wp) in 2008 to as low as EUR 0.40 per Wp in 2011. Elsewhere, production costs of solar energy, a novel field, were also experiencing a market decline in production costs. Meanwhile, the manufacturing capacity of China's solar-panel industry grew tenfold, and the surge in exports contributed to a 75 per cent drop in world prices.

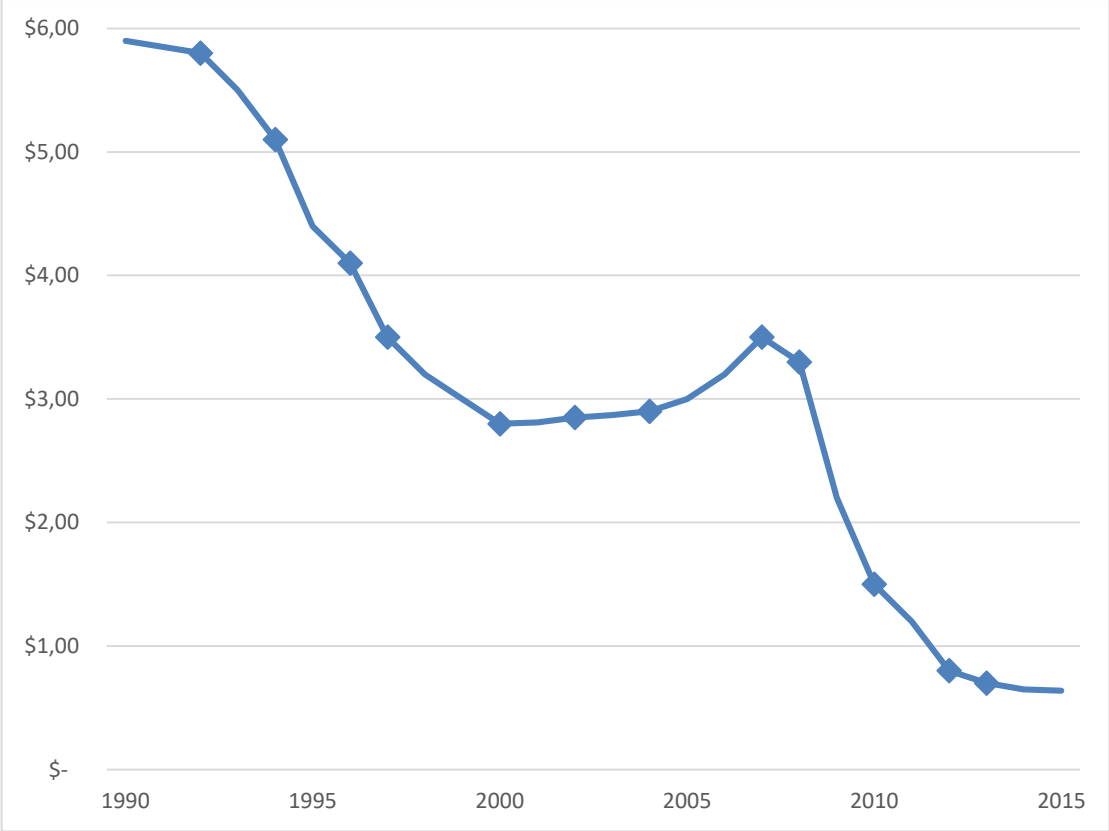


Figure 10: World Prices of Solar PV Module Per Watt

The EU's decision to impose duties on Chinese solar panel products drew the attention of the Chinese government. China denied the dumping and subsidy claim and Premier Li Keqiang expressed strong opposition to the "protectionist trade measures" (Xinhua, 2013).[33] However, as the EU was China's largest trade partner and China was the EU's second largest trading partner – and China and the EU trade is valued at EUR 1 billion a day – both parties agreed to settle the heated dispute through negotiations rather than starting a trade war.

[33] Xinhua. (2013). Li slams EU's trade measures against Chinese products. Xinhua News Report. http://news.xinhuanet.com/english/china/2013-05/24/c_132406678.htm

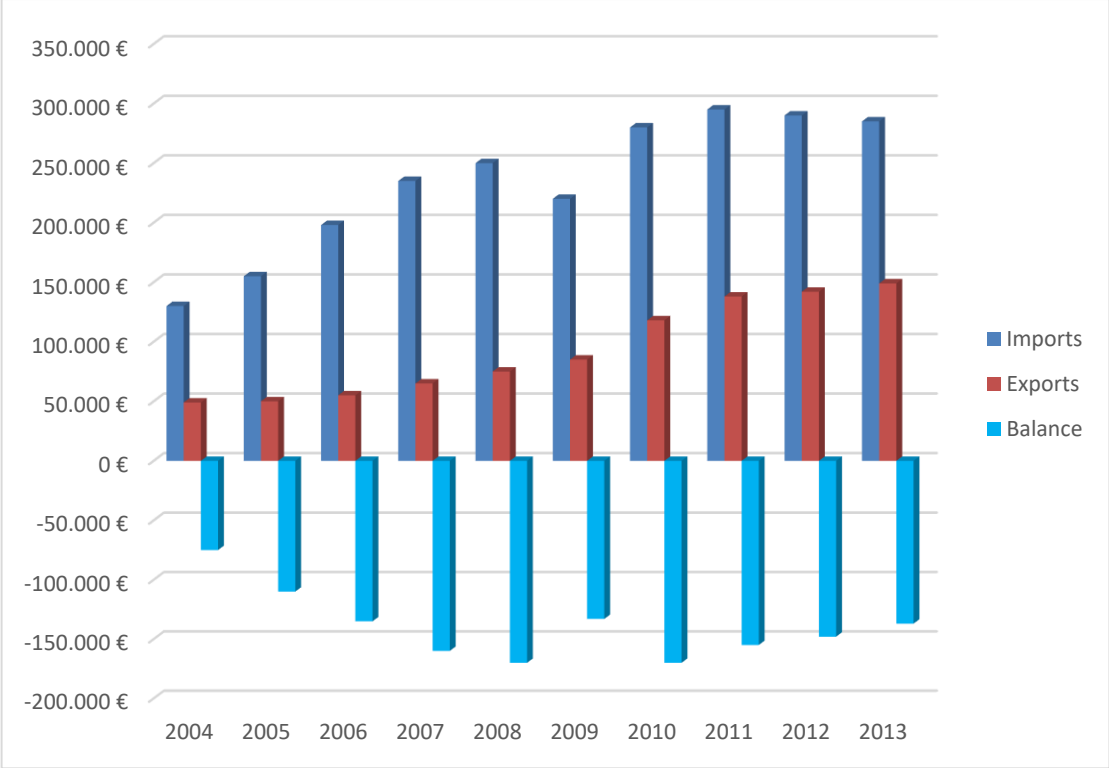


Figure 11: European Union, Trade with China. Total goods: EU Trade flows and balance, annual data 2005-2014

In July 2013, a settlement was reached between the EU and China. The agreement consisted of a minimum price of EUR 0.56 per Wp for panels until the end of 2015 and of a limitation of the export volume. Chinese companies were also allowed to export to the EU up to 7 gigawatts per year of solar products without paying duties. About 90 per cent of Chinese solar manufacturers signed up to the minimum price. According to Karel De Gucht, the EU trade commissioner, the price undertaking would "stabilise the European solar panel market and remove the injury that the dumping practices have caused to the European industry". Prosun, however, felt that the settlement was "not a solution but a capitulation", and that the "EU commission decided to sell the European solar industry to China under the pressure".[34]

The dispute with the EU was not the only trade feud that Chinese solar panel industry faced. In December 2014, Chinese solar panel exporters and producers were meted a whopping final dumping margin of 165.04 per cent in the US market; Canada also imposed tariffs on imported Chinese solar equipment in 2015. Australia likewise ruled that China was dumping solar panels in the market, although no duties were imposed.

