

Anti-dumping **Protection: Who Gets It?**

An Exploratory Analysis of Anti-dumping
Use in the Most Active User Countries

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Use in the Most Active User Countries

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Foreword

In the recent past, anti-dumping (AD) has emerged as one of the most contentious trade issues in the international arena. Although AD as a trade remedial tool was employed by the developed countries like the USA beginning almost a hundred years ago, its use, both by the developed and developing countries, has demonstrated a significant increase after the formation of the WTO in 1995. Interestingly, the WTO Anti-dumping Agreement (ADA) condemns, but does not prohibit, dumping. However, when the dumped imports are found to materially injure, or threaten to materially injure domestic producers, or lead to material retardation of the establishment of a domestic industry in the importing country, ADA allows the WTO Member countries to apply AD duties to offset the price advantage enjoyed by the exporter. From the legal viewpoint, therefore, AD is a trade remedial instrument for industries injured by unfair trade practices of exporters. AD supposedly acts as a bulwark against the uncompetitive behaviour of foreign exporters. Critics, however, argue that AD in its current form has nothing to do with protecting competition and that in practice, AD acts as protective tool for the domestic industries against competition posed by imports. The widespread use and often the purported abuse of AD measures for protectionist purposes prompted the WTO Member countries to call for a review of the ADA as part of the Doha Work Programme launched in 2001. The review process is still continuing under the ongoing Rules Negotiations of the Doha Round, which itself is struggling to come to a meaningful conclusion.

This paper investigates the industry and firm-level patterns of AD use across 18 most active AD user countries. On the basis of rigorous data-analysis, the author comes out with striking revelations on how only a handful of countries of the world and merely a few large and powerful firms in large concentrated industries in these countries are asymmetrically benefiting from the AD instrument. In contrast, a large segment of the goods producing sector, which is dominated by small and medium producers, is not in a position to use this 'so-called' trade remedial instrument. Hence, the author challenges the argument that AD is a 'safety valve' that facilitates the process of trade liberalisation, because, she maintains that those who are using the tool do not require it and those who might need it the most are not in a position to use it. The author argues that AD distorts trade and harms competition not only by creating protective barriers and deterring import competition but also because its use is associated with concentration along various dimensions. Thus, instead of countering monopolies, AD actually facilitates the anticompetitive and unfair behaviour, and instead of guaranteeing that the world trade is fair and competitive it distorts it at the global, country and industry level.

I hope that the striking findings of the paper, which are grounded on rigorous data-analysis and sound logic, would generate a healthy debate on the pros and cons of AD as a trade remedial measure.

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Abbreviations

ADA	Anti-dumping Agreement
ARG	Argentina
ASG	Administrative Selling and All Other Costs
ASSN	Association
AUS	Australia
BRA	Brazil
CAN	Canada
CEM	Cement
CHE	Chemical
CHL	Chile
CHN	China
COL	Columbia
CVD	Countervailing Duties
DSB	Dispute Settlement Body
ELEC	Electronics
EU	European Union
FD	Processed Food
FW	Footwear
GER	Germany
GLS	Glass and Glass Ware
HS	Harmonised System
IDN	Indonesia
IND	India
INST	Instruments
JAP	Japan
KAZ	Kazakhstan
KOR	Korea
LAM	Laminate Flooring
MAL	Malaysia

MCH	Machine
MET	Metal
MEX	Mexico
MIN	Minerals
NOCIL	National Organic Chemicals Industries Ltd.
NZL	New Zealand
OECD	Organisation of Economic Cooperation and Development
PAP	Paper
PER	Peru
PLA	Plastic
ROM	Romania
RUB	Rubber
RUS	Russia
STL	Steel
TEX	Textile
THA	Thailand
TPT	Transport Equipment
TUR	Turkey
TWN	Taiwan
UK	United Kingdom
UKR	Ukraine
USA	United States of America
USITC	United States International Trade Commission
VEN	Venezuela
WD	Wood
WTO	World Trade Organisation
ZAF	South Africa

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Executive Summary

This paper investigates the industry- and firm-level patterns of anti-dumping use across most active anti-dumping user countries, in the 1995-2004 period. The objective is to show that resourceful countries of the world use anti-dumping mechanisms asymmetrically; and within these countries, the presence of anti-dumping policy primarily benefits powerful and monopolistic firms particularly in large and concentrated industries. This study thus highlights that the use of anti-dumping has been characterised by concentration along three dimensions:

- Global concentration
- Sectoral concentration
- Firm level concentration

It draws on the existing literature to formulate the following propositions:

- Proposition 1: Pecuniary and economic costs, and the requirement of legal expertise/capacity associated with the use of anti-dumping deter the use of the tool by a large number of countries, in particular, relatively less advanced developing countries.
- Proposition 2: At the firm level, it is a large firm which can support the litigation costs associated with the investigation process; can lobby to bias decisions in its favour and is therefore more likely to pursue anti-dumping.
- Proposition 3: The use of anti-dumping is likely to be concentrated in industries which are characterised by scale economies and small number of powerful firms, particularly in the intermediate goods industries. Firms spend enormous amounts of money and time on lobbying with the objective of capturing rent in terms of market power. But this objective can be achieved only where there are substantial economies of scale. Therefore highly

concentrated large industries characterised by scale economies are more likely to initiate anti-dumping cases.

While examining the above propositions, the study analyses trends and patterns in anti-dumping use globally and in each of the active user countries. It first identifies 18 countries that have been the most active user of anti-dumping mechanism and accounted for over 90 percent of total anti-dumping initiations during 1995-2004. Then it examines for each of the active user country notification-wise, target-country-wise and product-wise anti-dumping use. It investigates the:

- distribution of anti-dumping filings by the number of countries named;
- distribution of anti-dumping cases by the number of products named in the petition;
- sectoral patterns of anti-dumping use at two- and four-digit levels;
- distribution of anti-dumping cases by the number of petitioning firms; and
- use of anti-dumping by dominating firms.

For the analysis, the study makes use of the newly available “Global Anti-dumping Database”. It is based on the data derived from original sources, national government publications located on domestic government websites and in hard copies. Thus, for a substantial number of user countries, it provides a basic set of information on Harmonised System product codes for the investigated goods, as well as dates and outcomes of various stages of the investigative process.

The main findings of the study are as under:

- First, only 18 countries across the world account for 90 percent of the total use of anti-dumping. These include five OECD countries namely, the

US, EU, Canada, Australia and New Zealand, and 13 developing countries. These developing countries are large and relatively better off; less advanced developing countries are excluded from the use of the tool. They are restricted in the use of the tool either due to costs associated with it and/or legal expertise required for its use.

- Second, within user countries, anti-dumping investigations tend to be disproportionately concentrated in a few industries. Three 2-digit industries have emerged as the most active users of anti-dumping. These are: steel, chemicals, and textiles and footwear. Product wise concentration levels are high even at 4-digit levels. The distribution of cases by 4-digit sector is highly skewed in favour of the steel sector products in most countries. The most frequent plaintiffs at 4-digit level in the steel sectors are hot rolled, flat rolled products of iron and non alloy steel products, and cold rolled, flat rolled products of iron and non alloy steel. Acyclic alcohol and phenol and phenol alcohol are the prime targets in the chemical sector while polymers of vinyl chloride, polymers of acetate, and resins complain regularly in the plastic sector. In the textile sector, EU and South Africa target cotton woven fabrics while Turkey focuses on woven fabrics of manmade filament yarn. Indian and Indonesian firms complain in synthetic staple fibres.
- Third, in terms of industry/sectoral concentration of anti-dumping initiations, the US and Canada top the list. Among new users, Venezuela, Colombia and Indonesia exhibit a high degree of a single product concentration with over 67 percent, 57.6 percent and

66.7 percent of cases filed in the steel sector alone. Other countries are not far behind.

- Fourth, within active user industries, these are large and powerful firms that dominate the use of anti-dumping. In most countries, one to two firms account for a large number of petitions for initiating the process of investigation. Since the market share of petitioners should not be less than 25 percent under anti-dumping rules, these firms are at least holding a minimum share of 25 percent. In practice however these firms account for major share in the industry.
- Finally, there are not many firms who file anti-dumping cases. Those who file do it over and over to target different competitors at different times. It is therefore a rent-seeking instrument which is used by powerful monopolists in their pursuit of seeking protection. The small and medium segment of the industrial sector, which forms a large proportion of the industrial sector remains vulnerable but has no voice.

Thus, instead of countering monopolies, anti-dumping actually facilitates the anti-competitive and unfair behaviour, and instead of guaranteeing that the world trade is fair and competitive it distorts it at the global, country and industry level. Some scholars justify the presence of this tool in the WTO as a “safety valve”, which enhances trade liberalisation by providing protectionary cushion to the domestic industry when it faces import surge. The study challenges the argument. It finds that, in reality, it protects only large firms when the monopolies created by them are threatened by import competition. One cannot therefore defend its use on any ground.

1. Introduction

Dumping refers to international price discrimination wherein a foreign company sells its product in a given export market at a price that is lower than its normal value (i.e. its comparable price in the domestic market in the ordinary course of trade). When this occurs, and when the dumped imports have been found to materially injure,¹ or threaten to materially injure domestic producers or lead to material retardation of the establishment of an industry, the Anti-dumping Agreement (ADA) of the World Trade Organisation (WTO) allows the importing country to apply anti-dumping (AD) duties to offset the price advantage enjoyed by the exporter. Under the WTO Agreement, dumping is condemned as an unfair trade practice if it affects the domestic industry adversely. The rules enshrined in the Agreement lay down the basis on which governments may levy compensatory duties on import of products benefiting from this practice. Any domestic industry that believes it is suffering material injury, or is threatened with material injury, as a result of dumping by foreign companies may file a petition with the national AD authority, requesting imposition of AD duties. If the authority determines that the petitioning parties meet certain eligibility requirements, it conducts an investigation to establish:

- whether dumping has taken place;
- whether the domestic industry has suffered material injury (or is threatened with material injury) as a result of the dumping; and
- the AD duty rate to offset the amount of dumping.

From the legal viewpoint therefore, AD is a trade remedy for industries injured by the unfair trade practices of exporters. Its objective is to combat unfair trade by which foreign firms sell below the price, which they usually charge in their domestic markets and cause economic harm to industries of the importing countries. In rhetoric, AD duties are justified as an extension of anti-trust (competition) policy.² It is claimed that dumping distorts the conditions of competition and confers monopolistic powers on foreign players that adopt such practices. AD acts as a bulwark against this uncompetitive behaviour of foreign exporters. While ‘competition policy’ aims to deter monopolistic practices of domestic producers in domestic trade, AD laws address unfair business competition by foreign suppliers. Thus the two policies share the common economic objective of attempting to remove barriers to the competitive process.

Critics,³ however, argue that AD in its current form has nothing to do with protecting competition. If AD laws were meant to protect competition in international trade, they should have aimed at deterring monopolising dumping by foreign producers. But there is nothing in the AD rules to ensure that foreign exporters are punished only when they dump their products with monopolising intents. Empirical evidence also shows that preventing the monopolising behaviour of foreign suppliers is not the objective of AD policies; considerations other than unfair trade practices influence the use of AD. It is observed that initiation of AD cases is strongly correlated with increasing import penetration,

¹ Material injury means the adverse impact on a domestic industry of dumped imports.

² Sykes (1998); Lindsey and Ikenson (2002a) & (2002b); Ciuriak (2005).

³ See Aggarwal, 2007 for literature survey.

and that import sources with greater import penetration and growth rates are significantly more likely to receive affirmative AD decision.⁴ Critics therefore contend that in practice AD is a protective tool that protects the domestic industries from import competition. AD systems operate to restrict import competition and to give protection against normal price competition to domestic producers. AD duties can foreclose markets to competitors and block any kind of import competition allowed by an international integration move.

