The Political Economy of Anti-dumping in Europe

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Abstract

After several trade talks at the World Trade Organisation (WTO) level there has been a general reduction of tariffs and a fall in traditional trade policy tools has taken place. At the same time, a rise in new forms of protection has occurred, especially, a rise in the use of antidumping (AD). The implementation of the AD law contains loopholes that could lead in influences other than technical criteria in the determination of dumping and injury. This paper studies the European dumping and injury cases decided from 1995 through 2003. It considers the distinction between political determinants and technical determinants in the antidumping decisions. The main hypotheses tested are that political economy variables are not significant in the determination of dumping and that technical aspects are not significant in the determination and injury. The empirical findings confirm these hypotheses.

1	Introduction

After several trade talks at the World Trade Organisation (WTO) level there has been a general reduction of tariffs and a fall in traditional trade policy tools has taken place. At the same time, a rise in new forms of protection has occurred. Especially, a rise in the use of antidumping (AD) and countervailing duty (CVD) measures suggests that at least in part they may have replaced tariffs and vertical export restraints (VER). The use of antidumping measures can lead to selective protection. Legal experts have pointed out the vagueness of the antidumping code (Vermulst, 1990). This has allowed countries to implement unilateral interpretation in law or practice and claim consistency with the AD/CVD code. This is particularly important in the definition of dumping, the determination of 'normal value' and, more significantly, in the determination of injury. The AD implementation of the law contains loopholes that could let influences other than technical criteria in the determination of dumping and injury. This vagueness makes a positive finding more likely and also broadens the scope for its use. Political economy reasons for 'administered protection' may be underlying the recent increase in antidumping actions.

The purpose of this paper is to test empirically the incidence of these aspects in the European antidumping decisions. The analysis focuses on the AD cases decided in the European Union (EU) in the period 1995-2003. The paper analyses the separate decisions on dumping and injury made by the independent administrative units of the European Commission. It distinguishes between political and economic determinants. The analysis follows the Finger-Hall-Nelson's (1982) model, which can be used to compare biases in the way in which different countries implement the antidumping code. Finger et al. (1982) analysed antidumping cases decided from 1975 through 1979 in the United States (US) and found that political factors are significant influences in antidumping injury decisions. Tharakan and Waelbroeck (1994) have tested empirically this model for the European Union (EU) for the period 1980-87. The paper is also related to the work on injury decisions by the International Trade Commission (ITC) in the United States (US) by Moore (1992) and Hansen and Prusa (1997), who find support for the hypothesis that political pressure enhances an industry's likelihood of receiving protection in the AD mechanism. This paper improves on previous studies in three respects. First, it controls for macroeconomic factors and sector heterogeneity. In this way, a decision on dumping and injury being positive is explained by the general features of the double track model of administered protection as captured by the regressors. Second, it assesses the importance of multiple-country filing in the decisions on dumping and injury. The role of the number of countries involved in an investigation is analysed as well as the importance of the cumulation rule by which the European Commission can cumulate imports when an AD investigation involves several countries. Finally, it analyses the determinants of affirmative decisions where both dumping and injury are found.

The empirical analysis is conducted using a combination of primary and secondary data sources. A data set is constructed with information originating in legal documents containing information about 309 antidumping investigations initiated in Europe over the 9-year period between 1995 and 2003 and associated trade and industrial statistics[1]. The hypotheses, related literature and the econometric results are presented and discussed in the subsequent sections. Two main hypotheses are formulated. The first hypothesis states that political economy variables are not significant in the determination of dumping. The second

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[1] The analysis European Antidumping for the period 1985-1994 can be found in Montado (2006).

hypothesis states that technical aspects are not significant in the determination and injury The empirical findings confirm these hypotheses.

The remainder of this paper is organized as follows. The related literature on the political economy of trade policy and AD is presented in Section 2. Section 3 describes the hypotheses and the variable definitions. Section 4 contains the econometric specifications used. Section 5 is dedicated to the discussion of the empirical findings. Section 6 contains a discussion of the robustness and sensitivity analysis of the model. Section 7 includes a discussion of the determinants of positive findings of dumping. Section 8 compares the results of the AD decision for Europe with those for the US. Section 9 offers some conclusive comments.

2   Related Literature: The Political Economy of AD protection

What makes antidumping different from tariffs, quotas, voluntary export restraints, etc. is its unique combination of political and economic manipulability and the set of specific incentives it generates at the micro level. In spite of the proliferation of political economy models of endogenous protection, very few theoretical models have addressed the specificities of the antidumping legislation. One of the problems in analysing the political economy of antidumping is that the specificities of the "supply" of protection are more complex. The institutions involved in the implementation of antidumping proceedings and the decision making process in which it is based are quiet different from those required in the setting of tariff and non-tariffs barriers in which the units of decision making within government are the executive and the legislature. The institutional set up of antidumping raises several political economy issues that range from the influence of pressure groups, to legislative delegation, bureaucratic oversight, discretion, logrolling and favouritism. Most of the issues of oversight, discretion and logrolling have been dealt with in the political economy literature. Some models of delegation refer specifically to administered protection but they do not have very strong micro foundations and have, therefore, few testable implications. The main features of AD are described in what follows.