[34] Chaffin, J (2013,"EU and China settle Trade fight over solar panels "

However, none of the investigations sparked as large a trade controversy as it did in the EU market due to a small market share.

Despite the 2013 settlement, Chinese manufacturers continue to face challenges in the EU market. In 2015, the European Commission proposed denying three Chinese solar panel producers' duty-free access to the EU markets for violating the agreement to respect the minimum selling price.

7.1 The Economic Relations Between the EU and China

7.1.1 The Relations in General

In 1985, the signing of an 'Agreement on trade and economic cooperation' sealed the renewal of commercial and direct investment deals between the PR China and the EU (then numbering 11 member states). Subsequently, the economic relations and the political dialogues between the two partners have significantly broadened and deepened. High-level dialogues, including annual summit meetings (since 1993), are periodically held. More specialized contacts have been institutionalized in not less than 60 sectorial dialogues, which sometimes result in agreements and cooperative projects.

Recently, the two sides started negotiations on a bilateral direct investment agreement (BIA). Such an ambitious BIA would substantially solidify the overall relationship. It would substitute the slightly differentiated agreements which apply today between China and 27 individual EU member states with one single format. Yet, today the EU-members already extend a quite liberal welcome to incoming FDI, whereas in China access for foreign companies remains subject to authorization and may be disallowed, especially in the services area, which is still substantially restricted. However, recent shifts in China's development strategy herald relaxations of the barriers to entry for foreign firms. In due time, a BIA agreement may pave the way for a Free Trade Agreement (FTA) - which appears to be favored more from the Chinese side.

All in all, the relationship remains positive and reflects the benefits which each side expects from a closer interchange. In contrast to the US, there are no geopolitical frictions between the EU and China. The EU is a large market for Chinese exports and also a source of valued technology, appropriated either by way of licensing or through inward FDI. Conversely, European firms are attracted by the vast potential of outlets

for their output and, until recently, by the scope for sourcing labor-intensive goods production.

Yet, the bilateral relationship between the EU - which, as an entity, is vested with responsibility for trade relations and now also for direct investments - is occasionally marred by incidents and misunderstandings. On some topics, as in the dialogue on human rights, on which the EU insists, progress remains meagre. Moreover, in various strata of the EU population the awe for China's rapid surge is mingled with fears that Chinese firms will outperform European ones. This is reflected in an image of China, which, for good and less sound reasons, is far from uniformly positive (Shambaugh, 2013).

The EU is bent upon obtaining easier access for its firms to some Chinese sectors, especially as regards services, such as telecommunications, construction and banking. The EU resents the frequent interventions of Chinese governmental entities, at various levels, in the operations of European firms in China, which induce the latter into perceiving China as a non-level-field player. The prohibition of access to public procurement, a WTO undertaking which China has so far not signed, and the still occurring infringements of intellectual property rights (evidenced by the high proportion of fake goods from China seized at European borders) also draw criticisms.

The Chinese side formulates several complaints about its relations with the EU. The preservation by the EU (equally by the US and Japan) of China's status as a non-market economy (at least until December 2016) and the resulting facilitation of anti-dumping procedures ranks high in the Chinese list of misgivings. The refusal of the EU to export arms to China is also resented. The Chinese leadership is also often dismayed by the complex and incoherent lines of command in the EU, although in populous China a rather autocratic government in Beijing may also face obstacles when enforcing its instructions at sub-central levels.

7.1.2 Bilateral Trade Between the EU and China

Bilateral trade between China and the EU has grown in a fairly steady fashion. In 1978 China and the EU had a bilateral trade volume of only 4 billion, whereas in 2014 EU-28 imports from China reached EUR 302 billion and exports to China EUR 165 billion.

EU Merchandise Trade with China (in billion EU)					
	2010	**2011**	**2012**	**2013**	**2014**
Imports	284	295	292	280	302
Exports	114	136	144	148	165
Trade Balance	-170	-159	-148	-132	-137

Source: *European Commission, DG Trade, "China - Trade Statistics", October 2015*

A look at subcategories of trade in manufacturing reveals that China's exports exceed by far those of the EU with respect to electronic data processing and office equipment, telecom equipment and (although less unequally) integrated circuits. This illustrates that China's export portfolio has decisively diversified into higher-tech products. However, the gross trade data hide China's prominent role in the final assembly stage which incorporates a high percentage of imported inputs of parts and components.

The bilateral trade between China and the EU in goods has consistently exhibited a wide imbalance in favor of the Chinese side. This trade deficit tends, at times, to raise criticisms in some European circles, although less than in the US Congress. China now represents the top origin of merchandise imports to the EU. The PRC is also the EU's second largest export market. In terms of services, the exports by European firms, although still low and hampered by rather stringent restrictions to access to the Chinese market, are larger than those of China to the EU.

Although trade between the EU and China reaches now more than 1 billion EUR every day and may be expected to further develop, the trade relationships between the two partners remain modest when evaluated against worldwide trade. Admittedly, the EU-28 represents the largest import outlet for China-produced goods, but, again, one should not overlook the high coefficient of imported inputs in the registered value of exports from China. Still, EU imports of goods from China represented not more than 18% of the EU-28 total in 2014. And the EU exports to China amounted to only 10% of the total EU-28 exports, slightly more than to Switzerland. The value of exports to the US was almost double of that to China.

8. The Anti-Dumping Case between China and the European Union

As in some other similar disputes, the solar energy anti-dumping (AD) measures were enacted first in the US, ahead of those in the EU. A complaint by producers in the US, led by the American subsidiary of the German firm Solar World, together with six other producers (which chose to remain anonymous), requested action against the imports from China, which had been growing rapidly. The US Department of Commerce enacted an AD duty, amounting to 31% (and an anti-subsidy levy of 73%, as well). Those levies were instantly challenged by a 'coalition for the affordable solar energy', which stressed that the cheaper imports from China benefited consumers in the US and that many more workers were employed in the installation of the imported solar panels than in the domestic manufacturing of solar products.

A similar complaint was lodged with the EU Commission by a Pro Sun coalition, equally spearheaded by Solar World, which grouped about 40 producers. The allegation was that manufacturers in China practiced dumped export prices and benefited from massive and unfair subsidies at various levels of governments in China. This move was immediately protested by the 'Alliance for affordable solar energy' (AFASE), an ad hoc coalition of about 400 importers, installers and large distributors, who advocated the free entry of solar panels into the EU. As in many other EU-China trade conflicts, the opposition of interests between producers versus importers, and users, was obvious and highly mediatized.

Despite strong political headwinds, the European Commission persisted in its AD investigation and stated that it found evidence of price dumping. This is plausible, as in a number of cases Chinese producers facing overproduction and with little scope for outlets within China itself may have directed their sales to the EU at lowered prices to empty their excessive stocks. In June 2013, the Commission introduced a preliminary, rather lenient, anti-dumping levy of 12%. It threatened to transform this into a definitive duty of 47% if, before 6 August 2013 no agreement would be forthcoming. However, a compromise (valid until the end of 2015) was reached at the end of July. In an official memo of 4 June 2013, the Commission held that "this (action) is not about protectionism, and not about a trade war, but about re-establishing fair market conditions". It also added that "in the absence of measures,

25,000 jobs in the EU would be at risk and the EU's technological leadership would be lost" (European Commission, 'Frequently asked questions', 2013). Close to the expiry date, China undertook to request its exporters to raise their export prices to the level of the prices applied by Korean exporters in the solar panel spot market. In substance, this agreement embodied a (not so) "voluntary export restraint". In the end, 90 firms in China, accounting for nearly 60% of the EU market, accepted that norm while the others were subjected to the higher definite anti-dumping levy (for more details see Naman, 2014).