The present study goes one step ahead and argues that AD is not used merely to provide protection to domestic industries from foreign competition. Rather, it is used to protect domestic monopolies. This study, I believe is the first attempt to show that, AD is used by large and powerful firms across all active AD user countries of the world. This study also represents the first attempt to provide an overview of the industries targeted in AD cases at 2- and 4-digit levels and reveal how certain types of industries are more likely to use AD actions than others, across all AD user countries. One of the objectives of the study is to revisit the analysis of AD use patterns and show that the use of the tool is also characterised by concentration at the global level, in the sense that it is used by a limited number of countries. According to an estimate, at least 95 countries have an AD law in place,⁵ but only 42 have actually used it.⁶ Contrary to the belief that the use of the tool is proliferating among developing countries, this study shows that it is highly concentrated among a few countries.⁷ This study thus highlights that the increasing use of AD has been characterised by concentration along three dimensions:

- Global concentration
- Sectoral concentration
- Firm level concentration

There are high pecuniary and economic costs associated with the use of AD for all the parties involved in the process. This restricts its use to a few countries, sectors and firms. Thus, instead of countering monopolies, AD actually facilitates anti-competitive and unfair behaviour, and instead of guaranteeing that world trade is fair and competitive, it distorts it at the global, country and industry level. The study shows how certain countries of the world, as well as certain sectors and firms of user countries are asymmetrically benefited by the presence of AD policy. It argues that AD distorts trade and harms competition not only by creating protective barriers and deterring import competition, but also by distorting comparative and competitive advantages. Thus the consequences of AD practice are more serious than they are believed to be. The study challenges the argument that AD is a 'safety valve' that facilitates the process of trade liberalisation. It argues that AD merely protects large firms in a few concentrated and large industries from the import surge; a large segment of the goods producing sector, which is dominated by small and medium producers, is not in a position to use the tool and get protection from import competition in the wake of liberalisation. The tool cannot, therefore, be justified in the name of a 'safety valve'. Essentially, those using the tool do not require it and those who need it cannot afford this protection.

Despite the escalating use of AD policy, relatively little in-depth research has examined the use of AD at the micro level in user countries in a comparative framework. Although there have been several micro level studies on AD, almost all of them have focused exclusively on the United States of America (USA) and the European Union (EU). Even for these countries, there is little analysis of firm level patterns of AD use. This paper, as a first attempt, provides an insight into the manner in which AD

⁴ See Blonigen and Prusa, 2003 for a detailed review of literature.

⁵ Neils and Kate (2004).

⁶ http://www.wto.org/english/tratop_e/adp_e/adp_e.htm

⁷ See also Aggarwal, 2007.

is used in the most active user countries across the globe, in a comparative framework. The study examines for each active AD user country:

- anti-dumping use, by notifications (filings/petitions) and initiations⁸ (investigations);
- distribution of AD filings by the number of countries named;
- distribution of AD initiations⁹ by the number of 2-digit and 4-digit level of products named in the petition;
- sectoral patterns of AD use at 2- and 4-digit levels of product classification;
- distribution of AD investigations by the number of petitioning firms; and
- use of AD by dominating firms.

The study begins by examining the global patterns of AD use. It provides a completely different perspective of the global use of AD. For the analysis, it focuses on the post-1995 period because this is when the WTO came into existence and all members

became signatories to a common set of rules for AD enshrined in the Anti-dumping Agreement (ADA) of the WTO. The AD database used for the empirical analysis provides product-level information on AD investigations and outcomes. It is constructed from original government publications and is compiled by Chad P. Bown of Brandeis University, USA.¹⁰

The rest of the study is organised into four sections. Section 2 provides a theoretical framework for analysing linkages between monopolies and AD. It explains why AD is expected to be associated with concentration along various dimensions and is used by a few countries, specific sectors and dominating firms. It also formulates hypotheses for the empirical analysis. Section 3 describes the database and examines the hypotheses formulated in Section 2, using a descriptive analysis of data. It explores whether the use of AD is surrounded by a high level of concentration at the country-, industry- and firm-level. Section 4 finally concludes the analysis.

2. Interfaces between Anti-dumping and Competition: A Theoretical Framework

Canada was the first country to adopt an AD legislation in 1904. It was soon followed by Australia and New Zealand, who adopted similar legislation in 1906 and 1905 respectively. During the 1920s, AD laws were adopted by several other countries¹¹ including the US (1921), Japan (1920), the United Kingdom (UK) (1921), South Africa (1914) and France (1921). According to Sykes (1998), in all these countries proposals to introduce AD legislation were cast as efforts to prevent unfair

and uncompetitive practices of foreign exporters. Even while there was evidence that the essential goal of the legislation in these countries was to protect their nascent domestic industries from import competition, supporters of AD surrounded it with anti-trust rhetoric.¹² They justified it as a legitimate action by governments in their efforts to protect domestic producers from the monopolising efforts of foreigners.¹³ Supporters of AD have thus, from the very beginning, maintained that

⁸ Calculated on the basis of one country by one product.

⁹ Ibid.

¹⁰ See, Bown (2005, 2006).

¹¹ Zanardi (2004).

¹² Ciuriak (2005); Krishna (1997); Lindsey (2000); and Barfield (2005). See Aggarwal, 2007 for an overview of this literature.

¹³ The US AD Act of 1916 was the first attempt to target only predatory pricing. But it proved very difficult, under domestic legal systems, to establish evidence of predatory intent in the case of foreign firms; thus, by 1921 it was replaced by the Anti-dumping Act of 1921, which was based on the Canadian model of anti-dumping. The argument was that “the new legislation’s objective was to protect competition, as the Anti-dumping Act of 1916 had not been effective in preventing foreign producers from “destroy[ing] competition and control [ing] prices” (de Araujo Jr., 2001).

the purpose of AD measures is to eliminate the trade-distorting effects of injurious dumping and to restore effective competition in domestic markets. They argue that AD systems are merely the counterpart, with regard to international trade, of competition policy provisions. While the objective of competition policies is to deter the uncompetitive behaviour of domestic producers, AD policy is expected to curb anti-competitive practices by foreign firms.

There is indeed an overlap, in principle, between the rationales of competition law and AD policy, in the sense that both are concerned with creating or maintaining fair competition in domestic markets. In reality however, AD itself is anti-competitive. It is important to understand that competition laws focus on consumer welfare. Their key objective is to protect consumers from anti-competitive behaviour, in particular, predatory pricing by firms seeking to establish a monopoly. Predatory pricing occurs when a firm decides to sell its product at low prices with monopolising intent. It hopes to drive other producers out of the market and raise prices after it eliminates competition. Under these laws, therefore, low prices are a problem not when they harm other producers in the industry, but when they threaten to wipe out competition and thereby ultimately harm consumers. Competition laws thus target predatory pricing. However, the WTO AD legislation does not require the evaluation of competitive merits of AD petitions. According to Article VI of the General Agreement on Tariffs and Trade (GATT), 'dumping by which products of one country are introduced into the commerce of another country at less than its normal value is to be condemned if it causes/ threatens material injury to an established industry in the territory of a contracting party or materially retards the establishment of a domestic industry'. In other words, exporting at a lower price is considered unfair in the Agreement if it causes injury to *domestic producers*. The objective of AD laws, therefore, is to safeguard interests of domestic producers.

Economic theory suggests that dumping (price discrimination) is not unfair if it only harms

the domestic producers. It is unfair when it is motivated by intents of wiping out domestic competitors (industry) and is welfare-reducing for *consumers*. According to the theory, there can be several reasons for exporting at prices, which are lower than the prices charged in the domestic markets. It could be due to difference in the price elasticity of demand, cyclical downturn in demand or launching of a new product in the market. In all such cases, dumping is a rational and legitimate profit-maximising economic action. It increases consumer welfare by promoting competition and reducing prices, even though it might hurt the domestic industry. These forms of dumping are not targeted under competition laws. But under AD rules, they could be the prime targets as they injure the domestic industry. While competition policy aims at protecting the competition processes, AD protects one category of competitors (the domestic industry) from competition by the other (foreigners). Application of AD measures may thus impair effective competition (between foreign and domestic producers) rather than protecting it. It is a selective trade-protectionist and entry-deterrent device that pressurises foreign firms to curtail their penetration of the market. Its application thus discourages competition in the domestic markets, reducing consumer welfare and in turn, economic efficiency.

Critics of AD argue that application of AD may impose heavy welfare costs by introducing trade protectionism and reversing the process of trade liberalisation. My agreement is that this is an understatement of the adverse effects of AD use. These measures affect various countries, industries and firms highly asymmetrically and in an inequitable manner, and thus distort resource allocation both, globally and domestically. Under the AD Agreement, a national government must undertake an investigation and consider substantial economic evidence before it can impose a definitive AD measure. Investigative procedures are complicated and drag on for almost a year. As a result, AD investigations have serious financial implications for all the parties involved in

investigations including investigating countries and petitioning companies. In addition to pecuniary costs, there are economic costs associated with the use of AD, which influence its use asymmetrically across countries. Use of AD thus involves economic and financial costs. In what follows, we discuss these costs and their impact on the use of AD practices across countries, industries and firms.

2.1 Costs of Using Anti-dumping Mechanisms

Pecuniary Costs

Application of AD measure requires proof that dumping has taken place and that the dumped imports have caused ‘injury’ or threatened to cause injury. The determination of dumping, injury/threat of injury and causal relationship is a complex process and requires formal investigation. There are four broad stages involved in an AD investigation process: initiation, preliminary determination, final determination, and reviews. Each stage of investigation involves several steps.

Initiation

An investigation is initiated when a complaint is lodged by the domestic industry in the form of a written application. Firms have to provide, when applying for the levy of AD duty, information on the volume of domestic production; description of the alleged dumped product; names of the exporting countries, each known exporter or foreign producer, and a list of the importers of the products; and information on dumping (prices at which the product is sold in the domestic market of the exporting country), and export prices; injury and causality; volume of dumped imports; and adverse effects of such imports on domestic prices and on the domestic industries. As a first step, the authorities consider whether the application meets the documentation requirement. If not, the firms have to provide additional information and re-submit their application. Once the application is accepted as properly documented, governments of the exporting countries are to be notified about the petition. The authorities then verify the information provided in the application and take a decision

whether there is prima facie evidence of dumping and injury or not. The authorities must also ensure that the application has the required degree of support of the domestic industry. On initiation, the authority notifies all known interested parties about the initiation of the investigation.

Preliminary Determination

The first step in this stage of investigation is to determine which products fall within the scope of the analysis. These products need to be “alike in all respects to the product under consideration” and are termed “like products”. The Agreement does not provide any guidance in the determination of the “like product”. Authorities need to develop criteria for determining “like products” on a case-by-case basis.

The next step is to identify foreign exporters to whom questionnaires can be sent. A huge volume of data is required, which includes data on all sales transactions (including movement and all types of “selling” expenses) for two markets (domestic and export). Once all information requested has been received, the investigating authorities need to satisfy themselves as to the accuracy of the information. This may require on-the-spot verifications of foreign exporters.

This is followed by a tedious exercise of calculating dumping margin, which is defined as the difference between the normal value and export prices. Generally, normal value is the price of “like” goods sold by the exporter in the home market to purchasers with whom the exporter has no association at the time of sale and who are at the same or substantially the same level of trade as the importer. Allowances may be made for differences in quantities, taxation, price comparability, discounts, trade level, quality, structure, design, material and other such differences. Exporters need to request and provide information for these adjustments but it is at the discretion of the authorities whether to accept their requests. Furthermore, there are circumstances (specified in the Agreement) in which the normal value cannot be determined

in this manner. Under these circumstances, the authorities may construct the normal value by using the price of the “like product” exported to a third country, after adjusting the differences in terms and conditions of sale, in taxation and other differences related to price comparability between the goods exported to the investigating importer country and the “like” goods sold to importers in the third country. Alternatively, the authority can construct the normal value as the aggregate of the cost of production of the goods, plus a reasonable amount for administrative, selling and all other costs (ASG) and a reasonable amount for profits. Sometimes, cost of production is also required to be constructed due to unavailability of direct information on ASG costs and profit rates. The provisions of using constructed normal value confer a considerable scope of discretion on the authority¹⁴ leading to highly overstated normal values.