Interest groups. Political organisation is found to influence the inter-industry difference in trade protection in the manner predicted by the theory, namely that tariffs are higher in industries represented by organised lobbies. The most popular model of interest groups is the model by Grossman and Helpman (1994). This model derives closed form expressions for the cross-sectional pattern of tariffs that are directly empirically testable. The model considers a specific factors' economy in which individuals have quasi-linear preferences. Some sectors are politically organised and try to influence politicians through political campaign contributions. Politicians maximise a linear objective function in which they give positive weight to both political contributions and aggregate social welfare. Protection across sectors is measured as a vector of import and export taxes. This model predicts that if an industry is import competing and is organised it is able to buy protection and obtains a protective tax. If it is not organised, it receives a penalising import subsidy. The protection the industry receives depends negatively on the degree of import-to-output ratio and depends inversely on the elasticity of import demand. The predictions of this model have been empirically tested for the US (Goldberg and Maggi, 1999). The paper finds support for the theory and confirms that political organisation influences the inter-industry difference in trade protection in the way predicted by the theory. *Ceteris paribus*, tariffs are higher, on average, in industries represented by organised lobbies. One of the

primary contributions of the Grossman-Helpman model is that it provides a theory of interactions between government and lobbies with strong micro-foundations. This model presents several challenges for empirical studies on lobbying activity, especially in relation to using data on campaign contributions. This data is mostly available on corporate campaign contributions that are not specifically targeted at influencing just trade policy. Empirical research on voting behaviour and political influences through campaign contributions refers mainly to the US, due in part to the availability of data. Research on the influence of lobbying in Europe is very scant partly because of the lack of suitable data and partly because of its political organisation. The channels of influence exerted are not directly through direct monetary contributions to politicians[2].

Legislative delegation. Delegation is at the core of AD legislation. All countries that use AD delegate the decision making (investigations) to special bureaucratic units. The extent to which these units are isolated from political pressure and are independent of the executive authority varies across member states. In the European Union, for example, the investigations are carried out by two independent administrative units of the European Commission. Its members are appointed, so there is no direct political accountability. However, the Council of Ministers (body integrated by all member states) is the institution that has to agree on the final outcome of each investigation. Whether delegation allows pressure groups to lobby at the agency and the executive level or whether the agency is more insulated from any kind of political pressure remains a controversial issue in the literature. In principle, there is a potential for political pressure to be exerted at the agency and at the executive level. But, the delegation of decision making to an agency could also mean a lower level of lobbying as suggested by Hall and Nelson (1992). In a related paper, Moore and Suranovic (1992) show that a policy reform that lowers the likelihood of a protectionist outcome improves expected welfare when an industry has only one channel to seek protection. However, if there is more than one profitable source of protection, expected welfare may be lower because the protection seeking industry chooses the alternative path.

Discretion. Another important feature of the implementation of AD is that the legislature confers a great deal of discretion to the agencies. The decisions on antidumping are usually delegated to the domain of independent agencies. The term "administered protection" usually refers to protection resulting as a *statutory* response to specified market circumstances or events and is determined by administrative agencies. These statutes are allowed by the GATT/WTO, the most common ones being AD and countervailing duties (CVD). Therefore, discretion is conferred by the WTO consistent rules, on the one hand, and by politicians (principals) who delegate decision-making powers to the agencies, on the other. However, the narrowly defined objectives of the Commission and the Council limit discretion.

Judicial Review. The scope for judicial review is closely related to agency discretion. In 1921, the US shifted the enforcement of antidumping law from a legal process to an administrative one. From then onwards AD is a legal remedy and is not subject to criminal law or to the strict rules of meaning and proof that apply to the law. The courts have also a limited role in Europe. The European Courts of Justice, and later the Court of First Instance have had a limited mandate over antidumping decisions and the

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[2] This does not mean that lobbing activity is small or negligible. In 1993, as many as 525 interest groups were officially recognised and regularly consulted by the European Commission (Mazey and Richardson, 1993). An estimate of the number of people involved in interest representation in Brussels was close to 13,000 in 1998 (The Economist, 18th August 1998, The Brussels' lobbyist and the struggle for ear-time).

European Parliament has no say at all. This implies that the role of the courts' decision-making is very insignificant[3]. Agencies and the Council instead are the key players in the administration of AD.

Informational asymmetries. Several issues related to informational asymmetries are important in antidumping. This is relevant because of the nature of the investigation procedure. All cases are initiated by a domestic firm or group of firms and the information provided by these firms constitutes an important source to determine whether there is "unfair" trade and injury. Although agencies also gather information from other interested parties, a common feature in all countries is that confidential business information is collected by the agencies involved. In the EU, in particular, only the investigating authority has access to all pertinent information and the interested parties only get a summary description. Several theoretical papers have modelled lobbying activity as the provision of policy relevant information. These are models of information transmission or models based on the principal agent theory. Among the first group are the contributions by Austen-Smith and Wright (1992), Austen-Smith (1993) and Potters and Van Winden (1991) that analyse the role of lobbies in providing policy relevant information. Due to its relatively small size the Commission has limited information gathering capabilities and it can adopt the role of intermediation between conflicting interests. In this way, organised pressure groups can improve the transmission of information about their collective needs (Gorges, 1996). Although these models capture some of the features most relevant to antidumping, they have the disadvantage that they have no testable implications and their validity could, therefore, not be directly assessed.