8.1 The Proliferation of Anti-Dumping Measures

Tariffs, i.e. the imposition of a payment at customs on imports from abroad, as we described above have traditionally been resorted to by governments as the main instrument for protecting domestic producers against imports. Such levies succeed in drastically curbing the flow of imports, if the domestic demand for the good in question is price-elastic. Quotas, i.e. the interdiction of imports beyond a specified value or quantity, would act even as a more potent instrument of retrenchment from international trade. In this connection, one should notice that the import tariffs, by and large, have traditionally been and still are 'escalated', whereby lower rates are applicable on intermediate products than on final goods. Such escalated system clearly serves the purpose of favoring the growth of domestic industry. This quite prevalent practice of import levies has entailed the sophisticated calculation of so-called 'effective protection' rates, which assesses the protection accorded to domestic value added. Such effective protection can reach very high levels when an economic activity involves modest domestic value added, as for example in the final assembly of durable consumer goods.

The relevant point in this chapter is that in recent decades the importance of import duties has been declining significantly in many countries, especially in the richer industrialized ones, thanks to successive rounds of multilateral tariff negotiations. This reduction took place first in the GATT and after 1995 in the World Trade Organization (WTO), but also on account of unilateral tariff dismantlement in a number of countries, among which China is noteworthy. Tariffs are still markedly higher in emerging economies, but the gaps between advanced and emerging economies have narrowed over time.

Once the worldwide financial crisis took hold, although the international economy has remained more open than could be feared, in several countries protectionist measures have been enacted. They were imposed sometimes as import duties or even as outright import quotas, but were often clothed in subtler forms, amongst them anti-dumping levies. The latter are catalogued as non-tariff barriers (NTB) —although one might argue that they are akin to tariff barriers, as they result in often prohibitive import levies on the (admittedly limited) categories of imports targeted by such 'trade defense measures'.

When China acceded to the WTO in December 2001, its import duties had already been drastically slashed, and were, upon accession, further reduced to an average of 8.9% for industrial products. The entry of China into the WTO has been a lengthy undertaking, having been requested already in 1986. It was conditioned on the acceptance by China of restrictions that were tougher than those requested from other candidate-members, and about which the US acted as a pacemaker (Lardy, 2003). Thus, a 'China-specific safeguard' against imports from China could be imposed on products imported from China during a span of 12 years, whenever (only) 'market disruption' was threatened, whereas the corresponding WTO provision requires a 'serious injury' to domestic industry. Besides, for anti-dumping purposes, until 2016 China would remain treated as a non-market economy, which usually results in a readier conviction of dumping behavior – as elucidated below.

The recent decades have witnessed the rapid spread of anti-dumping (and anti-subsidy) investigations and of their subsequent levies on imports which are meant to correct infringements of fair trade norms and practices, as framed and supervised by the WTO. Throughout the 1980s and the early 1990s, the US and the EU were the heaviest users of anti-dumping actions. Japan was a foremost target of anti-dumping and some other overt protectionist measures (Davis, 2009). Since then, however, other users entered the field and emerging and developing economies now form the majority of users. A recent tally (Blonigen and Prusa, 2015), notices that between 1995 and 2014, the EU was the world's largest user of anti-dumping measures (297 cases) behind India (519) and the US (323). Over the 2007-12 period, India and Brazil resorted more frequently to the anti-dumping weapon than the US or the EU (BKP Report, 2012), although they use higher import duties and stronger other protectionist instruments than is the case in China.

8.2 The Respective Roles of Governments and Individual Firms

In the world's media, the production and the use of renewable energies tends to be approached usually as a battle between countries, mainly involving the US, the EU and China. This approach, while an unavoidable dimension of any analysis in international trade, is rather myopic, as it tends to belittle the essential role of individual enterprises in international trade and investment. The latter are opposed as competitors but also often cooperate on specific issues. Therefore, one should not overlook that anti-dumping actions are aiming at individual enterprises from a given country, and not directly at the latter.

Governments obviously play an important role as they shape energy policies, including pricing arrangements. Besides, governments (i.e. in the EU the Commission) are also the agencies from which domestic producers solicit the imposition of trade defense instruments against what they view as 'unfair' competition from abroad. And, in geo-political terms, national pride cannot be ruled out in the international arena of energy strategies.

Yet, in Western market economies and in Japan private companies are the driving forces and international rivalry is primarily waged amongst them. In this connection, one must recall that often such firms have already a wide-ranging multinational profile. The relevant decisions that led to a massive invasion of solar panels into Europe in 2008-09 were not the result of a deliberate strategy of the Chinese authorities, but were mainly engineered by a large cohort of non-public firms. Government intervention in this sector in China appears to have remained rather low. Subsidies are an exception, but until recently, the latter have also been overly generously dedicated in many European countries and in the US not only to producers, but even more to installers and end-consumers. To their discharge, one must concede that in a yet untested and immature industry, in which the firms cannot easily assess the chances of success, government support to producers (or end consumers) may be justified in the initial stages.

9. Conclusions

Summarizing all the aforementioned we conclude that dumping, as a pricing strategy, is profitable for the country which exports products. On the other hand, for the importing country, this pricing strategy is harmful. The purpose of the exporting country is to make the corresponding enterprise to suffer losses and eventually to leave the market because of bankruptcy.

In case of reciprocal dumping, both countries have the incentive to enter into the market of the other leading to a greater competition. This way, the consumers are favored from this condition because products are increased with lower price but simultaneously the profits of each firm are declined.

Countries do not desire to import products when dumping exists. Due to the fact that they want to protect their domestic producers, importing countries impose antidumping duties when they realize, using regulations, that dumping occurs and its aim is to harm the domestic production. Earlier the developed countries were the most frequent users of antidumping duties but with the passage of time developing countries became also. During the period of 1995-2006, most of the antidumping duties were imposed on China.

In conclusion, the existence of dumping in international trade creates benefits and profits as well as financial losses. The most important point concerning this phenomenon is to occur this way so as to avoid losses and thus antidumping duties. However, this kind of duties contributes to trade liberalization. For this reason, these two pricing strategies can lead to positive and negative results depending on the way that they are used. That is why they are global phenomena which create lots of conversations and controversies until today.

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11. Appendix

Anti-dumping Regulations under WTO

Article 1
"Principles"
An anti-dumping measure shall be applied only under the circumstances provided for in Article VI of GATT 1994 and pursuant to investigations initiated and conducted in accordance with the provisions of this Agreement. The following provisions govern the application of Article VI of GATT 1994 in so far as action is taken under anti-dumping legislation or regulations.

Article 2
"Determination of Dumping"
2.1 For the purpose of this Agreement, a product is to be considered as being dumped, i.e. introduced into the commerce of another country at less than its normal value, if the export price of the product exported from one country to another is less than the comparable price, in the ordinary course of trade, for the like product when destined for consumption in the exporting country.

2.2 When there are no sales of the like product in the ordinary course of trade in the domestic market of the exporting country or when, because of the particular market situation or the low volume of the sales in the domestic market of the exporting country, such sales do not permit a proper comparison, the margin of dumping shall be determined by comparison with a comparable price of the like product when exported to an appropriate third country, provided that this price is representative, or with the cost of production in the country of origin plus a reasonable amount for administrative, selling and general costs and for profits.