As a next step, the authority examines the export price. Export price of goods is the price at which the importer has purchased or agreed to purchase the goods. In cases where there is no export price or where it appears to the authority concerned that the export price is unreliable, it has to construct even this price using elaborate methods. Where sufficient information has not been furnished or is not available to enable the determination on normal value or export price is not reliable, the authorities can reject the available information and use the “best facts available”. Interestingly, the authority can demand any amount of information and reject the information provided by the exporters on the ground that it is insufficient or is unreliable. These various methods used to calculate proxy for normal values and/or export prices have laid open the determination of dumping to abuse by creating a huge bias in favour of finding dumping and inflating margins.

For making a fair comparison between export price and normal value to calculate dumping margin, both

prices are to be adjusted for several types of costs, charges, discounts and expenses, which again are at the discretion of the concerned authority. It may reject certain requests on vague grounds. Finally, dumping margins are calculated using one of the three methods: weighted average- to-weighted average method, a transaction-to-transaction method or weighted average-to-transaction method. It is at the discretion of the authority to use any one of them. Evidence indicates that all these methods involve ambiguities, which are exploited by the authority to prove dumping even where it does not exist.

As a next step, injury needs to be analysed. First, the authority decides the scope of the domestic industry for which there are no set guidelines in the Agreement. Next, it needs to consider the performance of the domestic industry. The Agreement provides an illustrative list of factors for determination of injury. This includes actual and potential decline in sales, profits, output, market share, productivity changes, capacity utilisation, return on investment, actual and potential effects on employment, wages and ability to raise capital. There is no contextual framework within which these parameters may be assessed. The analysis has to be subjective and is completely at the discretion of the authority.

Finally, the authority needs to establish whether a causal relationship exists between the dumping and the injury, retardation, or threat of injury. This analysis is also subjective and is made on the basis of: the volumes and prices of import of “like” goods that are not dumped or subsidised; a contraction in demand for the goods or “like” goods; changes in consumption patterns of the goods or “like” goods; developments in technology; and the changing economic conditions.

Preliminary measures are imposed if the authority finds evidence of dumping, injury and causal relationship. Otherwise, the case is terminated.

¹⁴ Lindsey and Ikenson (2002a) and (2002b); Tharakan (1995); Lindsey (2000); Aggarwal (2002) and (2004). See Aggarwal, 2007 for overview.

Furthermore, the Agreement requires immediate termination of investigations when the volume of imports is minimal or when the margin of dumping is *de minimis* (the margin of dumping is considered *de minimis* if it is less than 2 percent, expressed as a percentage of the export price).

Final Determination

During this stage, the parties are given the opportunity to comment on the factual basis of preliminary determination and to submit further evidence. These comments and new evidence provided by the parties may be incorporated in the final determination. This is also subject to the discretion of the authority. It *may* decide to reject all the suggestions and new evidence provided by the parties. At the conclusion of the final determination stage, final measures are imposed. The investigating authority may also involve in price undertaking with the exporters whereby exporters undertake to revise prices so as to eliminate dumping.

Reviews

Any party can request the authorities to review the AD duties. It needs to submit positive evidence substantiating the need for a review. If the authority is convinced that information available to it discloses reasonable indication of a change in circumstances relating to an essential element of the finding, it can initiate the review process. The authority can, on its own, also initiate a review. Besides, the Agreement provides for new shippers' review. This is an expedited review for a qualified exporter not previously investigated by the authority. Finally, before the expiration of five years, sunset reviews are initiated by the authority for determining whether an order or finding should be continued. While deciding to continue the duty, it must be satisfied that there is a likelihood of continuation/recurrence of dumping from the subject countries if the order is withdrawn; and that the continuation/recurrence of dumping is likely to cause or continue to cause injury to the domestic industry.

These procedures involve costs for both, the investigating country and plaintiff firms.

Costs to the Investigating Country

The scope of AD investigations requires the creation of an elaborate institutional set-up and legal framework. Though the creation of an institutional framework is not a requirement of the ADA, it is a prerequisite for maintaining consistency, efficiency and effectiveness of AD investigations due to the complexity of the legal provisions. Generally a specialised body is designated within a particular government ministry, which could either be the Ministry of Commerce or the Ministry of Finance. Some members have established a bifurcated system where the dumping and injury analyses are undertaken by two separate bodies (as in the USA and Canada) while others have a unitary system where both aspects of dumping and injury determination are handled by a single authority (as in India).

Further, under the AD Agreement, final determinations made by the authority are subject to judicial and panel review. It requires that an independent judicial, arbitral, or administrative tribunal be maintained for this purpose. Large administrative expenses need to be incurred on the maintenance of these structures.

In addition, there are costs of conducting investigations. Public notifications, verifications, disclosure of information, on-the-spot verifications and various other procedures require huge financial resources, adding to the administrative costs. Besides, AD investigations require a multiplicity of professional skills. The staff generally includes technical experts, lawyers, economists, financial analysts, accountants and computer experts. It is critical to recruit, train and retain qualified experts for the proper functioning of the institutional framework. This also has financial implications.

Finally, AD determinations are subject to challenge not only within the country but also at the WTO Dispute Settlement Body (DSB). Generally, it is pointed out that the defendant country may choose not to participate in the proceedings. But, in reality, the defendant needs to participate in the

settlement procedures to defend its case. There is no doubt that Article 17.6 (ii) has restricted the scope of review by allowing for more than one permissible interpretation for AD provisions¹⁵, but statistics suggest that 50 percent of individual complaints against AD authorities prevailed at the DSB level.¹⁶ One must note that there is a cost of losing a dispute settlement case in terms of the stigma associated with the failure.¹⁷ Any such failure at the international level would mean that the country is not complying with the rules and obligations. It causes embarrassment to the losing party in the international arena. Therefore, to prove its credibility, the defendant country needs to participate in dispute settlement procedures, which may involve substantial financial costs. There are thus administrative, operational and litigation costs of using AD mechanisms at the national level.

Costs to the Initiating Firm

An AD investigation constitutes a substantial legal proceeding, which requires industries to hire lawyers and collect and distil economic evidence relating to the dumping and injury criteria. Irwin (2002) claims that the legal fees for a simple case cost the petitioners about US\$ 250,000, and can go up to US\$ 1 million for a more complex one.

In addition to legal costs, there are lobbying costs. Given that there is substantial discretion in the national government's administrative process for sorting through evidence provided in an AD investigation (e.g. which method to use to calculate dumping, which data and measures to use to assess injury), petitioning firms' political influence with policymakers may affect the outcome. Several empirical studies have demonstrated that AD

decisions are in effect influenced by political factors,¹⁸ thus confirming that AD authorities make use of the discretion in the rules in order to provide protection to specific interest groups. Gasmi *et al.* (1996) and Hansen and Prusa (1996) find that interest groups' political campaign contributions are a significant factor in explaining the decision of the United States International Trade Commission (USITC) to protect domestic industries in the US. While trying to influence the outcome, these firms use lobbying as a tactic to pursue their interests. They may engage in direct lobbying by mobilising other firms in the industry to lobby, or by hiring a contract lobbyist or having in-house lobbyists to undertake the action. Employees are hired on contract basis/employed permanently, specifically to push their interests to legislators, bureaucrats, and other government officials. Generally, these are individuals with a background in government and a network of governmental connections. Private companies seeking favourable outcomes, pay them hefty amounts. In addition to legal costs, therefore, there are substantial lobbying costs for the plaintiff firms, in terms of time and money for influencing political decisions.

Economic Costs

In addition to pecuniary costs, a user country/firm faces potential economic cost of retaliation by the target country. Retaliation may consist, for instance, of initiation of retaliatory AD cases and/or political retaliation. The capacity of a target country to threaten retaliation is correlated with its size in terms of its trade share. The larger the share of the target country in the trade of the initiating country, the greater is its capacity to retaliate, hence the greater the severity of retaliation. Targeted retaliation may inflict damage on the strategic export interests of the investigating countries/firms.

¹⁵ Under Article 17(ii), Panels can do nothing if establishment of facts is proper and evaluation of those facts is unbiased and objective.

¹⁶ See Aggarwal, 2007 for further details.

¹⁷ Kovenock and Thursby (1992, p.160) termed this as the cost of international obligations. They incorporated it in their theoretical model of compliance with international rules and argued that "[i]n the political economy interpretation of the model, we can think of this disutility [of international obligation] as a loss of goodwill in the international arena or the political embarrassment that comes from being suspected of violation."

¹⁸ See Blonigen and Prusa, 2003 for a survey of this literature.

Welfare Costs

Supporters of AD argue that the AD rules deter trade-distorting practices of foreign exporters, thereby protecting the competition. The objective is to offset the artificial advantages realised by the exporting country's producers. From this perspective, AD appears to enhance economic welfare by protecting domestic producers and workers of the subject product from unfair trade practices of foreigners. In practice however, AD is used to restrict competition in the importing country and injure consumers and downstream industries by allowing the domestic industry to charge high prices. This imposes welfare costs on the user countries. The United States International Trade Commission (USITC) 1995 and Gallaway *et al.* (1999) examined the net aggregate effects of all US AD/CVD (countervailing duty) orders for 1991 and 1993 respectively, using a computable general equilibrium model. While the USITC estimated the loss at US\$1.6 billion, the latter found that the welfare loss ranged from US\$2 to US\$4 billion annually.

2.2 Implications of Heavy Costs of Using Anti-dumping for the Patterns of Its Use: Some Hypotheses

The pecuniary, economic and welfare costs involved in the use of AD mechanisms have serious implications for the patterns of AD use at the country-, industry- and firm-level. Heavy costs involved in the use of AD may deter many developing countries, in particular small and less developed countries from using these remedies. Thus the small and least-developed countries are asymmetrically affected in the system. Scarcity of legal expertise is another important constraint faced by these countries. AD rules are highly complex and ambiguous. As discussed above, the investigating authority needs to exercise a lot of discretion in the determination of like product, normal value, export prices, dumping margins, injury and causal relationship. Broad rules are

framed, which provide room for considerable manoeuvrability and flexibility. This requires astute legal expertise to use the tool without being challenged in the WTO dispute settlement mechanism. Many developing countries do not have such expertise and therefore lack the capability to use these laws. The stigma attached to failing to comply with the rules at the WTO Dispute Settlement level may also bring enormous costs in terms of political embarrassment and deter these countries from using the remedy.

Proposition 1: Pecuniary and economic costs, and the requirement of legal expertise/capacity associated with the use of AD, deter the use of the tool by a large number of countries, in particular developing countries.

At the firm level, it is a large firm that can support the litigation costs associated with the investigation process and is therefore more likely to pursue AD. Sometimes, it is beyond the resources of small and medium-sized companies even to obtain the information that they have to provide in the petition. This means that small and medium producers may not be able to initiate anti-dumping cases even if they are facing intense import competition. Furthermore, anti-dumping has opened up "rent" seeking opportunities for large firms. "Rent" means financial income that does not arise from investment in economic resources. It arises from investment by firms in manipulation of political outcomes in their favour. Rent-seeking requires heavy investment in lobbying (these resources are not available for productive activities). Evidence suggests that the decisions to lobby and the level of lobbying activity are both conditioned by firms' resources.¹⁹ Thus, firms that lobby are large. Using their resources they establish a sophisticated political capacity that allows them to develop political influences²⁰ to bias decisions in their favour. Small and medium firms with scarce resources lose out in this power-based game.

¹⁹ Drope and Hansen (2006), and Campos and Giovannoni (2006).

²⁰ See Grossman and Helpman, 1994.

Proposition 2: Large and powerful firms are more likely to initiate AD investigations due to pecuniary costs and the role of lobbying in final outcomes.

AD protection differs from other forms of rent-seeking in that all firms within an industry benefit from the imposition of a tariff but only those firms that participate in the petition and lobby for protection (as suggested above) bear the costs that are associated with filing the petition. Therefore, most firms are tempted to free-ride, resulting in a problem that affects the lobbying capacity of the industry. Magee (2002) argued that for a sufficiently small level of industry concentration, an increase in the number of firms in the industry made cooperation more difficult, or exacerbated the free-rider problem. This implies that industries with a large number of firms with competitive market structure are less likely to participate in the process. In their protection-for-sale model, Grossman and Helpman (1994) show that an industry that is politically organised is more likely to lobby and thereby get more protection. Empirical evidence²¹ suggests that the likelihood of a positive determination is influenced by political factors such as the complaining industry's size and employment level. But if the size of the industry results in a large number of firms, then the problem of free riding would prevent firms from filing AD. In other words, industries with a small number of large firms initiate AD investigations more frequently than those with a large number of small firms. Effective lobbying provides one reason for expecting a positive relationship between AD initiations and the market structure of the industry. The presence of scale economies offers yet another reason for large and concentrated industries seeking AD protection more frequently than others. This argument suggests that the

major objective of spending enormous amounts of money and time on lobbying is to capture rent in terms of market power. But these objectives can be achieved only where there are substantial economies of scale.