Bureaucratic delegation. Within the group of models based on the principal agent theory, several papers have analysed the role of delegation in government bureaucracies. Aspects of delegation of administrative procedures have been investigated by Epstein and O'Halloran (1994). Their paper studies the role of discretion of government agencies when legislators and an agency have different preferences. When deciding how much discretion to delegate, legislators trade off informational gains from agency expertise and distributive losses from bureaucratic drift when policy consequences are uncertain. They show that delegation leads to an informational gain. There is a trade-off between technical competence and political control (Bawn 1995 and Hall and Nelson 1992). They argue that administered protection treats protection as a public good in that the returns from increased protection necessarily cut across industries. In a model of perfect delegation, they show that administered protection induces a lower level of lobbying and lower protection.

Oversight. Issues of oversight are also important in AD. The Council of Ministers (COM) plays an important role in the oversight of the agency's work. Epstein and O'Halloran (1994) show that if politicians have an ex-post veto power there is a discretionary floor, a minimum level of discretion that is always optimally granted. The effects and the degree of delegation by the executive or legislature to an agency are relevant in the context of antidumping. For example, the European Commission has discretion for setting the agenda (decides which cases to open, which proposals to make, etc.) and may have preferences that are different from those of the member states represented in the Council. But, discretion is limited by the control that the COM imposes at the final stage of approval. Unfortunately, voting within the COM is kept confidential making it impossible to conduct empirical research to elucidate the preferences of its members and the existence

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[3] Some theoretical research has concentrated on the role of the courts (judges) in interpreting the law (Daughety and Reinganum, 2000) and the judge's concern for reputation in decision-making (Miceli and Cosgel, 1994).

of logrolling or "principle of non-interference". Research on the voting decisions on AD cases in the US has been plentiful (Moore 1992 and Hansen and Prusa 1997).

Geographical location. Issues of geographical location and political support may also be relevant in Europe. One could expect that those countries representing filing firms would be the only ones giving the final approval on the decisions. If members of the Council only care about the interests of the firms located within their territories, given that each member state has one representative in the COM, the only cases that would be approved would be those where the firms involved are located in eight or more countries. Kempton (2001) suggests that it is not only having an industry located in its territory what makes a country support a case and approve final measures. There may be other dimensions that shape member states' preferences. Using a sample of 55 antidumping cases initiated between 1995 and 2000 he shows that, on average, producers filing a complaint are located in three or four member states. Producers filing AD investigations located in only one country represented 10 out of 55 cases (one fifth). Producers located in less than eight countries represented 96% of the total. Considering that there were 15 member countries in Europe and that decisions in the Council have to be taken by simple majority, a minimum of 8 votes are required to obtain the approval of definitive measures. This suggests that members of the Council do not only vote for measures if the firms are located within their national boundaries. Having an industry located in its territory is not the only reason for making a country member support an antidumping case and approve final measures. Kempton also suggests that the level of country's approval about the use of antidumping could be taken as an indicator of the Council's preferences. There are countries in Europe that vote more often against the imposition of measures (i.e. the UK, Denmark, the Netherlands, Ireland, Sweden) and others who are more prone to vote for them (i.e. France, Spain, Italy, Greece, Portugal). The preferences of the Council may be the same as those of the Commission but there may be some logrolling or principle of non-interference. The situation is very different in the US where information about voting is available. Several studies have analysed antidumping decision-making using data on Political Action Committee (PAC) contributions and voting behaviour of commissioners at the ITC (Moore 1992 and Hansen and Prusa 1997).

Those aspects related to oversight, geographical location of industry, and voting are relevant but cannot be empirically investigated in European antidumping. Indirect measures have to be used instead. The analysis presented in this paper is in line with previous work on how the antidumping decisions can be captured by political pressure. Even though the decision making process is supposed to be purely statutory – that is, reflecting market circumstances - I hypothesise that political influences are important determinants of the injury decisions.

3   The Hypotheses and Variable Definitions

The hypotheses
The double track model of administered protection makes a distinction between economic and political variables that influence the antidumping decisions. It distinguishes high and low tracks in the administrative regulation of imports[4]. The low or technical track is the "rules" track. The decision-making is delegated to government agencies by the legislature.

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[4] This model is empirically tested in relation to antidumping and countervailing duties and escape clause mechanism for the US (Finger, Hall and Nelson, 1982). The distinction was introduced by Richard Cooper (1972), *Trade Policy is Foreign Policy*, Foreign Policy, No. 9, 1972-73, 18-36.

In the technical track decisions are not subject to political accountability. Cases in the low track are determined instead of decided, according to criteria established by law, administrative regulations and precedence. However, higher-track decisions are less circumscribed by rules and regulations. The government officials are subject to political accountability. Examples of the political track are the escape clause cases and they have been used in the US. In Europe, the "special instrument" - similar to section 301 of the 1974 US Trade Act - allows the Commission to react to "illegal" practices of trading partners but has rarely been used in practice. Similarly, the safeguards provisions (article XIX of GATT) have very rarely been used.