2.2.1 Sales of the like product in the domestic market of the exporting country or sales to a third country at prices below per unit (fixed and variable) costs of production plus administrative, selling and general costs may be treated as not being in the ordinary course of trade by reason of price and may be disregarded in determining normal value only if the authorities determine that such sales are made within an extended period of time in substantial quantities and are at prices which do not provide for the recovery of all costs within a reasonable period of time. If prices

which are below per unit costs at the time of sale are above weighted average per unit costs for the period of investigation, such prices shall be considered to provide for recovery of costs within a reasonable period of time.

2.2.2. Costs shall normally be calculated on the basis of records kept by the exporter or producer under investigation, provided that such records are in accordance with the generally accepted accounting principles of the exporting country and reasonably reflect the costs associated with the production and sale of the product under consideration. Authorities shall consider all available evidence on the proper allocation of costs, including that which is made available by the exporter or producer in the course of the investigation provided that such allocations have been historically utilized by the exporter or producer, in particular in relation to establishing appropriate amortization and depreciation periods and allowances for capital expenditures and other development costs. Unless already reflected in the cost allocations under this sub-paragraph, costs shall be adjusted appropriately for those non-recurring items of cost which benefit future and/or current production, or for circumstances in which costs during the period of investigation are affected by start-up operations.

2.2.3 The amounts for administrative, selling and general costs and for profits shall be based on actual data pertaining to production and sales in the ordinary course of trade of the like product by the exporter or producer under investigation. When such amounts cannot be determined on this basis, the amounts may be determined on the basis of:

(i) the actual amounts incurred and realized by the exporter or producer in question in respect of production and sales in the domestic market of the country of origin of the same general category of products,

(ii) The weighted average of the actual amounts incurred and realized by other exporters or producers subject to investigation in respect of production and sales of the like product in the domestic market of the country of origin,

(iii) Any other reasonable method, provided that the amount for profit so established shall not exceed the profit normally realized by other exporters or producers on sales of products of the same general category in the domestic market of the country of origin.

2.3 In cases where there is no export price or where it appears to the authorities concerned that the export price is unreliable because of association or a compensatory arrangement between the exporter and the importer or a third party, the export price may be constructed on the basis of the price at which the imported products are first resold to an independent buyer, or if the products are not resold to an independent buyer, or not resold in the condition as imported, on such reasonable basis as the authorities may determine.

2.4 A fair comparison shall be made between the export price and the normal value. This comparison shall be made 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. Due allowance shall be made in each case, on its merits, for differences which affect price comparability, including differences in conditions and terms of sale, taxation, levels of trade, quantities, physical characteristics, and any other differences which are also demonstrated to affect price comparability. Allowances for costs, including duties and taxes, incurred between importation and resale, and for profits accruing, should also be made. If in these cases price comparability has been affected, the authorities shall establish the normal value at a level of trade equivalent to the level of trade of the constructed export price, or shall make due allowance as warranted under this paragraph. The authorities shall indicate to the parties in question what information is necessary to ensure a fair comparison and shall not impose an unreasonable burden of proof on those parties.

2.4.1 When is required a conversion of currencies, such conversion should be made using the rate of exchange on the date of sale, provided that when a sale of foreign currency on forward markets is directly linked to the export sale involved, the rate of exchange in the forward sale shall be used. Fluctuations in exchange rates shall be ignored and in an investigation the authorities shall allow exporters at least 60 days to have adjusted their export prices to reflect sustained movements in exchange rates during the period of investigation.

2.4.2 The existence of margins of dumping during the investigation phase shall normally be established on the basis of a comparison of a weighted average normal value with a weighted average of prices of all comparable export transactions or by a comparison of normal value and export prices on a transaction-to-transaction basis. A

normal value established on a weighted average basis may be compared to prices of individual export transactions if the authorities find a pattern of export prices which differ significantly among different purchasers, regions or time periods, and 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.

2.5 In the case where products are not imported directly from the country of origin but are exported to the importing Member from an intermediate country, the price at which the products are sold from the country of export to the importing Member shall normally be compared with the comparable price in the country of export. However, comparison may be made with the price in the country of origin, if, for example, the products are merely transshipped through the country of export, or such products are not produced in the country of export, or there is no comparable price for them in the country of export.

Article 3
"Determination of Injury"

3.1 A determination of injury for purposes of Article VI of GATT 1994 shall be based on positive evidence and involve an objective examination of both (a) the volume of the dumped imports and the effect of the dumped imports on prices in the domestic market for like products, and (b) the consequent impact of these imports on domestic producers of such products.

3.2 With regard to the volume of the dumped imports, the investigating authorities shall consider whether there has been a significant increase in dumped imports, either in absolute terms or relative to production or consumption in the importing Member. With regard to the effect of the dumped imports on prices, the investigating authorities shall consider whether there has been a significant price undercutting by the dumped imports as compared with the price of a like product of the importing Member, or whether the effect of such imports is otherwise to depress prices to a significant degree or prevent price increases, which otherwise would have occurred, to a significant degree. No one or several of these factors can necessarily give decisive guidance.

3.3 Where imports of a product from more than one country are simultaneously subject to anti-dumping investigations, the investigating authorities may cumulatively

assess the effects of such imports only if they determine that (a) the margin of dumping established in relation to the imports from each country is more than deminimis as defined in paragraph 8 of Article 5 and the volume of imports from each country is not negligible and (b) a cumulative assessment of the effects of the imports is appropriate in light of the conditions of competition between the imported products and the conditions of competition between the imported products and the like domestic product.

3.4 The examination of the impact of the dumped imports on the domestic industry concerned shall include an evaluation of all relevant economic factors and indices having a bearing on the state of the industry, including actual and potential decline in sales, profits, output, market share, productivity, return on investments, or utilization of capacity; factors affecting domestic prices; the magnitude of the margin of dumping; actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital or investments. This list is not exhaustive, nor can one or several of these factors necessarily give decisive guidance.

3.5 It must be demonstrated that the dumped imports are, through the effects of dumping, causing injury within the meaning of this Agreement. The demonstration of a causal relationship between the dumped imports and the injury to the domestic industry shall be based on an examination of all relevant evidence before the authorities. The authorities shall also examine any known factors other than the dumped imports which at the same time are injuring the domestic industry, and the injuries caused by these other factors must not be attributed to the dumped imports. Factors which may be relevant in this respect include, inter alia, the volume and prices of imports not sold at dumping prices, contraction in demand or changes in the patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry.

3.6 The effect of the dumped imports shall be assessed in relation to the domestic production of the like product when available data permit the separate identification of that production on the basis of such criteria as the production process, producers' sales and profits. If such separate identification of that production is not possible, the effects of the dumped imports shall be assessed by the examination of the production

of the narrowest group or range of products, which includes the like product, for which the necessary information can be provided.

3.7 A determination of a threat of material injury shall be based on facts and not merely on allegation, conjecture or remote possibility. The change in circumstances which would create a situation in which the dumping would cause injury must be clearly foreseen and imminent. In making a determination regarding the existence of a threat of material injury, the authorities should consider, inter alia, such factors as:

(i) a significant rate of increase of dumped imports into the domestic market indicating the likelihood of substantially increased importation;

(ii) sufficient freely disposable, or an imminent, substantial increase in, capacity of the exporter indicating the likelihood of substantially increased dumped exports to the importing Member's market, taking into account the availability of other export markets to absorb any additional exports;

(iii) whether imports are entering at prices that will have a significant depressing or suppressing effect on domestic prices, and would likely increase demand for further imports; and

(iv) inventories of the product being investigated.