Therefore, highly concentrated large industries characterised by scale economies are more likely to initiate AD cases.

Finally, the incidence of AD use is likely to be more frequent in intermediate goods' industries. In general, intermediate goods are homogenous goods; therefore it is easier for the investigating authorities in such cases to establish the "like products". In consumer goods industries, where products are highly differentiated, a proper identification of "like products" becomes difficult. According to Evenett and Vermulst (2005) however, charges of dumping in intermediate goods are laden with greater emotional appeal than those against consumer goods industries. Most countries assign high priority to their intermediate industries to lay the foundation for rapid industrialisation. There is thus less scope of AD filing getting opposed by the authority in these industries.

Proposition 3: The use of AD is likely to be concentrated in industries that are characterised by scale economies and a small number of powerful firms, particularly in the intermediate goods sectors.

The foregoing discussion indicates that the use of AD is likely to be characterised by country-level concentration globally, industry-level concentration within a country and firm-level concentration within a user industry.

²¹ Finger *et al.* (1982); Moore (1992); and Olson (2004).

3. Empirical Analysis

The WTO compiles a cross-country database on AD case initiations and measures with information on broad categories of products. It does not organise and publicise data on the actual products (Harmonised System (HS) codes) under investigation, the dates of initiations, the number of notifications, the number of countries named in the notification, imposition of measures, or the names of firms involved in the investigations. This data is therefore insufficient for an in-depth analysis of the use of AD. To address the limitation, the World Bank has created a global AD database²². Version 1.0 of this database was released in 2005 (Bown 2005). It has been revised twice since then. Version 2.1 was released in September 2006 (Bown 2006). It is recently updated once again in Version 3.0. The data is derived from original national government publications located on domestic government websites and in hard copies. Thus, for a substantial number of user countries, it provides a basic set of information on Harmonised System (HS) product codes for the investigated goods, dates and outcomes of various stages of the investigative process, the names of domestic firms participating in the AD investigation and the names of foreign firms being targeted by the investigation. The present study is based on Version 2.1 of this database.²³ It is supplemented with the WTO database wherever necessary.

The study does not use econometric techniques to examine the above propositions. Rather, it examines trends and patterns in AD use globally and in each of the active user countries, from the perspective of testing the above propositions. It makes a distinction between AD notification (petition/filing) and initiation/investigation for the purpose of this analysis. “Notification” refers to a petition (or filing) that is accepted by the authority for

initiating AD investigation. One notification may name multiple countries. Each country named in the petition is treated as a separate AD investigation/initiation case. We term it “investigation/initiation” to distinguish it from notification. In other words, initiations/investigations are calculated on the basis of one country by one (like) product. If a petition/notification names (or targets) five countries, the national authority makes five separate investigations and therefore it is recorded as five initiations. It needs to be emphasised that the WTO database records AD initiations (and not AD notifications) while the global anti-dumping database provides information on both, notifications as well as initiations.

Further, the global anti-dumping database has information on product classification up to a 10-digit level. However, there is no uniformity in the product classification across different countries. For some countries it is available at a 6-digit level, while for others it is up to 10-digit. Therefore, for a comparative analysis we adopted a uniform system of product classification at a 6-digit level for all countries. Necessary adjustments were made in the dataset to transform it to a 6-digit level. Finally, the database contains country-wise information on all AD cases from 1980 to 2004. However, our analysis is confined only to the post-1995 period. All observations for the years prior to that are dropped from the analysis. In what follows, we analyse the patterns of AD use from the perspective of the foregoing hypotheses.

3.1 Global Concentration in Anti-dumping Use

The patterns of world-wide use of AD have been well documented in literature.²⁴ Most studies conclude that the use of AD has been proliferating since 1995. It has been pointed out that AD was

²² As described above, it has been compiled by Chad P. Bown.

²³ Version 3.0 is made available very recently. For most countries, the information available is up to 2004 in both, 2.1 and 3.0 versions.

²⁴ Miranda *et al.* (1998); Prusa (2001); Zanardi (2004); and Aggarwal (2007).

used exclusively by large industrialised countries until mid-1985. In the late 1980s new users started emerging. By 2006, the number of user countries had increased to 42. Most scholars express their concern over the growing number of AD users. Table 1 also indicates that the number of initiations increased sharply during the post-WTO period. However, it is instructive to note that while the use of AD has increased phenomenally, it has not yet spread widely across the globe. Of the 150²⁵ WTO Member countries, only 42 reported using it at least once. Of these only 18 (43%) have been using it on a regular basis. Thus, 18 countries collectively make up a substantial fraction of the policy's use. More specifically, these countries have been responsible for 91 percent of the AD investigations initiated by all WTO members over the 1995–2006 period. Interestingly, the year-to-year data shows that their share in total initiations has remained almost the same over the period since 1995.

The share of the active AD user countries in total AD measures also remains as high as around 90 percent. AD measures refer to the number of affirmative cases that resulted in AD duties in a particular year. This dispels the fear that the number of user countries, in particular that of developing countries, will explode in the near future. There are a handful of countries in each continent (except North America) that have been using AD protection. In Africa, South Africa is the only country that has developed the

capabilities to use the tool. South Africa acquired its anti-dumping legislation in 1914 and used the tool during the 1950s before discontinuing it. In Asia, five major users of AD are: India, China, South Korea, Taiwan and Indonesia. Active users from other continents include: Turkey and the EU from Europe; the USA and Canada from North America; Argentina, Brazil, Mexico, Columbia, Peru and Venezuela from Latin America; Australia and New Zealand. Five developed countries, namely, the USA, Canada, the EU, Australia and New Zealand have been the traditional users of AD measure. They are therefore “traditional users” of the tool. Among developing countries, only large and relatively better-off countries have been using the tool; the less developed countries are excluded from the use of the tool. Pecuniary and economic costs (in terms of retaliation) appear to be a key obstacle in the use of the tool for these countries, Besides, they may also be lacking in the legal expertise and skills required to conduct investigations and litigate the cases at the DSB level.

Thus, as expected (proposition 1), the use of AD has been highly concentrated in a few countries; contrary to popular belief, the situation has not changed over the years. While close to 95 countries have now adopted AD laws, most of the use of AD - as measured, for example, by the total number of investigations or measures imposed - is highly concentrated in 18 countries.

TABLE 1
Anti-dumping Initiations/Measures and the Share of Top 18 Countries: 1995-2006

Period	Total Initiations (No.)	Share of Top 18 Countries (%)	Total Measures (No.)	Share of Top 18 Countries (%)
1995–1997	624	90.7	336	95.2
1998–2000	903	90.7	582	89.9
2001–2003	909	90.7	604	89.2
2004–June 2006	600	90.2	353	91.2
Overall	3036	90.6	1875	90.9

Source: Calculations based on the WTO Anti-dumping database.

²⁵ With Vietnam acceding to the WTO in 2007, the number of WTO members has gone up to 151.

AD is the most ambiguous tool of trade remedy and offers considerable flexibility in the determination of dumping, injury and causal relationship. Besides, it has a number of features that make it the most attractive tool of trade protection under the WTO regime. In a detailed analysis of the WTO-legal trade remedies – Countervailing measures, safeguard measures and AD measures – Aggarwal (2007) highlights that this is the most potent tool of protection with the least political visibility. Almost every petition has a high chance of winning. The success rates, i.e. the number of affirmative AD cases as a proportion of total initiations for the active user countries over 1995-2004 is provided in Table 2. The table shows that in almost all the countries the success rate has been well above 50 percent. On an average the ratio of successful petitions is higher in new user/developing countries (61.04) as compared with the traditional user/developed countries (53.04). However, an analysis of individual countries suggests that over two-third to three-fourth filings result in measures in several countries, including China, India, Turkey, the USA, Korea, Argentina and Venezuela. In Canada, the EU, Mexico and South Africa around 60 percent of filings result in affirmative measures. Taiwan, Australia and New Zealand are the only exceptions where the success rate is less than 50 percent. Apparently, AD has become a tool of choice in active user countries. Nevertheless, only the developed and a handful of large developing countries have been able to undertake AD investigations. Apparently, large and costly administrative apparatus, requirement for legal expertise and economic and welfare costs discourage small countries from using the tool.

This poses a question: “Why has there been a phenomenal rise in AD use?” The answer is that the proliferation in the number of AD cases has been due to multiple naming of countries in AD notifications. As already observed, the WTO does not record filings (or notifications) but initiations/investigations (i.e. the number of countries named in each petition). The number of cases multiplies due to multiple naming of countries in these notifications. There has been a sharp rise in the number of petitions

TABLE 2
Success Rates of Anti-dumping Initiations in Top 18 User Countries

Reporting Continent/Country	Success Rate (%)
Asia	
IND	81.0
CHN	84.0
IDN	47.0
KOR	70.5
TWN	23.2
Latin America	
ARG	69.0
BRA	51.0
COL	52.0
MEX	60.4
PER	46.6
VEN	66.7
Traditional Users	
CAN	58.5
USA	72.1
EU	59.1
AUS	35.0
NZL	40.5
Africa	
ZAF	63.5
Europe	
TUR	78.5

Notes: IND: India; CHN: China; IDN: Indonesia; KOR: South Korea; TWN: Taiwan; CAN: Canada; USA: United States of America; EU: European Union; AUS: Australia; NZL: New Zealand; ARG: Argentina; BRA: Brazil; COL: Columbia; MEX: Mexico; PER: Peru; VEN: Venezuela; ZAF: South Africa; TUR: Turkey.

Source: Author's calculations based on Bown, 2006.

citing several source countries of dumping the same product, resulting in a sharp increase in the number of AD cases. The WTO does not provide direct information on multiple naming. However, the global anti-dumping database allowed us to examine the patterns of multiple naming across all the active user countries. We calculated the number of cases per filing and have tabulated its distribution in Table 3. Column 2 shows the share of petitions that name a single country. Other columns may be interpreted likewise.

One can observe that naming multiple countries has become quite common in user countries. The incidence of multiple naming (average number of cases per filing) seems to be rather high in Asian countries. China seems to have out-distanced

all other countries in this practice, with only 17 percent of the petitions involving a single country. However, it is Korea that has an average number of four countries per notification, higher than any other country. Korea is followed by China, with 3.3 countries per notification. For other countries it is around two countries per filing. Asian users are followed by their traditional counterparts: the US, the EU, Canada, Australia and New Zealand. In all these countries (except New Zealand), almost half the cases involve multiple naming. Overall, they are very close to Asian users, with an average of 2.28 countries per notification as compared to 2.74 for the latter. There are instances where AD petitions involved more than 20 countries (as in the US and Korea). The incidence of multiple naming

has been rather low in Latin America. Only about 1.5 countries per filing were recorded in the Latin American countries (except in Brazil, where it is closer to two), as opposed to more than two in most other countries.