Decisions such as AD determinations are made administratively and can, therefore, be considered low track. In principle, AD decisions have to be made according to certain rules and procedures. However, it has also been argued that the implementation of the AD laws contains loopholes that could lead in influences other than technical criteria mainly in the determination of injury. Several questions will be evaluated in this paper. The statistical aim of the analysis is to determine the influence of both political and economic variables on the likelihood of an affirmative dumping and injury decision. We test two hypotheses:

Hypothesis 1 - The political variables are not significant in the determination of dumping

Hypothesis 2 - The technical variables (comparative costs) are not significant in the determination of injury

It is expected that mainly economic variables will be significant in the dumping decisions whilst mainly political variables will be significant in the injury decisions. Law specialists have well documented that the European implementation of the WTO Antidumping Agreement seems to be biased against countries with no market economies. Accordingly, a dummy variable is introduced to capture this in the econometric specifications.

In what follows, I present a description of the variables used and the theoretical justification for its inclusion in each regression as well as a comment on the hypothesised sign of each of them. In the dumping equation, the dependent variable is a binary variable that takes the value one if dumping is found to exist and zero, otherwise. Similarly, a binary variable is constructed for the injury regression. A list of data sources and variable definitions is presented in Appendix B.

The variables
The political variables can be divided into international and domestic ones. Among the former is the share of European exports that are exported to country j (the country of the defendant) as a proportion of total European exports (X). This variable represents the dependence of EU exports markets on the country of the defendant. I hypothesise that there could be a threat of retaliation in the AD decisions. The main channel through which retaliation can affect the decisions made may operate at the level of the government agency involved, namely the Commission. The decision to grant protection may be influenced by the possibility that an affirmative AD finding leads to retaliation by the foreign countries through the use of AD by the country of the defendant or by the GATT/WTO trade dispute

settlement mechanism.[5] Since agencies have considerable discretion, the agencies' decisions may not be completely determined by the facts of the case. If this is the case, the higher the proportion of European exports to the country of the defendant on the volume of total exports, the less likely it is that there would be a positive finding of dumping and the estimated parameter may be negative. However, this might not necessarily be true for the EU so the sign of the expected coefficient is left unspecified[6].

Another variable included as an international influence is an indicator one, which takes value one if the country of the defendant is a less developed country (LDC) and zero, otherwise. In principle, there is no presumption about whether in cases brought against a LDC dumping is more or less likely to be found. Article 15 of the Agreement on Implementation of Article VI of the GATT states: "...special regard must be given by developed country Members to the special situation of developing country Members when considering the application of antidumping measures..." and, "...possibilities of constructive remedies provided by this Agreement shall be explored before applying antidumping duties...". However, it should not necessarily be the case that this aspect is taken into account in practice. Bown et al. (2003) analyse the pattern of US antidumping against developing countries. They show that lower income developing countries are more likely to be targeted, less likely to settle cases, more likely to confront high antidumping duties and less likely to bring cases to the WTO. They argue that some of the factors that may explain the observed bias facing developing countries could be the differences in administrative and institutional "capacity" as well as limited retaliatory ability. The expected sign of this variable is left unspecified.

Among the domestic political variables several measures of political influence are used. A measure of concentration (CON) is included in order to capture the potential for lobbying in the industry that initiates the case. It is the market share of the five biggest firms in an industry in the European Union. The sign of this variable is expected to be positive, reflecting the presumption that the more concentrated the industry the more likely it is to overcome free rider problems and the more likely to lobby for the case. This is consistent with the theory of collective decision-making (Olson 1971). Although the channel through which lobbying occurs is left unspecified here, several theoretical studies have emphasized that the likelihood of lobbying activity is understood to be greater if the number of firms in an industry is relatively small.

Another domestic political variable is the size of the case. Although two proxies for case size were used the results reported refer to (SIZE1). This is defined as the total value of EU imports of product k under investigation from country j (the country of the defendant) at constant prices. The higher the imports the more likely it is that the final decision on dumping will be positive[7].

One of the measures of an industry's political influence is its size. The larger the industry filing a complaint the greater the electoral impact it could have. The presumption

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[5] Bown (2002) presents a theoretical model with misuse of AD procedures under a situation where the recourse is available to the foreign country under the GATT/WTO dispute settlement process.

[6] Blonigen and Bown (2001) investigate the effects of the threat of foreign retaliation on US antidumping case filing behaviour and find that the threat of foreign reciprocal AD duties can reduce the likelihood of US AD cases being filed against certain countries. Bown (2004) finds evidence that countries tend to implement various forms of "GATT-illegal" protection against trading partners that are unable to credibly threaten substantial retaliation.

[7] Qualitatively similar results are obtained when including an alternative proxy (SIZE2) defined as the relative size in terms of total imports.

is that larger industries can exert greater political pressure either directly on the Commission or on country members' representatives. Employment (LAB) and output (VA) are the measures of industry size used. Considerations about employment could be very relevant in the investigation since they could reflect positive findings justified by adjustment costs.[8]

The technical track variables should reflect comparative costs. They attempt to capture any bias in favour of producers with a comparative disadvantage in international trade. They refer to relative factor endowments, factor prices and costs. A good proxy in this group is the capital-labour ratio. However, due to lack of investment data over a sufficiently large time period another proxy of costs was used. The labour share (LS) is defined as the share of labour costs in value added. The second variable in this group is the average wages and salaries per worker employed in the industry concerned (AVWAGE) at constant prices. This intends to capture the extent of the use of human capital. The sign of this variable could be expected to be negative on neo-factor proportions grounds but positive on strategic trade policy grounds, meaning that Europe tends to protect industries with high human capital content.