No one of these factors by itself can necessarily give decisive guidance but the totality of the factors considered must lead to the conclusion that further dumped exports are imminent and that, unless protective action is taken, material injury would occur.

3.8 With respect to cases where injury is threatened by dumped imports, the application of anti-dumping measures shall be considered and decided with special care.

Article 4
"Initiation and Subsequent Investigation"

4.1 An investigation to determine the existence, degree and effect of any alleged dumping shall be initiated upon a written application by or on behalf of the domestic industry.

4.2 An application under paragraph 1 shall include evidence of (a) dumping, (b) injury within the meaning of Article VI of GATT 1994 as interpreted by this Agreement and (c) a causal link between the dumped imports and

the alleged injury. Simple assertion, unsubstantiated by relevant evidence, cannot be considered sufficient to meet the requirements of this paragraph. The application shall contain such information as is reasonably available to the applicant on the following:

(i) the identity of the applicant and a description of the volume and value of the domestic production of the like product by the applicant. Where a written application is made on behalf of the domestic industry, the application shall identify the industry on behalf of which the application is made by a list of all known domestic producers of the like product (or associations of domestic producers of the like product) and, to the extent possible, a description of the volume and value of domestic production of the like product accounted for by such producers;

(ii) a complete description of the allegedly dumped product, the names of the country or countries of origin or export in question, the identity of each known exporter or foreign producer and a list of known persons importing the product in question;

(iii) information on prices at which the product in question is sold when destined for consumption in the domestic markets of the country or countries of origin or export (or, where appropriate, information on the prices at which the product is sold from the country or countries of origin or export to a third country or countries, or on the constructed value of the product) and information on export prices or, where appropriate, on the prices at which the product is first resold to an independent buyer in the territory of the importing Member;

(iv) information on the evolution of the volume of the allegedly dumped imports, the effect of these imports on prices of the like product in the domestic market and the consequent impact of the imports on the domestic industry, as demonstrated by relevant factors and indices having a bearing on the state of the domestic industry.

4.3 The authorities shall examine the accuracy and adequacy of the evidence provided in the application to determine whether there is sufficient evidence to justify the initiation of an investigation.

4.4 An investigation shall not be initiated pursuant to paragraph 1 unless the authorities have determined, on the basis of an examination of the degree of support

for, or opposition to, the application expressed by domestic producers of the like product, that the application has been made by or on behalf of the domestic industry. The application shall be considered to have been made "by or on behalf of the domestic industry" if it is supported by those domestic producers whose collective output constitutes more than 50 per cent of the total production of the like product produced by that portion of the domestic industry expressing either support for or opposition to the application. However, no investigation shall be initiated when domestic producers expressly supporting the application account for less than 25 per cent of total production of the like product produced by the domestic industry.

4.5 The authorities shall avoid, unless a decision has been made to initiate an investigation, any publicizing of the application for the initiation of an investigation. However, after receipt of a properly documented application and before proceeding to initiate an investigation, the authorities shall notify the government of the exporting Member concerned.

4.6 If, in special circumstances, the authorities concerned decide to initiate an investigation without having received a written application by or on behalf of a domestic industry for the initiation of such investigation, they shall proceed only if they have sufficient evidence of dumping, injury and a causal link, to justify the initiation of an investigation.

4.7 The evidence of both dumping and injury shall be considered simultaneously (a) in the decision whether or not to initiate an investigation, and (b) thereafter, during the course of the investigation, starting on a date not later than the earliest date on which in accordance with the provisions of this Agreement provisional measures may be applied.

4.8 An application under paragraph 1 shall be rejected and an investigation shall be terminated promptly as soon as the authorities concerned are satisfied that there is not sufficient evidence of either dumping or of injury to justify proceeding with the case. There shall be immediate termination in cases where the authorities determine that the margin of dumping is de minimis, or that the volume of dumped imports, actual or potential, or the injury, is negligible. The margin of dumping shall be considered to be de minimis if this margin is less than 2 per cent, expressed as a percentage of the export price. The volume of dumped imports shall normally be regarded as negligible

if the volume of dumped imports from a particular country is found to account for less than 3 per cent of imports of the like product in the importing Member, unless countries which individually account for less than 3 per cent of the imports of the like product in the importing Member collectively account for more than 7 per cent of imports of the like product in the importing Member.

4.9 An anti-dumping proceeding shall not hinder the procedures of customs clearance.

4.10 Investigations shall, except in special circumstances, be concluded within one year, and in no case more than 18 months, after their initiation.

Article 5
"Evidence"

5.1 All interested parties in an anti-dumping investigation shall be given notice of the information which the authorities require and ample opportunity to present in writing all evidence which they consider relevant in respect of the investigation in question.

5.1.1 Exporters or foreign producers receiving questionnaires used in an anti-dumping investigation shall be given at least 30 days for reply. Due consideration should be given to any request for an extension of the 30-day period and, upon cause shown, such an extension should be granted whenever practicable.

5.1.2 Subject to the requirement to protect confidential information, evidence presented in writing by one interested party shall be made available promptly to other interested parties participating in the investigation.

5.1.3 As soon as an investigation has been initiated, the authorities shall provide the full text of the written application received under paragraph 1 of Article 5 to the known exporters and to the authorities of the exporting Member and shall make it available, upon request, to other interested parties involved. Due regard shall be paid to the requirement for the protection of confidential information, as provided for in paragraph 5.

5.2 Throughout the anti-dumping investigation all interested parties shall have a full opportunity for the defense of their interests. To this end, the authorities shall, on request, provide opportunities for all interested parties to meet those parties with

adverse interests, so that opposing views may be presented and rebuttal arguments offered. Provision of such opportunities must take account of the need to preserve confidentiality and of the convenience to the parties. There shall be no obligation on any party to attend a meeting, and failure to do so shall not be prejudicial to that party's case. Interested parties shall also have the right, on justification, to present other information orally.

5.3 Oral information provided under paragraph 2 shall be taken into account by the authorities only in so far as it is subsequently reproduced in writing and made available to other interested parties, as provided for in subparagraph 1.2.

5.4 The authorities shall whenever practicable provide timely opportunities for all interested parties to see all information that is relevant to the presentation of their cases and that is used by the authorities in an anti-dumping investigation, and to prepare presentations on the basis of this information.

5.5 Any information which is by nature confidential (for example, because its disclosure would be of significant competitive advantage to a competitor or because its disclosure would have a significantly adverse effect upon a person supplying the information or upon a person from whom that person acquired the information), or which is provided on a confidential basis by parties to an investigation shall, upon good cause shown, be treated as such by the authorities. Such information shall not be disclosed without specific permission of the party submitting it.

5.5.1 The authorities shall require interested parties providing confidential information to furnish non-confidential summaries thereof. These summaries shall be in sufficient detail to permit a reasonable understanding of the substance of the information submitted in confidence. In exceptional circumstances, such parties may indicate that such information is not susceptible of summary. In such exceptional circumstances, a statement of the reasons why summarization is not possible must be provided.

5.5.2 If the authorities find that a request for confidentiality is not warranted and if the supplier of the information is either unwilling to make the information public or to authorize its disclosure in generalized or summary form, the authorities may disregard such information unless it can be demonstrated to their satisfaction from appropriate sources that the information is correct.