Why multiple naming? The reason is that GATT/WTO guidelines require that AD duties be levied only on a country-specific basis. However, its provisions allow the domestic industry to file petitions against several importing competing countries simultaneously. To pre-empt the possibility of trade diversion, which may occur if only one source of imports is cited to be affected by dumping, domestic petitioners tend to file petitions with multiple countries named. The objective is to seek comprehensive AD

TABLE 3
Naming Patterns in Anti-dumping Petitions: 1995–2006

Reporting Continent/ Country	Petitions Naming Multiple Countries as Percentage of Total No. of Petitions Filed					Highest No. of Countries in a Single Petition (Col. 7)	Average No. of Countries Per Filing (Col. 8)
	Number of Named Countries Per Filing						
	1 (Col. 2)	2 to 4 (Col.3)	5 to 7 (Col.4)	8 to 10 (Col.5)	Above 10 (Col.6)		
ASIA							
TWN	34.8	65.2				7	1.9
IND	41.1	51.9	5.6	1.9	-	8	2.3
IDN	31.0	69.0				4	2.2
KOR	50.0	30.0	5.0		15.0	23	4.0
CHN	17.1	56.1	26.8			6	3.3
EUROPE							
TUR	64.2	30.0	4.5		1.5	11	1.8
LATIN AMERICA							
ARG	65.8	31.6	2.5	0.0.	0.0	6	1.6
BRA	61.5	30.7	7.7	0.0.	0.0	6	1.8
MEX	83.3	15.0	0.0	1.7	0.0	8	1.0
COL	61.5	38.4	0.0	0.0	0.0	4	0.3
PER	82.6	14.6	1.5	1.4	0.0	8	1.3
VEN	73.3	26.7	0.0	0.0	0.0	3	0.3
AFRICA							
ZAF	43.6	50.0	2.6	2.6	1.3	12	2.3
TRADITIONAL USERS							
US	53.5	34.0	6.25	2.1	4.2	20	2.6
CAN	47.8	28.2	17.4	4.4	2.2	12	2.9
EU	50.7	34.9	13.0	1.4	0.0	10	2.2
AUS	58.2	32.9	6.3	1.3	1.3	15	2.1
NZL	73.1	23.1	7.7	0.0	0.0	7	1.6

Notes: IND: India; CHN: China; IDN: Indonesia; KOR: South Korea; TWN: Taiwan; CAN: Canada; USA: United States of America; EU: European Union; AUS: Australia; NZL: New Zealand; ARG: Argentina; BRA: Brazil; COL: Columbia; MEX: Mexico; PER: Peru; VEN: Venezuela; ZAF: South Africa; TUR: Turkey.

Source: Author's calculations based on Bown (2006).

protection. The provision of ‘cumulation’ (Article 3.3 of the WTO Anti-dumping Agreement) in making injury determinations (introduced in the Uruguay Round) gives petitioning firms an extra incentive to file multiple petitions. Cumulation allows the authorities to aggregate all “like” imports from all countries under investigation and assess the combined impact upon the domestic industry. If the imports from individual foreign competitors are aggregated, the impact of foreign competition becomes more significant and the probability of finding injury increases. Empirical studies find that the increase in probability of affirmative injury is, in fact, higher than what is implied by the aggregation of market share.²⁶ Gupta and Panagariya (2006) have termed that as a super-additivity effect of

cumulation. According to them, the probability of a positive finding rises with cumulation because the presence of many exporters exacerbates the problem of free riding, which leads every firm to spend less on defence. Thus, naming a multitude of small countries with very small import market share raises the probability of gaining protection.

In addition to multiple countries, filings also involve, within the fold of the “like product”, multiple products at finer level of classification. It is profitable for the industry to cover as many products in a single case as possible to get comprehensive protection. Table 4 shows the distribution of 6-digit products per AD initiation. Column 2 of the table shows the proportion of cases, which involved one

TABLE 4
Naming Patterns of 6-digit Products in Anti-dumping Initiations: 1995-2006

Continent/ Country	AD Initiations Naming Multiple 6-digit Products as Percentage of Total No. of Initiations			Highest Number of Products Per Initiation (Col.5)	Average No. of Products Per Initiation (Col.6)
	No. of 6-digit Products Per Initiation				
	1 (Col 2)	2 to 4 (Col 3)	5 and Above (Col 4)		
ASIA					
TWN	83.7	16.3	0	2	1.6
IND	66.1	27.01	6.89	22	2.0
IDN	63.1	24.6	12.3	8	2.3
KOR	71.8	25.64	2.56	8	1.6
CHN	72.1	19.81	8.09	11	1.8
EUROPE					
TUR	87.6	7.4	5	23	2.1
LATIN AMERICA					
ARG	53.75	31.22	15.03	16	3.0
BRA	81.75	18.25	0	4	1.3
MEX	61.54	30.77	7.69	13	1.9
COL	56.52	43.48	0	4	2.2
PER	69.0	22.55	8.45	8	1.8
VEN	54.55	22.72	22.73	13	4.3
AFRICA					
ZAF	74.6	17.46	7.94	13	1.7
TRADITIONAL USERS					
US	46.2	26.5	27.3	27	5.6
CAN	17.1	40.2	42.7	50	8.8
EU	38.8	34.85	26.35	18	3.7
AUS	73.3	23.67	3.03	8	1.5
NZL	57.1	17.19	25.71	30	5.5

Notes: IND: India; CHN: China; IDN: Indonesia; KOR: South Korea; TWN: Taiwan; CAN: Canada; USA: United States of America; EU: European Union; AUS: Australia; NZL: New Zealand; ARG : Argentina; BRA:Brazil; COL: Columbia; MEX: Mexico; PER: Peru; VEN: Venezuela; ZAF: South Africa; TUR: Turkey.

Source: Author's calculations based on Bown (2006).

²⁶ Hansen and Prusa, 1996 for the US; Tharakan *et al.*, 1998 for the EU.

6-digit product. Columns 3 and 4 can be interpreted in the same way. The practice of covering a large number of products in a single case seems to be used most widely in traditional user countries. An average number of products per case are as high as nine in Canada, followed by the US where the average is 5.6. In New Zealand and the EU, it is 5.5 and 3.7, respectively. In new user/developing countries, it varies between 1.5 to two products per initiation. Argentina and Venezuela are the only exceptions, where the products per case are 3.0 and 4.3 respectively.

Covering multiple countries and products has thus become an effective strategy across all countries. The domestic industry exploits the tool to secure comprehensive protection. One must, however,

observe that firms in developed countries outdistance other countries in exploiting the protection provided by AD by naming both multiple countries and multiple products in their filings. Among new users, Asian countries have also been naming several countries per filing. However, the incidence of naming multiple products is comparatively lower than that in traditional users. The Latin American countries seem to be more disciplined in naming countries/products than other user countries.

The foregoing analysis suggests that each notification generates multiple investigations/initiations (by target country) and each investigation then becomes effective in providing protection to several products simultaneously. Table 5 shows that the number of AD initiations

TABLE 5
Product, Country and HS Code-wise Number of Anti-dumping Cases

Reporting Country	No. of Notifications Issued	AD Initiations (One Country by One Like Product)	AD Initiations at HS 6-digit Products* (One Country by all Products at 6-digit)
ASIA			
China	41	136	247 (136)
India	158	363	730 (363)
Indonesia	29	65	145 (64)
South Korea	20	79	60 (38)
Taiwan	23	50	73 (43)
EUROPE			
Turkey	67	121	255 (212)
LATIN AMERICA			
Argentina	117	185	521 (173)
Brazil	78	137	183 (137)
Mexico	60	79	133 (69)
Columbia	13	22	40 (18)
Peru	69	98	128 (73)
Venezuela	15	22	78 (18)
AFRICA			
South Africa	78	183	221 (54)
TRADITIONAL USERS			
US	144	370	2088 (370)
EU	146	326	1082 (296)
Australia	79	166	243 (165)
Canada	46	135	1182 (135)
NZL	26	42	193 (35)

Note:*Parentheses show the number of cases for which information is available.
Source : Author's calculations based on Bown (2006).

has been much larger than the number of notifications, and the number of product-wise AD cases (at 6-digit level) has been much larger than that of initiations. The coverage of AD is thus much wider than projected by merely the number of notifications or even initiations. The number of initiations as reported by the WTO, is an under-representation of the use of AD.

Our analysis, like other studies, thus confirms that the use of AD has shown a phenomenal rise. But at the same time, it shows that this is primarily due to an intensive use of the tool by a handful of active user countries. The number of user countries has not shown a significant

increase. The use of AD is highly concentrated at the user's end.

3.1.1 Concentration in Naming Patterns

We analysed the distribution of named countries in AD filings in each of the 18 active user countries. Table 6 shows the share of the top one, two and five countries named in total notifications/filings. Two observations may be made: one, the distribution of named countries is highly concentrated, with five top countries accounting for a substantially large proportion of filings in most countries. Two, the distribution seems to be more skewed in new user countries than in the traditional countries. In new user countries, the share of top five targets has been

TABLE 6
Share of Major Target Countries in Anti-dumping Filings of Top 18 User Countries

Reporting Country	Share of Top Target (%)	Share of Top 2 Countries (%)	Share of Top 5 Countries (%)	No. of Target Countries	Top 5 Countries (in Descending Order of AD Cases Filed Against Them)
ASIA					
China	20.0	39.0	69.0	24	KOR, JAP, USA, TWN, RUS
India	18.2	26.7	45.7	55	CHN, EU, KOR, TWN, USA
Indonesia	17.0	32.3	55.4	20	IND, KOR, CHN, JAP, TWN
Taiwan	17.2	33.6	56.2	21	JAP, KOR, IDN, RUS, BRA
South Korea	17.7	31.6	53.3	26	CHN, JAP, US, IDN, GER
LATIN AMERICA					
Argentina	20.5	38.4	54.6	35	CHN BRA, ZAF, KOR, TWN
Brazil	17.5	30.7	43.8	45	CHN, USA, IND, GER, ZAF
Mexico	26.6	43.0	62.0	28	USA, CHN, RUS, UKR, TWN
Columbia	18.2	31.8	68.2	11	RUS, CHN, KOR, UKR, IDN
Peru	49.0	60.2	77.5	19	CHN, CHL, BRA, RUS, UKR
Venezuela	9.1	18.2	45.5	14	CHN, JAP, KAZ, MEX, ROM
AFRICA					
South Africa	11.0	21.9	39.3	43	CHN, IND, GER, KOR, TWN
EUROPE					
Turkey	39.7	48.8	67.0	28	CHN, TWN, KOR, IND, THA
TRADITIONAL USERS					
USA	15.7	24.1	40.5	57	CHN, JAP, KOR, IND, TWN
Canada	14.1	23.0	37.8	47	CHN, USA, TWN, KOR, BRA
European Union	17.5	25.8	43.6	47	CHN, IND, KOR, RUS, TWN
Australia	10.2	19.9	41.0	35	CHN, KOR, IND, THA, GER
New Zealand	19.05	33.3	67.0	16	THA, IDN, KOR, CHN, MAL

Notes: CHN: China; IND: India; IDN: Indonesia; KOR: South Korea; TWN: Taiwan; MAL: Malaysia; THA: Thailand; ROM: Romania; CHL: Chile; UKR: Ukraine; KAZ: Kazakhstan; GER: Germany; RUS: Russia; JAP: Japan; USA: United States of America; BRA:Brazil; MEX: Mexico; PER: Peru; ZAF: South Africa

Source: Author's calculations based on Bown (2006).

well above 50 percent, with India, South Africa, Venezuela and Brazil being the only exceptions. Even in these countries, it has been around 45 percent as compared with 40 percent in traditional user (developed) countries.

China has been among the top five targets in 15 of the 18 countries. China was followed by Korea (among top 5 targets in 11 countries) and Taiwan (among top 5 targets in 9 countries). India, the USA, Russia, Japan, Brazil, Indonesia and Germany appeared among the top five targets in four cases each.

Overall, 98 countries were targeted in AD investigations over the period 1995 to 2006. Of these, 18 top countries accounted for almost three-fourth of the cases directed against them (Table 7). The top five countries, namely: China, Korea, the USA, Taiwan, Japan alone accounted for 40.4 percent of cases initiated over 1995–2006. India, Indonesia and Thailand have been the next top targets. Together, the eight countries accounted for 53 percent of total cases over the period since 1995. Other targets are: Russia, Brazil, Germany, Malaysia, the EU, Ukraine, South Africa, Italy, Spain and the UK.

One must note that many of the most-targeted countries have been active users of AD themselves.²⁷ One cannot therefore rule the possibility of retaliatory AD measures that might have had cascading effects on the use of AD.