A dummy variable (NME) is included to capture the potential bias in the dumping determination and comparison with 'normal value' for non-market economies, as mentioned above. To investigate whether there are also biases in determining material injury this dummy is also included in the injury regressions. The dummy takes value one if the country involved in the case has a non-market economy and zero, otherwise. A non-market economy is broadly defined (see Appendix B for classification of countries). The sign is expected to be positive.

Table 1: Variables and Expected Signs: Dumping and Injury Decisions

	Name	Sign
Political Track variables		
1) % of EU exports imported by the country of the defendant	X	-/+
2) Dummy for Less Developed Country	LDC	?
3) Market share of 5 biggest firms in the industry	CON	+
4) Imports of the product from defendant's country	SIZE	+
5) Number of people employed in the industry	LAB	+
6) Value added in the industry	VA	+
Technical Track variables		
7) Labour Share	LS	+
8) Average wages and salaries per worker	AVWAGE	?
9) Dummy for non-market economy	NME	+
10) Number of products covered by the case	TECH	-
11) Number of countries named in the case	NOC	?

A variable measures the number of different products covered by the case (TECH). The presumption is that this variable will have a negative sign. The reasoning behind its inclusion is that dumping involves a pricing decision and, therefore, it applies better to specific products than to larger aggregations. The more narrowly defined the industry affected by the imports, the easier it becomes for domestic producers to demonstrate dumping and injury. This point seems to be important in the actual investigations of both dumping and injury as is documented in the several publications in the Official Journal

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[8] The robustness of the model was analysed using alternative proxies of industry size, such as a relative measure of value added defined as the share of value added for European industry *i* over the value added for the total European manufacturing sector and relative employment. The results remain qualitatively the same.

where the cases are presented. Therefore, a bigger number of products would mean that the technical criteria for a decision are less clearly met, making it less likely that dumping and injury are found.

Finally, a variable representing the number of countries (NOC) involved in a case was used. The firm or group of firms initiating a petition have to provide information documenting unfair trade. This and additional information will be used as evidence in the case. This information is costly and assumed to increase with the number of countries involved in the case. Since the information provided by the petitioning firms constitutes the basis on which the Commission investigates, one can suspect that it may have an impact in the decisions made. The possibility of non-linear effects is explored. Table 1 contains a list of the variables used in the econometric analysis and the sign expected for each one of them.

The data

The data set was built from primary and secondary data sources. It includes all investigations initiated between 1995 and 2003, totalising 119 legal cases referring to 46 countries. Each legal case involves only one product but it could involve more than one country. The average number of countries in each year varies between 1.6 and 2.8 as described in Table 7 (appendix A). Since decisions are made for each of the countries involved, each decision is considered at the country level. I define a "sub-case" as an investigation initiated against one single country named in the legal proceedings. This is the unit of analysis. When defined in this way, there are 280 "sub-cases" in the sample.

Several pieces of information obtained from the legal documents initiating an AD case were used to construct the data set: the date of initiation and termination of the case, the product name and code, the countries named. The information on a legal case decision is used to build dichotomous dependent variables for decisions on dumping and injury. This data is not readily available and was specifically constructed. The variables are constructed with the information about definitive measures only.

Not all investigations filed (initiated) reach the final decision stage. This can occur for three reasons. First, some investigations are withdrawn by the petitioning firms at different stages of the procedure. Second, the investigation period may reach the maximum length allowed in the regulations. This usually occurs when the European firms do not provide the necessary information requested by the Commission in time. Third, the timeline of an investigation on dumping and injury implies that a decision on dumping may be reached before the investigation on injury has been carried out and vice versa. Overall, 81 sub-cases are not investigated for dumping and 75 sub-cases for injury. A description of the number of sub-cases investigated and their respective final outcomes are summarised in Table 2.

Table 2: Number of Cases Initiated and Investigated: Dumping and Injury Decisions (1995-2003)

	Dumping	Injury
Number of sub-cases, affirmative (Y=1)	185	181
Number of sub-cases, negative(Y=0)	14	24
Number of sub-cases investigated	199	205
Number of sub-cases initiated	280	280

Source: Series C and L Official Journal of the European Commission
Note: The unit of observation is the sub-case.

Since we are interested in the analysis of the determinants of the Commission's definitive decisions, I exclude those cases that are withdrawn, those in which the investigation period expired and those sub-cases that are terminated in view of the community interest provision. No decision on dumping or injury is ever reached in the first two while special provisions are considered in the latter. The final outcomes of all decisions in the sample are presented in Table 8.

The econometric analysis refers to industries in the manufacturing sector[9].Each product is associated with an industry. Several industrial series are constructed using the Eurostat Structural Business Statistics databases for the relevant years.