5.6 The authorities shall during the course of an investigation satisfy themselves as to the accuracy of the information supplied by interested parties upon which their findings are based.

5.7 In order to verify information provided or to obtain further details, the authorities may carry out investigations in the territory of other Members as required, provided they obtain the agreement of the firms concerned and notify the representatives of the government of the Member in question, and unless that Member objects to the investigation. The procedures described in Annex I shall apply to investigations carried out in the territory of other Members. Subject to the requirement to protect confidential information, the authorities shall make the results of any such investigations available, or shall provide disclosure thereof pursuant to paragraph 9, to the firms to which they pertain and may make such results available to the applicants.

5.8 In cases in which any interested party refuses access to, or otherwise does not provide, necessary information within a reasonable period or significantly impedes the investigation, preliminary and final determinations, affirmative or negative, may be made on the basis of the facts available.

5.9 The authorities shall, before a final determination is made, inform all interested parties of the essential facts under consideration which form the basis for the decision whether to apply definitive measures. Such disclosure should take place in sufficient time for the parties to defend their interests.

5.10 The authorities shall, as a rule, determine an individual margin of dumping for each known exporter or producer concerned of the product under investigation. In cases where the number of exporters, producers, importers or types of products involved is so large as to make such a determination impracticable, the authorities may limit their examination either to a reasonable number of interested parties or products by using samples which are statistically valid on the basis of information available to the authorities at the time of the selection, or to the largest percentage of the volume of the exports from the country in question which can reasonably be investigated.

5.10.1 Any selection of exporters, producers, importers or types of products made under this paragraph shall preferably be chosen in consultation with and with the consent of the exporters, producers or importers concerned.

5.10.2 In cases where the authorities have limited their examination, as provided for in this paragraph, they shall nevertheless determine an individual margin of dumping for any exporter or producer not initially selected who submits the necessary information in time for that information to be considered during the course of the investigation, except where the number of exporters or producers is so large that individual examinations would be unduly burdensome to the authorities and prevent the timely completion of the investigation. Voluntary responses shall not be discouraged.

5.11 For the purposes of this Agreement, "interested parties" shall include:

(i) an exporter or foreign producer or the importer of a product subject to investigation, or a trade or business association a majority of the members of which are producers, exporters or importers of such product;

(ii) the government of the exporting Member; and

(iii) a producer of the like product in the importing Member or a trade and business association a majority of the members of which produce the like product in the territory of the importing Member.

This list shall not preclude Members from allowing domestic or foreign parties other than those mentioned above to be included as interested parties.

5.12 The authorities shall provide opportunities for industrial users of the product under investigation, and for representative consumer organizations in cases where the product is commonly sold at the retail level, to provide information which is relevant to the investigation regarding dumping, injury and causality.

5.13 The authorities shall take due account of any difficulties experienced by interested parties, in particular small companies, in supplying information requested, and shall provide any assistance practicable.

5.14 The procedures set out above are not intended to prevent the authorities of a Member from proceeding expeditiously with regard to initiating an investigation,

reaching preliminary or final determinations, whether affirmative or negative, or from applying provisional or final measures, in accordance with relevant provisions of this Agreement.

Article 6
"Provisional Measures"

6.1 Provisional measures may be applied only if:

(i) an investigation has been initiated in accordance with the provisions of Article 5, a public notice has been given to that effect and interested parties have been given adequate opportunities to submit information and make comments;

(ii) a preliminary affirmative determination has been made of dumping and consequent injury to a domestic industry; and

(iii) the authorities concerned judge such measures necessary to prevent injury being caused during the investigation.

6.2 Provisional measures may take the form of a provisional duty or, preferably, a security - by cash deposit or bond - equal to the amount of the anti-dumping duty provisionally estimated, being not greater than the provisionally estimated margin of dumping. Withholding of appraisement is an appropriate provisional measure, provided that the normal duty and the estimated amount of the anti-dumping duty be indicated and as long as the withholding of appraisement is subject to the same conditions as other provisional measures.

6.3 Provisional measures shall not be applied sooner than 60 days from the date of initiation of the investigation.

6.4 The application of provisional measures shall be limited to as short a period as possible, not exceeding four months or, on decision of the authorities concerned, upon request by exporters representing a significant percentage of the trade involved, to a period not exceeding six months. When authorities, in the course of an investigation, examine whether a duty lower than the margin of dumping would be sufficient to remove injury, these periods may be six and nine months, respectively.

Article 7
"Price Undertakings"

7.1 Proceedings may be suspended or terminated without the imposition of provisional measures or anti-dumping duties upon receipt of satisfactory voluntary

undertakings from any exporter to revise its prices or to cease exports to the area in question at dumped prices so that the authorities are satisfied that the injurious effect of the dumping is eliminated. Price increases under such undertakings shall not be higher than necessary to eliminate the margin of dumping. It is desirable that the price increases be less than the margin of dumping if such increases would be adequate to remove the injury to the domestic industry.

7.2 Price undertakings shall not be sought or accepted from exporters unless the authorities of the importing Member have made a preliminary affirmative determination of dumping and injury caused by such dumping.

7.3 Undertakings offered need not be accepted if the authorities consider their acceptance impractical, for example, if the number of actual or potential exporters is too great, or for other reasons, including reasons of general policy. Should the case arise and where practicable, the authorities shall provide to the exporter the reasons which have led them to consider acceptance of an undertaking as inappropriate, and shall, to the extent possible, give the exporter an opportunity to make comments thereon.

7.4 If an undertaking is accepted, the investigation of dumping and injury shall nevertheless be completed if the exporter so desires or the authorities so decide. In such a case, if a negative determination of dumping or injury is made, the undertaking shall automatically lapse, except in cases where such a determination is due in large part to the existence of a price undertaking. In such cases, the authorities may require that an undertaking be maintained for a reasonable period consistent with the provisions of this Agreement. In the event that an affirmative determination of dumping and injury is made, the undertaking shall continue consistent with its terms and the provisions of this Agreement.

7.5 Price undertakings may be suggested by the authorities of the importing Member, but no exporter shall be forced to enter into such undertakings. The fact that exporters do not offer such undertakings, or do not accept an invitation to do so, shall in no way prejudice the consideration of the case. However, the authorities are free to determine that a threat of injury is more likely to be realized if the dumped imports continue.

7.6 Authorities of an importing Member may require any exporter from whom an undertaking has been accepted to provide periodically information relevant to the fulfillment of such an undertaking and to permit verification of pertinent data. In case of violation of an undertaking, the authorities of the importing Member may take, under this Agreement in conformity with its provisions, expeditious actions which may constitute immediate application of provisional measures using the best information available. In such cases, definitive duties may be levied in accordance with this Agreement on products entered for consumption not more than 90 days before the application of such provisional measures, except that any such retroactive assessment shall not apply to imports entered before the violation of the undertaking.

Article 8
"Imposition and Collection of Anti-Dumping Duties"

8.1 The decision whether or not to impose an anti-dumping duty in cases where all requirements for the imposition have been fulfilled, and the decision whether the amount of the anti-dumping duty to be imposed shall be the full margin of dumping or less, are decisions to be made by the authorities of the importing Member. It is desirable that the imposition be permissive in the territory of all Members, and that the duty be less than the margin if such lesser duty would be adequate to remove the injury to the domestic industry.

8.2 When an anti-dumping duty is imposed in respect of any product, such anti-dumping duty shall be collected in the appropriate amounts in each case, on a non-discriminatory basis on imports of such product from all sources found to be dumped and causing injury, except as to imports from those sources from which price undertakings under the terms of this Agreement have been accepted. The authorities shall name the supplier or suppliers of the product concerned. If, however, several suppliers from the same country are involved, and it is impracticable to name all these suppliers, the authorities may name the supplying country concerned. If several suppliers from more than one country are involved, the authorities may name either all the suppliers involved, or, if this is impracticable, all the supplying countries involved.