3.2 Industry-level Concentration

The sectoral distribution of AD investigations reveals that these investigations tend to be disproportionately concentrated in a few industries across all AD user countries. In terms of industry/sectoral concentration of AD initiations, the US and Canada top the list. While the US has targeted 44 2-digit sectors in all and Canada reported initiations in 23 sectors during 1995–2004, the share of a single 2-digit industry (iron and steel, HS 72) has been 77.4 percent and over 88 percent respectively, in these countries. Articles of iron and steel (HS 73) accounted for another 6.2 percent and 1.8 percent of total cases. These two industries are followed by ‘chemicals’ in America and ‘footwear’ in Canada but interestingly their share in total initiations remains, mere 2 to 3 percent respectively. Among the new users, Venezuela, Columbia and Indonesia exhibit a high degree of a single-product concentration with over 67 percent, 57.6 percent and 66.7 percent of cases filed respectively in the steel sector alone. Other countries are not far behind. In most countries, the share of the top three complaining industries varies from 50 percent to 80 percent of the total cases (Table 8). In Brazil, South Africa and Australia it is comparatively lower, but is still above 40 percent.

Furthermore, it is also revealed (Table 8) that the similarity in the sectoral patterns of AD use across countries had been strong at 2-digit. The following 2-digit industries emerged as the most targeted ones.

TABLE 7
Anti-dumping Initiations and the Percentage of Cases Targeted against Top 18 Countries: 1995–2006

Period	Average No. of AD Cases Per Year	Average No. of Cases Per Year Targeted Against 18 Top Users of AD	Share of AD Cases Targeted Against Top 18 User Countries (%)
1995–1997	208	150	72.0
1998–2000	301	216	71.9
2001–2003	303	220	72.7
2004–June 2006	200	170	85.0
Overall Average	255	189	74.3

Source: Author's calculations based on WTO database.

²⁷ These are, for instance, China, the USA, Korea, Taiwan, India, Indonesia, the EU, South Africa and Brazil.

Iron and Steel

The most targeted industries across all the countries are: iron and steel (HS 72) and articles of iron and steel (HS 73). In 15 of the 18 active user countries, these two sectors figure among the top three complainants. The only exceptions are South Korea, Taiwan and South Africa. These two steel sectors accounted for 84 percent of all investigations in the USA. In Canada and the EU, their share was 90 and 45 percent respectively. These sectors are the leading plaintiffs in China, India Indonesia, Taiwan and all the Latin American countries.

Chemicals

India, China and Australia have reported a significant proportion of cases in chemicals/plastics also. South Korea, Brazil and South Africa also initiate a large number of cases in these industries. The three most targeted chemicals/plastics industries are: inorganic chemicals and compounds of precious metals (HS 28), organic chemicals (HS 29) and plastics and plastic articles (HS 39). However there is a sharp difference in the inter country patterns of AD use across these industries. While firms in India and China are targeting basic chemicals (HS codes: 28 and 29), other countries are focusing more on plastics (HS 39). Interestingly, the chemical and plastic sectors are not the prime targets in Latin America (except Brazil) and Europe (EU and Turkey).

Textile and Footwear

The third largest plaintiff sector is the textile and footwear sector. However, within the textile sector the most regular complainants are cotton (including yarn and woven fabrics HS code: 52) and man-made filament (including yarn and woven fabrics HS code: 54) industries. European countries target this sector most frequently. While Turkey primarily targets man-made filament, the EU targets cotton. South Africa, Peru and Columbia opened around 10–15 percent of AD investigations in this sector. Peru is the only country that targets apparels; in most other countries, woven fabrics are the prime targets.

Footwear industry is one of the top three targeted industries in Canada and Venezuela, but its share therein remains rather low, at 3.5 percent and 10 percent respectively.

In Taiwan, Indonesia and Australia, newsprint also emerges as one of the three top plaintiffs while in South Korea, New Zealand and Argentina, machine components and transport equipment are among the top three complaining sectors. In South Korea, electrical machinery and transport equipment accounted for over 45 percent of the total cases. In New Zealand the mechanical sector has been a frequent petitioner seeking AD protection while in Argentina both electrical and other mechanical sectors have emerged as the major complainants.

Interestingly, product-wise concentration levels are high even at 4-digit levels (Table 9). The distribution of cases by 4-digit sector is highly skewed in favour of the steel sector products in most countries. In the US and Canada, all top five targets at 4-digit level are in the steel sector and account for around 50 and 80 percent of the total cases, respectively. In other countries, two to three top plaintiff industries are in the steel sector. The most frequent plaintiffs at 4-digit level in the steel sectors are hot-rolled, flat-rolled products of iron and non-alloy steel products (7208); cold rolled, flat rolled products of iron and non-alloy steel (7209). These are followed by flat-rolled other alloy steel products with different specifications (7225 and 7226).

In the chemical sector, acylic alcohol and phenol and phenol alcohol are the prime targets while in the plastic sector, polymers of vinyl chloride (3904), polymers of acetate (3905), and resins (3907) complain regularly. In the textile sector, the EU and South Africa target cotton-woven fabrics while Turkey, another textile targeting country, focuses on woven fabrics of man-made filament yarn. India and Indonesian firms complain in synthetic staple fibres.

Our analysis shows that the use of AD has been highly focused sectorally in each user country.

TABLE 8

Product-wise Concentration of Anti-dumping Cases at HS 2-digit Level

Country Initiating	Share of Top Sector (%)	Share of Top 2 Sectors (%)	Share of Top 3 Sectors (%)	Total Number of Sectors	HS-2 Codes of Top 3 Sectors	Product Categories in Top Three 2-digit Sectors
ASIA						
China	35.6	65.2	78.5	10	29,72,38	CHE, STL
India	30.8	50.0	58.6	29	72,29,28	STL, CHE
Indonesia	57.24	68.96	78.6	9	72,48,73	STL, PAP
Taiwan	44.0	62.0	76.0	7	72,48,73	STL, PAP
South Korea	21.6	35.0	48.3	16	85,39,87	ELE, PLA, TPT
LATIN AMERICA						
Argentina	51.6	57.0	61.6	27	72.85,84	STL, MCH, ELE
Brazil	16.4	32.2	40.4	26	39,72,04	PLA, STL, FD
Mexico	43.6	55.0	64.0	22	72,73,02	STL, FD
Columbia	67.5	77.5	87.5	8	72,40,54	STL, RUB, TEX
Peru	20.3	40.0	55.5	21	64,72,61	FW, STL, TEX
Venezuela	60.2	77.0	88.4	8	72,64,73	STL, FW
AFRICA						
South Africa	14.5	26.2	38.0	28	48,39,52	PAP, PLA, TEX
EUROPE						
Turkey	47.0	60.0	68.0	22	54,40,39	TEX, PLA, CHE
TRADITIONAL USERS						
USA	77.4	83.6	85.8	44	72,73,39	STL, CHE
Canada	88.2	91.8	93.6	23	72,64,73	STL, FW
EU	22.5	44.9	65.0	29	72,73,52	STL, TEX
Australia	25.1	38.3	47.3	26	39,48,72	CHE, PAP, STL
NZL	66.3	79.2	87.5	10	72,84,70	STL, MCH, GLS

Notes: STL: Steel; CHE: Chemical; TEX: Textile; PAP: Paper; MCH: Machine; FW: Footwear; FD: Processed Food, PLA: Plastic; GLS: Glass and glassware; TPT: Transport Equipment; ELE: Electrical/Electronics; RUB: Rubber.

Source: Calculations based on Bown, 2006.

Certain industries are the intensive beneficiary of protection while others are not able to exert the desired political influences.

For a comparative analysis of concentration status of AD use at the two- and 4-digit level of industry aggregation, we examined the share of top-three 2-digit industries and the share of top-five 4-digit industries in total AD initiations across all countries. We then defined four categories of these ratios (Table 9). These are: Very high (75% and above); high (60%–75%); medium (40%–60%) and low (below 40%). A comparative analysis of these ratios reveals interesting patterns (Column 4

of Table 9). In Asian and traditional user countries, sectoral patterns of AD use are significantly more concentrated at 2-digit than at 4-digit levels but in most Latin American countries, South Africa and Turkey, the degree of concentration does not differ widely across the two sets of industry classification. Concentration ratios across the two levels of industry aggregation differ quite widely in the US and China. The use of AD is highly concentrated at the 2-digit level but it is much lower at the 4-digit level. These countries seem to provide quite comprehensive protection to the selected sectors. It may be recalled that China targets chemicals while the US focuses on the steel sector.

TABLE 9

Product-wise Concentration of Anti-dumping Cases at HS 4-digit Level

Country Initiating	Share of Top 5 Sectors	Total No. of 4-digit Sectors Targeted	Concentration Status in AD Use at: 4-digit vs 2-digit Level	HS 4-digit Codes of Top 5 Sectors	Broad Product Categories in Top 5 HS 4-digit Sectors
ASIA					
China	40.5	36	Low–V. High	7209,2903,2922,2907,48 04	STL, CHE, PAP
India	33.1	93	Low–Med	7208,2905,7225,5503,39 07	STL, CHE, TEX
Indonesia	66.9	21	High–V. High	7208,2905,7225.5503.39 07	STL, CHE, TEX
Taiwan	62.0	13	High–V. High	7216,7312,2523,4810,48 02	STL, MIN, PAP
South Korea	43.3	27	Med–Med	8714,8506,3905,4411,85 10	MCH, CHE, WD
LATIN AMERICA					
Argentina	45.0	81	Med–High	7208,7209,7225,7226,54 05	STL, TEX
Brazil	33.3	55	Low–Low	0402,7202,7219, 3904,4011	FD, STL, CHE
Mexico	28.3	52	Low–Med	7214,7208,7228,7209,02 03	STL, FD
Columbia	84.5	11	V. High–V. High	7209,7208,4011,5402,72 02	STL, PLA, TEX
Peru	42.2	38	Med–Med	7208,6402,6404,9028,64 05	STL, FW
Venezuela	77.0	16	High–High	7208,7209,7304,6403,64 02	STL, FW
AFRICA					
Turkey	65.1	40	High–High	5407,4011,3904,4013,44 12	TEX, PLA, CHE, WD
TRADITIONAL USERS					
US	49.6	142	Med–V. High	7209,7208,7225,7226,72 11	STL
Canada	80.1	57	V. High–V. High	7209,7208,7211,7225,72 26	STL
EU	52.0	91	Medium–High	7208,5208,5209,7318,73 12	STL, TEX
Aus	32.9	59	Low–Med	3904,4810,3901,3903,72 16	CHE, PAP, STL
New Zealand	73.1	18	High–V. High	7217,7213,7214,8421,84 18	STL, MCH

Notes: STL: Steel; CHE: Chemical; TEX: Textile; PAP: Paper; MCH: Machine; FW : Footwear; FD: Processed Food, WD: Wood; PLA: Plastic; MIN: Minerals.

Source: Author's calculations based on Bown, 2006.

Finally, depending on the level of concentration at the different levels of industry aggregation, we ranked the countries on a scale of 1 to 7, with 1 and 7 representing 'very low' and 'very high' product concentration respectively.²⁸ Our analysis (Table 10) reveals that South Africa and Brazil are the only countries where the sectoral use of AD is widely diffused. In all other countries the use of AD is subject to moderate to very high levels of concentration.

The data and analysis presented above indicate that certain industries in all countries have benefited asymmetrically by the use of the tool.

TABLE 10

Ranking of Countries According to Sectoral Concentration of Anti-dumping Use

Country	Concentration Rank
ZAF, BRA	1
IND, AUS, MEX	2
KOR, PER	3
ARG, EU	4
TUR	5
IDN, TWN, VEN, NZL	6
CAN, COL	7

Notes: IND: India; IDN: Indonesia; KOR: South Korea; TWN: Taiwan; CAN: Canada; EU: European Union; AUS: Australia; NZL: New Zealand; ARG: Argentina; BRA: Brazil; COL: Columbia; MEX: Mexico; PER: Peru; VEN: Venezuela; ZAF: South Africa; TUR: Turkey.

Source: Derived on the basis of Bown, 2006.

²⁸ Countries with 'Low-Low' concentration are ranked 1. Likewise, Low–Medium: 2; Med–Med : 3; Med–High: 4, High–High : 5; High–V. High: 6; and V. High–V. High: 7; the US and China are considered exceptions and hence are excluded from Table 10.