4   Econometric Specification

The aim of the statistical analysis is to determine the influence of political and economic variables on the likelihood of an affirmative determination in an AD investigation. Using a probit model, I estimate the probability of an affirmative decision on dumping and injury. Two equations are estimated. In the dumping equation, the dependent variable, y_i, is binary and takes the value one if a decision on dumping is positive and zero otherwise, where $i = 1, 2 ... N = 199$ sub-cases. The underlying model is

$$y_i = \beta' x_i + u_i$$

where x_i is a vector of k regressors and a constant α; β is a vector of k coefficients and controls and u_i is an error term. The residuals, u_i, follow a normal distribution and the probability that a decision on dumping is affirmative in a case is given by

$$P(y_i = 1 / x) = \int_{-\infty}^{x'\beta} \phi(t)dt$$

The estimates of the coefficients β are obtained by maximum likelihood estimation (MLE). More specifically, the following form for the underlying model for dumping and injury is given in

$$P(y_i = 1) = f(\alpha, X, LDC, CON1, SIZE1, LAB, VA, LS, AVWAGE, NME, TECH, NOC, z_i)$$

where α is a constant; z_i is a vector of controls. In estimating this equation I take into account the effect of aggregate macroeconomic shocks and therefore include year dummies, the rate of growth of GDP and the EU trade deficit to control for these effects. Furthermore, I control for unobserved fixed effects by including industry dummies. These dummy variables are defined at the 3-digit NACE-sector to control for sector heterogeneity. These dummies could capture a possible selection bias to some extent, in the sense that there may be sector characteristics that trigger AD investigations more than others. Therefore, controlling for narrowly defined sector dummies one can control for unobserved fixed characteristics. The same specification is used to analyse the injury decisions. The dependent variable, y_i, is binary and takes the value one if a decision on injury is positive and zero otherwise, where $i = 1, 2 ... N = 205$.

A descriptive analysis is presented in Appendix A. The highest dispersion in the data referring to the dumping decisions, as captured by the coefficient of variation, is displayed by the variable case size (SIZE1) and the lowest by the labour share (LS) and the average wage per worker (AVWAGE). In general, the data on injury decisions shows more

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[9] Only nine investigations occurred in industries other than manufacturing and referred to products such as salmon and trout.

dispersion than the one referring to dumping decisions. Fourteen out of eighteen variables used have highest dispersion in the sample used for the injury regressions than in the one used for the dumping regressions. The sample is characterized by a high and significant correlation between employment (LAB) and value added (VA). The results reported consider only employment.

5 Empirical Results

The Probit estimations of the model are presented in Table 3 with robust standard errors corrected for heteroscedasticity. The White's robust "sandwich" estimator of the covariance matrix is used. Observations within a case may not be independent whereas observations across cases are. Therefore, the observations (sub-cases) in each legal case are considered as one cluster when estimating the standard errors. The results present the estimated coefficients and the slope (marginal effects) of the probability of a dumping and injury decision being positive, conditional on the firm having filed an investigation[10].

The models differ from the specifications in Finger et al. (1982) and Tharakan and Waelbroeck (1994), in that they control for macroeconomic effects and unobserved industry characteristics. Columns (1) to (4) report the estimates for eight political and technical determinants of the dumping decisions. They include industry and year dummies as well as macroeconomic controls[11]. Columns (3) and (4) exclude the dummy variables corresponding to non-market economies. The statistical results suggest that Europe operates a double track AD mechanism. Political economy variables are not significant in the determination of dumping. Columns (5) and (6) report the estimates for the determinants of the injury decisions. The statistical results are consistent with hypothesis 2. The comparative cost variables are not significant in the determination of injury.

5. 1 Dumping Decisions

We can reject the hypothesis that all coefficients in the dumping regression except the intercept are zero at the 0.05 level (*Wald χ^2 =83.9, df =17, p < 0.01*). The pseudo-R^2 statistic is 0.27. Technical variables were found to be jointly significant as indicated by the likelihood ratio test (*χ^2 (4) = 11.64, P-value = 0.02*). However, the test for the political economy variables shows that they are jointly insignificant at conventional levels (*χ^2 (4) = 9.04, P-value = 0.06*). Similarly, yearly dummies were found to be jointly insignificant (*χ^2 (4) = 7.65, P-value = 0.11*) and so are industry dummies (*χ^2 (4) = 4.62, P-value = 0.33*). A closer look at the results, in terms of individual variables, helps to elucidate the determinants of the decisions.

The political track

Among the international political influences, the proportion of EU exports to the country of the defendant (X) is a significant variable ($z = 2.87, p < 0.00$, for a two-tailed test). The results suggest that there is a positive association between the proportion of EU exports to the country involved in the investigation and the probability that a decision on dumping is affirmative. This result contradicts the hypothesis of fear of retaliation.

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[10] The model was also estimated assuming a logistic distribution of the errors. The results remain qualitatively unchanged.

[11] For definition of dummies for sector of economic activity see Table 17.

Among the domestic political variable, the estimated coefficient of the industrial concentration variable (CON) is significant and has a negative sign, suggesting that lower industrial concentration is associated with an affirmative decision on dumping.