8.3 The amount of the anti-dumping duty shall not exceed the margin of dumping as established under Article 2.

8.3.1 When the amount of the anti-dumping duty is assessed on a retrospective basis, the determination of the final liability for payment of anti-dumping duties shall take place as soon as possible, normally within 12 months, and in no case more than 18 months, after the date on which a request for a final assessment of the amount of the anti-dumping duty has been made. Any refund shall be made promptly and normally in not more than 90 days following the determination of final liability made pursuant to this sub-paragraph. In any case, where a refund is not made within 90 days, the authorities shall provide an explanation if so requested.

8.3.2 When the amount of the anti-dumping duty is assessed on a prospective basis, provision shall be made for a prompt refund, upon request, of any duty paid in excess of the margin of dumping. A refund of any such duty paid in excess of the actual margin of dumping shall normally take place within 12 months, and in no case more than 18 months, after the date on which a request for a refund, duly supported by evidence, has been made by an importer of the product subject to the anti-dumping duty. The refund authorized should normally be made within 90 days of the above-noted decision.

8.3.3 In determining whether and to what extent a reimbursement should be made when the export price is constructed in accordance with paragraph 3 of Article 2, authorities should take account of any change in normal value, any change in costs incurred between importation and resale, and any movement in the resale price which is duly reflected in subsequent selling prices, and should calculate the export price with no deduction for the amount of anti-dumping duties paid when conclusive evidence of the above is provided.

8.4 When the authorities have limited their examination in accordance with the second sentence of paragraph 10 of Article 6, any anti-dumping duty applied to imports from exporters or producers not included in the examination shall not exceed:

(i) the weighted average margin of dumping established with respect to the selected exporters or producers or,

(ii) where the liability for payment of anti-dumping duties is calculated on the basis of a prospective normal value, the difference between the weighted average normal value of the selected exporters or producers and the export prices of exporters or producers not individually examined, provided that the authorities shall disregard for

the purpose of this paragraph any zero and de minimis margins and margins established under the circumstances referred to in paragraph 8 of Article 6. The authorities shall apply individual duties or normal values to imports from any exporter or producer not included in the examination who has provided the necessary information during the course of the investigation.

8.5 If a product is subject to anti-dumping duties in an importing Member, the authorities shall promptly carry out a review for the purpose of determining individual margins of dumping for any exporters or producers in the exporting country in question who have not exported the product to the importing Member during the period of investigation, provided that these exporters or producers can show that they are not related to any of the exporters or producers in the exporting country who are subject to the anti-dumping duties on the product. Such a review shall be initiated and carried out on an accelerated basis, compared to normal duty assessment and review proceedings in the importing Member. No anti-dumping duties shall be levied on imports from such exporters or producers while the review is being carried out. The authorities may, however, withhold appraisement and/or request guarantees to ensure that, should such a review result in a determination of dumping in respect of such producers or exporters, anti-dumping duties can be levied retroactively to the date of the initiation of the review.

Article 9
"Retroactivity"

9.1 Provisional measures and anti-dumping duties shall only be applied to products which enter for consumption after the time when the decision taken.

9.2 Where a final determination of injury (but not of a threat thereof or of a material retardation of the establishment of an industry) is made or, in the case of a final determination of a threat of injury, where the effect of the dumped imports would, in the absence of the provisional measures, have led to a determination of injury, anti-dumping duties may be levied retroactively for the period for which provisional measures, if any, have been applied.

9.3 If the definitive anti-dumping duty is higher than the provisional duty paid or payable, or the amount estimated for the purpose of the security, the difference shall not be collected. If the definitive duty is lower than the provisional duty paid or

payable, or the amount estimated for the purpose of the security, the difference shall be reimbursed or the duty recalculated, as the case may be.

9.4 Where a determination of threat of injury or material retardation is made (but no injury has yet occurred) a definitive anti-dumping duty may be imposed only from the date of the determination of threat of injury or material retardation, and any cash deposit made during the period of the application of provisional measures shall be refunded and any bonds released in an expeditious manner.

9.5 Where a final determination is negative, any cash deposit made during the period of the application of provisional measures shall be refunded and any bonds released in an expeditious manner.

9.6 A definitive anti-dumping duty may be levied on products which were entered for consumption not more than 90 days prior to the date of application of provisional measures, when the authorities determine for the dumped product in question that:

(i) there is a history of dumping which caused injury or that the importer was, or should have been, aware that the exporter practices dumping and that such dumping would cause injury, and

(ii) the injury is caused by massive dumped imports of a product in a relatively short time which in light of the timing and the volume of the dumped imports and other circumstances (such as a rapid build-up of inventories of the imported product) is likely to seriously undermine the remedial effect of the definitive anti-dumping duty to be applied, provided that the importers concerned have been given an opportunity to comment.

9.7 The authorities may, after initiating an investigation, take such measures as the withholding of appraisement or assessment as may be necessary to collect anti-dumping duties retroactively once they have sufficient evidence that the conditions set forth in that paragraph are satisfied.

9.8 No duties shall be levied retroactively pursuant to paragraph 6 on products entered for consumption prior to the date of initiation of the investigation.

Article 10
"Duration and Review of Anti-Dumping Duties and Price Undertakings"

10.1 An anti-dumping duty shall remain in force only as long as and to the extent necessary to counteract dumping which is causing injury.

10.2 The authorities shall review the need for the continued imposition of the duty, where warranted, on their own initiative or, provided that a reasonable period of time has elapsed since the imposition of the definitive anti-dumping duty, upon request by any interested party which submits positive information substantiating the need for a review. Interested parties shall have the right to request the authorities to examine whether the continued imposition of the duty is necessary to offset dumping, whether the injury would be likely to continue or recur if the duty were removed or varied, or both. If, as a result of the review under this paragraph, the authorities determine that the anti-dumping duty is no longer warranted, it shall be terminated immediately.

10.3 Any definitive anti-dumping duty shall be terminated on a date not later than five years from its imposition (or from the date of the most recent review under paragraph 2 if that review has covered both dumping and injury, or under this paragraph), unless the authorities determine, in a review initiated before that date on their own initiative or upon a duly substantiated request made by or on behalf of the domestic industry within a reasonable period of time prior to that date, that the expiry of the duty would be likely to lead to continuation or recurrence of dumping and injury. The duty may remain in force pending the outcome of such a review.

Article 11
"Public Notice and Explanation of Determinations"

11.1 When the authorities are satisfied that there is sufficient evidence to justify the initiation of an anti-dumping investigation pursuant to Article 5, the Member or Members the products of which are subject to such investigation and other interested parties known to the investigating authorities to have an interest therein shall be notified and a public notice shall be given.

11.1.1 A public notice of the initiation of an investigation shall contain, or otherwise make available through a separate report adequate information on the following:

(i) the name of the exporting country or countries and the product involved;

(ii) the date of initiation of the investigation;

(iii) the basis on which dumping is alleged in the application;

(iv) a summary of the factors on which the allegation of injury is based;

(v) the address to which representations by interested parties should be directed;

(vi) the time-limits allowed to interested parties for making their views known.