It may be observed that these are intermediate goods producing scale-intensive industries. Bown (2007) in his recent analysis of AD use in selected developing countries finds that initiating industries are larger than non-initiating industries when measured by the mean value of their output (US\$5.10 billion versus US\$1.65 billion) or by their mean share of total employment (0.3% versus 0.2%). His econometric analysis also indicates that larger industries are more likely to file AD cases. He argues that the size of the industry affects its ability to finance a costly investigation as well as exert its political influence over AD authorities. His findings confirm that industry concentration does affect the pursuit of AD protection. Industries with fewer establishments receive more protection via AD than less concentrated industries, *ceteris paribus*. Finally he finds that 'the industries that sought AD also had slower output growth on average (3.2% versus 5.6%) and slightly more rapid growth of import penetration (5.5% versus 5.2%) than industries that did not pursue AD investigations'. When combined, these results for developing countries show that large and concentrated industries facing import competition are more likely to seek AD protection.²⁹ The present study indicates that this may be the case across all countries using AD protection. What is not shown by Bown (2007) is that the incidence of AD complaints has been rather high in the intermediate goods-producing sectors. Our findings however confirm this pattern across all AD user countries. It needs to be emphasised that this is a matter of serious concern as any protection given to such industries affects downstream industries adversely and has cascading effects on consumer prices.

These patterns raise the concern that the use of AD, which is a highly potent tool of protection, has been inequitable and unjust. Many scholars justify it as a safety valve, which contributes to the country's process of liberalisation. But this study questions this argument. This tool is not available to most industries that may be facing import competition, due to the costs associated with it.

Under such circumstances, it is merely promoting monopolies and distorting comparative advantages without making any positive contribution to the trade liberalisation process.

3.3 Firm-level Concentration

Following our conclusions in the previous section, we examine here whether large firms really predominate the use of AD. Table 11 documents the distribution of cases by the number of plaintiff domestic firms. Column 2 shows the number of cases initiated by one firm. Likewise, columns 3, 4 and 5 report the number of cases filed by two to four firms, five to seven firms and more than seven firms respectively. Column 6 shows the involvement of associations in AD initiations. It is observed that in some countries associations prefer to be co-petitioners with individual firms instead of being sole petitioners. These cases are listed in the last column. Our analysis confirms that large monopolistic firms (ab)use this tool to maintain their monopolistic position in the domestic markets, across all active user countries. In most countries, one–two firms account for a large number of petitions for initiating the process of investigation. Since the market share of petitioners should not be less than 25 percent under AD rules, these firms hold a minimum share of 25 percent. In practice, however, these firms account for a major share in the industry. In a pioneering study on firm-level concentration in AD use in India, Aggarwal (2002) has shown that most plaintiffs in India are large monopolists holding up to 90 percent of the market share. Her findings are supported by Singh (2005).

Firm-level concentration in AD use appears to be the highest in Latin American countries. In Peru, 93 percent of the total cases were initiated by a single firm. In Venezuela, the share of cases initiated by a single firm was as high as 78 percent. In Argentina and Mexico two-third of the cases were filed by a single firm. Associations do not seem to have played a prominent role in filing AD cases except

²⁹ Similar results have been reported for the developed countries. Blonigen and Prusa, 2003 for survey of literature.

in Argentina where 22 percent of the cases were initiated by various associations.

In Asia, Korea reported that over 85 percent cases were filed by a single firm. Business associations were responsible for the rest of the cases. The incidence of a single firm filing cases is high in Indonesia and Taiwan also. Taiwan appears to be the only country where associations have been participating actively in AD filings. Over 47 percent of the opened cases were filed by various associations there. In China, most cases involved two to four petitioners. More specifically, 62.5 percent cases were initiated by two to three petitioners. Firm-wise patterns of AD use

in India are similar to those of China. Associations collaborate with individual firms for co-petition. However, the number of cases initiated only by associations has been rather small.

South Africa goes the South Korean way, where over 85 percent cases are filed by a single firm and the rest by associations. In South Africa, business was marked by a high degree of concentration, both in terms of ownership and activities under the apartheid regime. Since 1994 there have been changes in the industrial policy but the industrial sector is still dominated by a few large conglomerates.³⁰ Similarly, in Korea the government has been encouraging

TABLE 11
Distribution of Anti-dumping Cases by the Number of Petitioning Firms per Case: 1995-2004

No. of Petitioning Firms Reporting Country	1 (Col.2)	2 to 4 (Col.3)	5 to 7 (Col.4)	More Than 7 (Col.5)	Associations (Col.6)	Total No. of Cases (Col.7)	No. of Cases Where Associations Co-petitioned (Col.8)
	Percentage of Total Cases						
TRADITIONAL USERS							
USA	24.7	26.8	19.3	19.0	10.2	332	86.0
CAN	82.2	12.6	0.0	5.2	0.0	135	0.0
NZL	78.6	21.4	0.0	0.0	0.0	42	0.0
AUS	88.0	8.9	0.0	0.0	3.2	158	0.0
EU	10.9	20.1	41.1	27.9	0.0	239	0.0
AFRICA							
ZAF	85.2	0.0	0.0	0.0	14.8	128	0.0
LATIN AMERICA							
ARG	68.6	9.4	0.0	0.0	22.0	159	0.0
MEX	65.6	26.5	0.0	1.5	6.3	64	1.0
VEN	78.2	13.0	0.0	0.0	8.6	22	0.0
PER	92.9	4.1	0.0	0.0	3.1	98	0.0
ASIA							
IND	29.6	47.0	15.2	6.1	2.2	362	96.0
CHN	14.7	75.7	6.6	3.0	0.0	136	0.0
TWN	42.9	0.0	9.5	0.0	47.6	21	0.0
IDN	60.6	32.7	0.0	0.0	6.6	61	4.0
KOR	85.3	0.0	0.0	0.0	14.7	75	64.0
EUROPE							
TUR	44.8	44.8	1.72	5.2	3.4	116	

Notes: IND: India; CHN: China; IDN: Indonesia; KOR: South Korea; TWN: Taiwan; CAN: Canada; USA: United States of America; EU: European Union; AUS: Australia; NZL: New Zealand; ARG: Argentina; MEX: Mexico; PER: Peru; VEN: Venezuela; ZAF: South Africa; TUR: Turkey.

Source : Author's calculations based on Bown 2006.

³⁰ Chabane and Roberts (2006).

large firms called ‘Chaebols’ since the early phase of its industrialisation. Apparently, these firms, in order to maintain their monopolies in domestic markets, resort to AD use.

Among the traditional user countries, Canada, New Zealand and Australia exhibit a very high level of firm concentration. In Australia, 88 percent of the cases are filed by a single firm. Single-firm cases in New Zealand accounted for over 75 percent of the total cases. Interestingly, the distribution of cases by the number of firms is not highly skewed in the EU. Most cases involved more than five firms. In the US, the anti-trust policy among several other factors (such as size of the industry, growth patterns, international trade) has kept the concentration ratios rather low.³¹ Yet overall, almost 55 percent of the cases were filed by one to four firms. In many cases associations supported the petition, although they were the sole petitioners in only 10 percent of the cases. It is interesting to note that in several cases labour unions were directly involved in co-petitioning. This is a unique feature of AD initiations in the US, which is not shared by any other country.

In the EU, firm-level concentration seems to be rather low. Almost 70 percent of AD cases were filed by five or more firms. It could be due to the fact that it is a region and not a country. The European Commission, which conducts investigations is represented by all the countries and initiation of a case requires approval from these members. For further elaboration, however, we examined the firm-level pattern of EU filing by member country (Table 12). Of the 15 members as in December 2004, domestic firms of five member countries – Germany, Italy, France, Spain and the UK – had been using AD most actively. They accounted for 77 percent of the total cases initiated by the EU firms. German firms top the list, accounting for almost 20 percent of the cases, followed closely

³¹ Shepherd (1961).

TABLE 12
Member-country-wise Distribution of EU Anti-dumping Cases

EU Member Country	No. of Cases	Share in Total Cases Initiated by EU (%)
Germany	279	19.77
Italy	273	19.35
France	228	16.16
Spain	163	11.55
UK	139	9.85
Netherlands	91	6.45
Austria	58	4.11
Belgium	52	3.69
Portugal	43	3.05
Finland	25	1.77
Denmark	17	1.20
Sweden	16	1.13
Ireland	13	0.92
Luxembourg	7	0.50
Greece	6	0.43
Northern Ireland	1	0.07
Total	1411	100

Source: Author's calculations based on Bown (2006).

by Italy. Thus domestic firms seem to be spatially concentrated in the region. Hence even the EU is not an exception to the rule.

To provide an insight into how large firms use this tool, we examined the number of cases initiated by individual companies. We found that there are not many firms who file AD cases. Those who file, do it over and over to target different competitors at different times. In what follows, we show how some firms file multiple cases over a period of time to acquire protection from different import sources at the same time or at different points of time. Table 13 shows the number of cases initiated by the top ten firms (including associations) in each of the user countries. In the US, Bethlehem Steel, Ltv Steel Tubular, Nucor-Yamato Steel, Weirton Steel, Steel Dynamics, National Steel, IPSCO Tubulars are the major complainants. They have been involved in several filings. In an

TABLE 13

Number of Anti-dumping Cases Filed by Top Ten Firms in Select Countries

Firm	USA		Canada		EU		Australia		NZL	
	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed
1	STL	54	STL	29	PLA	63	PLA	21	MCH	14
2	STL	53	STL	23	ELE	36	PAP	19	STL	5
3	STL	51	STL	21	STL	32	PLA	10	GLS	3
4	STL	48	STL	14	STL	22	PLA	10	MCH	3
5	STL	46	LAM	7	TEX	20	PLA	9	WD	3
6	STL	46	STL	7	PLA	19	PLA	5	MCH	2
7	STL	41	STL	6	TEX	19	PLA	5	MCH	2
8	STL	40	SUG	6	PLA	16	PLA	5	MCH	2
9	STL	34	FW (assn)	5	STL	16	STL	4		
10	STL	27	STL	5	TEX	13	CEM	4		
Firm	South Africa		India		China				KOR	
	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed
1	PLA	18	CHE	29	CHE	24	STL	10	WD	5
2	PAP	11	CHE	28	CHE	11	PLA	8	MET	4
3	CHE	8	CHE	25	CHE	8	FD	7	MCH	4
4	RUB	8	CHE	18	CHE	8	PAP	6	ELE	4
5	STL	6	TEX	18	CHE	7	PAP	6	ELE	3
6	GLS	6	TEX	18	CHE	7	STL	5	PLA	3
7	ELE	4	CHE	17	CHE	7	FD	4	PLA	3
8	STL	4	CHE	16	CHE	7	TEX	4	STL	3
9	CHE	4	CHE	14	CHE	7	FD	4	PLA	3
10	PLA	4	STL	14	CHE	6	STL	4	FD	3
	TUR		ARG		MEX		PER		VEN	
Firm	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed	Sector	No. of Cases Filed
1	RUB	20	TEX (Assn)	25	STL	37	STL	15	STL	6
2	PLA	11	STL	19	STL	29	TEX	10	INST.	3
3	TEX	11	TEX (Assn)	10	STL	11	INST.	5	STL	2
4	RUB	10	CHE	8	CHE	8	SPORTS	4	STL	2
5	TPT	10	MET	8	GOV.*	8	ELE	4	STL	2
6	MCH	7	STL	4	STL	6	STL	4		
7	TEX	5	RUB	4	PLA	6				
8	PLA	5	CHE	4	PLA	6				
9	MET	4	STL	3	STL	6				
10	TEX	4	MCH	3	CHE	6				

Notes: GOV: Government Initiated; WD: Wood, MET: Metal; STL: Steel; CHE: Chemical; TEX: Textile; PAP: Paper; MCH: Machine; FW: Footwear; FD: Processed Food; PLA: Plastic; GLS: Glass and Glassware; TPT: Transport Equipment; ELE: Electrical/Electronics; RUB: Rubber; LAM: Laminate Flooring; CEM: Cement; INST: Instruments; ASSN: Association

Source: Author's calculations based on Bown (2006).

exploratory analysis of active lobbyists in the US steel industry, Lenway et al. (1996) show that steel firms that lobby Congress for protection tend to be larger, older, and less diversified than non-lobbyists. They have also shown that protection leads to large pay hikes for CEOs in lobbyist firms, which, they argue, is consistent with rent seeking.