The technical track

There is some weak evidence that affirmative findings are associated with relatively labour intensive industries, as presented in Column (1). This result is in accordance with those obtained by Tharakan and Waelbroeck (1994). The estimated coefficient of the labour share (LS) variable is positive although significant at 10% level of confidence.

Although we have left the expected sign of the average wage per worker (AVWAGE) unspecified, the econometric results show that this variable is significant and has a positive sign. This is in accordance with the hypothesis of strategic trade policy. After controlling for macroeconomic and industry effects the results indicate that European decisions on dumping are more likely to be positive when the industry's average wage per worker is high.

The estimated coefficient for the technical precision (TECH) variable measured by the number of products in the case is significant. The results suggest that a big number of products involved in an investigation is associated with a positive decision on dumping.

The non-market economy dummy is insignificant in the decisions on dumping. This result contradicts evidence for earlier periods but it is not surprising considering that in most of the European trade partners this period (1995-2003) has been a period of increased transition towards market economies. Eastern European countries have implemented important reforms that explain why the hypothesised country bias effect is not confirmed[12]. Therefore, the protectionist built-in mechanism to calculate dumping margins is less applicable to these countries and the subsequent bias less severe.

A considerable number of observations are not used in this estimation because for certain years and certain industries the results are deterministic. In the specification in Table 3 where both year and industry dummies are included, a total of 26 observations are excluded because for two years – 1995 and 2003 – all investigations on dumping have been positive.

5. 2   Injury Decisions

The technical variables are not significant in the determination of injury confirming Hypothesis 2 as can be seen in Columns (5) and (6) in Table 3. We can reject the hypothesis that all coefficients in the injury regression except the intercept are zero at the 0.01 level (*Wald χ^2 = 43.4, df = 18, p < 0.00).* The pseudo-R^2 is 0.25. The political economy variables were found to be jointly significant (χ^2 *(5) = 17.65, P-value = 0.00*) and the technical variables were found to be jointly insignificant at conventional levels as indicated by the likelihood ratio test (χ^2 *(3) = 6.21, P-value = 0.10*). Yearly dummies were found to be jointly significant (χ^2 *(4) = 18.0, P-value = 0.00*) but industry dummies jointly insignificant at conventional levels (χ^2 *(4) = 8.32, P-value = 0.08*).

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[12] Some of these countries have become part of the European Union from May 2004 (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia and Slovenia). As emerges from the legal documents, in some investigations the European Commission would consider countries such as Bulgaria, Croatia, Estonia, Lithuania, Poland and Romania as market economies towards 2001.

Table 3: Probit Estimates (marginal effects) of Dumping and Injury Decisions by the European Union (1995-2003): Main Specification

		Dumping				Injury	
		(1)	(2)	(3)	(4)	(5)	(6)
Hypothesis and Variables	Sign	Slope	z-values	Slope	z-values	Slope	z-values
* Political Track							
International Political Influences							
Share of EU exports	-/+	2.228***	2.87	3.877***	3.58	-0.029	-0.02
		(1.187)		(1.675)		(1.769)	
Less Developed Country	?					0.220	1.64
						(0.223)	
Domestic Political Influences							
Concentration	+	-0.002***	-2.90	-0.004***	-2.91	0.004**	2.05
		(0.001)		(0.002)		(0.002)	
Case size (value imports)	+	0.0001	0.65	0.0001	0.61	0.001**	2.18
		(0.0001)		(0.002)		(0.0003)	
Industry size: Employment	+	-0.122**	-2.03	-0.232**	-2.24	0.52***	2.72
		(0.082)		(0.133)		(0.218)	
* Technical Track							
Comparative costs							
Labour share	+	0.383*	1.79	0.564	1.62	0.040	0.14
		(0.208)		(0.314)		(0.305)	
Average wage	?	0.008**	2.17	0.015***	2.58	-0.016*	-1.87
		(0.004)		(0.006)		(0.007)	
Non-market economy	+	0.023	1.51			0.019	0.61
		(0.019)				(0.0034)	
Technical Precision (Number of products)	-	0.012**	2.47	0.021***	2.57	-0.01**	-2.19
		(0.005)		(0.009)		(0.008)	
GDP growth rate		0.017	0.71	0.032	0.84	-0.05**	-2.32
		(0.023)		(0.037)		(0.031)	
Trade Deficit		1.57e-14	0.04	2.5e-14	0.04	-1.7e-12 ***	-3.33
		(4.0e-13)		(6.5e-13)		(0.0003)	
Constant		-	2.00	-	-0.13		1.12
Year Dummies (9)		*Yes*		*Yes*		*Yes*	
Sector Dummies (5)		*Yes*		*Yes*		*Yes*	
No. observations		163		155		181	
Wald χ^2		83.9***		59.8***		43.4***	
(df)		(17)		(16)		(18)	
Log. Likelihood		-35.1		-36.2		-51.5	
Pseudo R^2		0.27		0.23		0.25	

Notes: z-values presented in italics. The unit of observation is the sub-case. A sub-case is defined as the investigation against each single country named in an AD legal case. Each regression also includes a constant. Robust standard errors in parenthesis, corrected for heteroscedasticity and for clustering on each legal case. * indicates significant at the 10% confidence level; ** 5% level and *** 1% level (two-tailed test). Marginal effects for "less developed country" and "non-market economy" are for discrete changes in the variables from 0 to 1. In column (1) no dummy for LDC is included. 26 observations, corresponding to two years, are eliminated because decisions are deterministic. An affirmative decision is always made. In column (3) 34 observations, corresponding to two years and the "less developed country" dummy are dropped. An affirmative decision is always made. In column (5) 13 observations, corresponding to two years, are similarly eliminated.