11.2 Public notice shall be given of any preliminary or final determination, whether affirmative or negative, of any decision to accept an undertaking pursuant to Article 8, of the termination of such an undertaking, and of the termination of a definitive anti-dumping duty. Each such notice shall set forth, or otherwise make available through a separate report, in sufficient detail the findings and conclusions reached on all issues of fact and law considered material by the investigating authorities. All such notices and reports shall be forwarded to the Member or Members the products of which are subject to such determination or undertaking and to other interested parties known to have an interest therein.

11.2.1 A public notice of the imposition of provisional measures shall set forth, or otherwise make available through a separate report, sufficiently detailed explanations for the preliminary determinations on dumping and injury and shall refer to the matters of fact and law which have led to arguments being accepted or rejected. Such a notice or report shall, due regard being paid to the requirement for the protection of confidential information, contain in particular:

(i) the names of the suppliers, or when this is impracticable, the supplying countries involved;

(ii) a description of the product which is sufficient for customs purposes;

(iii) the margins of dumping established and a full explanation of the reasons for the methodology used in the establishment and comparison of the export price and the normal value under Article 2;

(iv) considerations relevant to the injury determination as set out in Article 3;

(v) the main reasons leading to the determination.

11.2.2 A public notice of conclusion or suspension of an investigation in the case of an affirmative determination providing for the imposition of a definitive duty or the acceptance of a price undertaking shall contain, or otherwise make available through a separate report, all relevant information on the matters of fact and law and reasons

which have led to the imposition of final measures or the acceptance of a price undertaking, due regard being paid to the requirement for the protection of confidential information. In particular, the notice or report shall contain the information described in subparagraph 2.1, as well as the reasons for the acceptance or rejection of relevant arguments or claims made by the exporters and importers.

11.2.3 A public notice of the termination or suspension of an investigation following the acceptance of an undertaking pursuant to Article 8 shall include, or otherwise make available through a separate report, the non-confidential part of this undertaking.

11.3 The provisions of this Article shall apply mutatis mutandis to the initiation and completion of reviews pursuant to Article 11 and to decisions under Article 10 to apply duties retroactively.

Article 12
"Judicial Review"
Each Member whose national legislation contains provisions on anti-dumping measures shall maintain judicial, arbitral or administrative tribunals or procedures for the purpose, inter alia, of the prompt review of administrative actions relating to final determinations and reviews of determinations. Such tribunals or procedures shall be independent of the authorities responsible for the determination or review in question.

Article 13
"Anti-Dumping Action on Behalf of a Third Country"
13.1 An application for anti-dumping action on behalf of a third country shall be made by the authorities of the third country requesting action.

13.2 Such an application shall be supported by price information to show that the imports are being dumped and by detailed information to show that the alleged dumping is causing injury to the domestic industry concerned in the third country. The government of the third country shall afford all assistance to the authorities of the importing country to obtain any further information which the latter may require.

13.3 In considering such an application, the authorities of the importing country shall consider the effects of the alleged dumping on the industry concerned as a whole in the third country; that is to say, the injury shall not be assessed in relation only to the effect of the alleged dumping on the industry's exports to the importing country or even on the industry's total exports.

13.4 The decision whether or not to proceed with a case shall rest with the importing country. If the importing country decides that it is prepared to take action, the initiation of the approach to the Council for Trade in Goods seeking its approval for such action shall rest with the importing country.

Article 14
"Developing Country Members"

It is recognized that special regard must be given by developed country Members to the special situation of developing country Members when considering the application of anti-dumping measures under this Agreement. Possibilities of constructive remedies provided for by this Agreement shall be explored before applying anti-dumping duties where they would affect the essential interests of developing country Members.

Article 15
"Committee on Anti-Dumping Practices"

15.1 There is hereby established a Committee on Anti-Dumping Practices (referred to in this Agreement as the "Committee") composed of representatives from each of the Members. The Committee shall elect its own Chairman and shall meet not less than twice a year and otherwise as envisaged by relevant provisions of this Agreement at the request of any Member. The Committee shall carry out responsibilities as assigned to it under this Agreement or by the Members and it shall afford Members the opportunity of consulting on any matters relating to the operation of the Agreement or the furtherance of its objectives. The WTO Secretariat shall act as the secretariat to the Committee.

15.2 The Committee may set up subsidiary bodies as appropriate.

15.3 In carrying out their functions, the Committee and any subsidiary bodies may consult with and seek information from any source they deem appropriate. However, before the Committee or a subsidiary body seeks such information from a source within the jurisdiction of a Member, it shall inform the Member involved. It shall obtain the consent of the Member and any firm to be consulted.

15.4 Members shall report without delay to the Committee all preliminary or final anti-dumping actions taken. Such reports shall be available in the Secretariat for inspection by other Members. Members shall also submit, on a semi-annual basis,

reports of any anti-dumping actions taken within the preceding six months. The semi-annual reports shall be submitted on an agreed standard form.

15.5 Each Member shall notify the Committee (a) which of its authorities are competent to initiate and conduct investigations referred to in Article 5 and (b) its domestic procedures governing the initiation and conduct of such investigations.

Article 16
"Consultation and Dispute Settlement"

16.1 Except as otherwise provided herein, the Dispute Settlement Understanding is applicable to consultations and the settlement of disputes under this Agreement.

16.2 Each Member shall afford sympathetic consideration to, and shall afford adequate opportunity for consultation regarding, representations made by another Member with respect to any matter affecting the operation of this Agreement.

16.3 If any Member considers that any benefit accruing to it, directly or indirectly, under this Agreement is being nullified or impaired, or that the achievement of any objective is being impeded, by another Member or Members, it may, with a view to reaching a mutually satisfactory resolution of the matter, request in writing consultations with the Member or Members in question. Each Member shall afford sympathetic consideration to any request from another Member for consultation.

16.4 If the Member that requested consultations considers that the consultations pursuant to paragraph 3 have failed to achieve a mutually agreed solution, and if final action has been taken by the administering authorities of the importing Member to levy definitive anti-dumping duties or to accept price undertakings, it may refer the matter to the Dispute Settlement Body ("DSB"). When a provisional measure has a significant impact and the Member that requested consultations considers that the measure was taken contrary to the provisions of paragraph 1 of Article 7, that Member may also refer such matter to the DSB.

Article 17
"Final Provisions"

17.1 No specific action against dumping of exports from another Member can be taken except in accordance with the provisions of GATT 1994, as interpreted by this Agreement.

17.2 Reservations may not be entered in respect of any of the provisions of this Agreement without the consent of the other Members.

17.3 Subject to subparagraphs 3.1 and 3.2, the provisions of this Agreement shall apply to investigations, and reviews of existing measures, initiated pursuant to applications which have been made on or after the date of entry into force for a Member of the WTO Agreement.

17.3.1 With respect to the calculation of margins of dumping in refund procedures under paragraph 3 of Article 9, the rules used in the most recent determination or review of dumping shall apply.

17.3.2 Existing anti-dumping measures shall be deemed to be imposed on a date not later than the date of entry into force for a Member of the WTO Agreement, except in cases in which the domestic legislation of a Member in force on that date already included a clause of the type provided for in that paragraph.

17.4 Each Member shall take all necessary steps, of a general or particular character, to ensure, not later than the date of entry into force of the WTO Agreement for it, the conformity of its laws, regulations and administrative procedures with the provisions of this Agreement as they may apply for the Member in question.

17.5 Each Member shall inform the Committee of any changes in its laws and regulations relevant to this Agreement and in the administration of such laws and regulations.

17.6 The Committee shall review annually the implementation and operation of this Agreement taking into account the objectives thereof. The Committee shall inform annually the Council for Trade in Goods of developments during the period covered by such reviews.