In Canada, Stelco Inc., Dofasco Inc., Algoma Steel, Atlas Steel, Ispat Sidbec, Sault Ste. Marie Central Wire industries from the steel industry are the dominant users of AD protection. The Shoe Manufacturers' Association of Canada, dominated by influential members – G.A. Boulet Inc., Canada West Shoe Manufacturing Company, L.P. Royer Inc., S.T.C. Footwear, Tatra Shoe Manufacturing

Inc., Terra Footwear Limited – also plays an active role in filing AD petitions.

Similar trends are observed across all countries. It may be of interest to learn what firms are actively participating in rent seeking in India. Gujarat Alkalies has filed the largest number of cases, followed closely by Tata Chemicals and National Organic Chemicals Industries Ltd. (NOCIL). Other active participants have been Indian Acrylic Ltd., Pashupati Acrylon Ltd., Reliance Industries, Indian Petro Chemicals, Corp Ltd. Apar Industries Ltd. and Essar Steel India Ltd. All these firms are enjoying near-monopoly positions in their respective industries, with large market shares. Thus, the story remains the same in the case of firm-level concentration, as well.

4. Conclusion

Generally, it is argued that AD is anti-competitive because it tends to encourage restrictive practices in international trade by securing protection and limiting competition from imports for the domestic industry. This study, however, provides empirical evidence suggesting that AD actually protects and perpetuates monopolies. It benefits resourceful countries; and within these countries, it enhances the monopolistic powers of large firms in concentrated industries. Our main findings are as under.

First, only 18 countries across the world account for 90 percent of the total use of AD. These include five OECD countries namely: the US, EU, Canada, Australia and New Zealand, and 13 developing countries. These developing countries are large and relatively better-off; less developed countries are excluded from the use of the tool. They are restricted in the use of the tool either due to the costs associated with it and/or legal expertise required for its use.

Second, within user countries, AD investigations tend to be disproportionately concentrated in a few industries. Three 2-digit industries have emerged

as the most active users of AD. These are: steel, chemicals, and textiles and footwear. Product-wise concentration levels are high even at 4-digit levels. The distribution of cases by 4-digit sector is highly skewed in favour of the steel sector products in most countries. The most frequent plaintiffs at the 4-digit level in the steel sectors are hot-rolled, flat-rolled products of iron and non-alloy steel products, and cold-rolled, flat-rolled products of iron and non-alloy steel. Acrylic alcohol and phenol and phenol alcohol are the prime targets in the chemical sector while polymers of vinyl chloride, polymers of acetate, and resins complain regularly in the plastic sector. In the textiles sector, the EU and South Africa target cotton woven fabrics while Turkey focuses on woven fabrics of man-made filament yarn. India and Indonesian firms complain in synthetic staple fibres. In terms of industry/sectoral concentration of AD initiations, the US and Canada top the list. Among new users, Venezuela, Columbia and Indonesia exhibit a high degree of single-product concentration, with over 67 percent, 57.6 percent and 66.7 percent of cases filed respectively in the steel sector alone. Other countries are not far behind.

Third, within plaintiff industries, there are large and powerful firms enjoying near-monopoly positions that dominate the use of AD. Their objective is to protect their monopolies and deter any form of competition from imports. In most countries, one to two firms account for a large number of petitions for initiating the process of investigation. Since the market share of petitioners should not be less than 25 percent under AD rules, these firms hold a minimum share of 25 percent. In practice, however, these firms account for a major share in the industry. Our firm-wise analysis of AD cases reveals that many firms file AD cases over and over to target different competitors at different times. AD has therefore become a rent-seeking instrument, which is used by powerful monopolists in their pursuit of seeking protection. Rent seeking is different from profit seeking. Unlike profit seeking, rent seeking has no desirable effects, rather it can cause a serious waste of society's scarce resources. Lenway *et al.* (1996) have shown that AD protection rewards less innovative and less dynamic firms in

the American steel industry. Thus it frustrates the development of the industry. It promotes the rent-seeking behaviour of governments as well. Many politicians and bureaucrats in the government enhance their political powers by supporting large powerful houses. There is evidence that in the US, industrial houses make enormous contribution to electioneering campaigns, hence their lobbying power is directly related to these contributions. The small and medium segment of the industrial sector, which forms a large proportion of the industrial sector, remains vulnerable but has no voice.

Some scholars justify the presence of this tool in the WTO as a "safety valve", which enhances trade liberalisation by providing a protectionary cushion to the domestic industry when it faces a surge in imports. In reality, however, it protects only large firms in select industries. They use the tool when the monopolies created by them are threatened by import competition. One cannot, therefore, defend its use on any ground.

5. References

- Aggarwal, A., 'Anti-dumping Law and Practice: An Indian Perspective', *Working Paper 85*, Indian Council for Research on International Economic Relations (ICRIER), New Delhi, India, 2002.
- Aggarwal, A., 'Anti-dumping Agreement: Issues for Review in Doha Round', *WTO World Series 4*, Indian Council for Research on International Economic Relations (ICRIER), New Delhi, India, 2004.
- Aggarwal, A., *Anti-dumping and Developing Countries: An Introduction*, (New Delhi: Oxford University Press 2007).
- Barfield, C. E., 'Anti-dumping Reform: Time to Go Back to Basics', *The World Economy*, 28 (5): 719-37. 2005.
- Blonigen, B. A. and T. J. Prusa, 'Anti-dumping', in E. Kwan Choi and James Harrigan (eds.) *Handbook of International Trade*, Blackwell Publishers, Oxford (UK) 2003.
- Bown, C.P., 'Global Anti-dumping Database', Version 1.0, *World Bank Policy Research Working Paper 3737*, 2005.
- Bown, C.P., 'Global Anti-dumping Database', Version 2.1, available at: <http://people.brandeis.edu/~cbown/global_ad/bown-global-ad-v2.1.pdf, 2006>
- Bown C.P., 'The WTO and Anti-dumping in Developing Countries', Mimeo, Brandeis University, USA, 2007, available at: <http://people.brandeis.edu/~cbown/papers/AD_developing.pdf>
- Campos N.F. and F. Giovannoni, 'Lobbying, Corruption and Political Influence', *ISA Discussion Paper No. 2313*, 2006.
- Ciuriak, D., 'Anti-dumping at 100 Years and Counting: A Canadian Perspective', *World Economy*, Vol. 28 (5), pp. 641-49, 2005.
- Chabane, N. and S. Roberts, 'The Changing Face and Strategies of Big Business in South Africa: More than a Decade of Political Democracy', *Industrial and Corporate Change*, Vol. 15 (3), pp. 549-77, 2006.
- de Araujo, J.T.Jr, 'Legal and Economic Interfaces between Anti-dumping and Competition Policy', *Comercio Internacional Series 24*, Cepal, ECLAC, December 2001.
- Drope, J. M. and Hansen, W. L., 'AD's Happy Birthday?', *World Economy*, Vol. 29 (April), pp. 459-72, 2006.
- Evenett, S.J. and Vermulst, E., 'The Politicisation of EC AD Policy: Member States, their Votes, and the European Commission', *The World Economy*, Vol. 28(5), pp. 701-17, 2005.
- Finger, J.M., H.K. Hall and R.D. Nelson, 'The Political Economy of Administered Protection', *American Economic Review*, Vol. 72(3), pp.452-66, 1982.
- Gallaway, M. P., B.A. Blonigen, and J. E. Flynn, 'Welfare Costs of US Anti-dumping and Countervailing Duty Laws', *Journal of International Economics*, Vol. 49, pp. 211-44, 1999.
- Gasmi, F., W. Hansen and J.J. Laffont, 'An Empirical Analysis of U.S. Anti-dumping Decisions', *manuscript 1996, published as 'Une Analyse Empirique des D'ecisions en Mati`ere d'Anti-dumping aux Etats-Unis,' L'Actualit'e 'economique, Revue d'analyse 'economique*, Vol. 73, pp. 423-55, 1997.
- Grossman, G.M. and E. Helpman, 'Protection for Sale', *American Economic Review*, Vol. 84(4), pp.833-50, 1994.
- Gupta, P. and A. Panagariya, 'Injury Investigation in AD and the Super-Additivity Effect: A Theoretical Explanation', *Review of World Economics*, Vol.127(1), pp.151-64, 2006.

- Hansen, W.L. and T.J. Prusa, 'Cumulation and ITC Decision Making: The Sum of the Parts is Greater than the Whole', *Economic Inquiry*, Vol. 34 (4), pp. 746–69, 1996.
- Irwin, D.A., *Free Trade under Fire*, Princeton University Press, 2002.
- Kovenock, D. and M. Thursby, 'GATT, Dispute Settlement and Cooperation', *NBER Working Paper 4071*, 1992.
- Krishna, R., 'Anti-dumping in Law and Practice', *World Bank Working paper 1823*, 1997.
- Lenway, S.R. Morck, B. Yeung, 'Rent Seeking, Protectionism and Innovation in the American Steel Industry' *The Economic Journal*, Vol. 106 (435), pp. 410–21, 1996.
- Lindsey, B., 'The US Anti-dumping Law: Rhetoric versus Reality', *Journal of World Trade*, Vol. 34 (1), pp. 1–38, 2000.
- Lindsey, B. and D. Ikenon, 'AD 101: The Devilish Details of Unfair Trade Law', *Cato Trade Policy Analysis No. 20*, 26 November, 2002a.
- Lindsey, B. and D. Ikenon, 'Reforming the Anti-dumping Agreement: A Road Map for WTO Negotiations', *Cato Trade Policy Analysis No. 21*, 11 December 2002b.
- Magee, C., 'Endogenous Trade Policy and Lobby Formation: An Application to the Free-Rider Problem', *Journal of International Economics*, Vol. 57(2), pp. 449–71, 2002.
- Miranda, J., R.A. Torres, and M. Ruis, 'The International Use of Anti-dumping: 1987-1997', *Journal of World Trade*, Vol. 32 (1), pp. 5–71, 1998.
- Moore, M.O., 'Rules or Politics? An Empirical Analysis of ITC Anti-dumping Decisions', *Economic Inquiry*, Vol. 30(3), pp. 449–66, 1992.
- Neils, G. and A. ten Kates, Anti-dumping Protection in a Liberalising Country: Mexico's Anti-dumping Policy and Practice, *World Economy*, Vol.27 (7), pp. 967-83, 2004.
- Olson K.M., 'Free Riders Among the Rent-Seekers: A Model of Firm Participation in Anti-dumping Petitions', *American University Washington DC,, Department of Economics Working Paper Series*, No. 2004-02, April 2004.
- Prusa, T.J., 'On the Spread and Impact of AD', *Canadian Journal of Economics*, Vol. 34(3), pp. 591–611, 2001.
- Shepherd, W.G., 'A Comparison of Industrial Concentration in the United States and Britain', *The Review of Economics and Statistics*, Vol. 43 (1), pp.70–75, 1961.
- Singh, S., 'An Analysis of Anti-dumping Cases in India', *Economic and Political Weekly*, Vol. 40 (11), pp. 1069–74, 2005.
- Sykes A.O., 'Anti-dumping and Antitrust: What Problems Does Each Address?' In R.S. Lawrence (ed.) *Brookings Trade Forum 1998*, pp.1-43, Brookings Institution Press, Washington, 1998.
- Tharakan, P.K.M., 'Political Economy and Contingent Protection', *Economic Journal*, Vol.105 (433), pp. 550–64, 1995.
- Tharakan, P.K.M, D. Greenaway, and J.Tharakan, 'Cumulation and Injury Determination of the European Community in Anti-dumping Cases', *Weltwirtschaftliches Archiv*, Vol. 134 (2), pp.320-39, 1998.
- USITC, '*The Economic Effects of Anti-dumping and Countervailing Duty Orders and Suspension Agreements*', USITC, Washington DC, 1995.
- Zanaradi, M., 'Anti-dumping: What are the Numbers to Discuss at Doha?' *The World Economy*, Vol. 27(3), pp.403–33, 2004.

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