The political track

The proportion of EU exports to the country of the defendant (X) is not significant ($z = -1.28, p < 0.20$ for a two-tailed test) in European injury decisions. The sign of this variable is negative suggesting that the higher the proportion of EU exports to the country involved in the case (X) the less likely it is that a positive decision on injury is made. Blonigen and Bown (2003) investigate the effects of the threat of foreign retaliation on US antidumping case filing behaviour. Their results indicate that retaliation exposure and, in particular, the threat of foreign reciprocal AD duties can reduce the likelihood of US AD cases being filed against certain countries[13]. Finally, the dummy variable for less developed countries (LDC) is not significant and enters positively in the specification with industry and year controls.

All three domestic political variables are significant in the injury decisions. After controlling for industry heterogeneity and macroeconomic effects, the estimated coefficient the industrial concentration variable (CON) is significant at conventional levels of confidence (5%) and has a positive sign, suggesting that higher industrial concentration is associated with an affirmative decision on injury. This result confirms the pressure group hypothesis. The domestic political variable case size (SIZE) is also statistically significant in the decisions on injury. Cases that are big in terms of imports are associated with a positive probability of injury ($z = 2.18, p < 0.05$ for a two-tailed test). Similarly higher employment is associated with a positive finding of injury ($z = 2.72, p < 0.01$ for a two-tailed test).

The technical track

Most of the technical variables are not statistically significant in the specification presented in Table 3. Among the comparative costs measures the labour share variable (LS) is not significant although it enters with the expected sign. The average wage per worker (AVWAGE) is weakly significant (at 10% level of confidence) in the decisions on injury and the estimated coefficient is positive. Having high average wages per worker increases the probability of injury in line with the strategic trade policy theory, in a similar fashion as in the dumping decisions. The non-market economy dummy does not have a significant effect on the probability of injury. No evidence of a bias against non-market economies is found. This is a reasonable result since the bias arises mainly from the comparison of the exporters' price and the price sold in the EU, which is embedded in the calculation of the dumping margin, but is not necessarily related to the economic material injury. Finally, the technical precision variable (TECH) is significant. The sign of the estimated coefficient suggests that the bigger the number of products in the case the less likely it is that injury is found, as hypothesised.

The variables controlling for macroeconomic effects such as the rate of GDP growth and the balance of trade are found to be significant at conventional levels and enter the regression negatively. The t-statistics suggests that lower rates of GDP growth are associated with a positive decision on injury. After controlling for macroeconomic effects and industry heterogeneity 13 observations are dropped because for two years in the sample period injury decisions are always positive.

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[13] They find that US agencies are less likely to rule affirmatively against WTO members that have recourse to dispute settlement procedures.

Table 4: Sensitivity Analysis: Domestic Political Influences and Comparative Costs.
Probit Estimates (marginal effects) of Dumping and Injury Decisions by the European Union
(1995-2003)

		Dumping			Injury		
		(1)	(2)	(3)	(4)	(5)	(6)
Political Track							
International Political Influences							
Share of EU exports	?	2.228***	2.232***	2.210***	-0.029	-0.032	-0.262
		2.87	*2.88*	*3.00*	*-0.02*	*-0.02*	*-0.46*
Less Developed Country	?	n/a	n/a	n/a	0.220	0.217	0.133
					1.64	*1.64*	*1.42*
Domestic Political Influences							
Concentration	+	-0.002***	-0.002***	-0.001*	0.004**	0.004**	0.001
		-2.90	*-2.91*	*-1.92*	*2.05*	*2.04*	*0.97*
Case size: imports	+	0.0001		0.0001	0.001**		0.0001*
		0.65		*1.05*	*2.18*		*1.81*
Relative Case Size (in %)	+		0.513			5.553**	
			0.61			*2.12*	
Industry Size: Employment	+	-0.122**	-0.122**	-0.067	0.520***	0.501***	0.179**
		-2.03	*-2.05*	*-1.22*	*2.72*	*2.70*	*2.47*
Technical Track							
Comparative costs							
Labour Share	+	0.383*	0.384*	0.307*	0.040	0.038	-0.056
		1.79	*1.80*	*1.73*	*0.14*	*0.13*	*-0.60*
Average Wage p/worker	?	0.008**	0.008**	0.004	-0.016*	-0.016*	-0.009**
		2.17	*2.17*	*1.25*	*-1.87*	*-1.86*	*-2.49*
Non-market Economy	+	0.023	0.023	0.021*	0.019	0.019	0.006
		1.51	*1.51*	*1.67*	*0.61*	*0.60*	*0.72*
Technical Precision (Number of products)	-	0.012**	0.012**	0.008**	-0.010**	-0.013**	-0.001
		2.47	*2.47*	*2.23*	*-2.19*	*-2.18*	*-0.82*
Number of Countries				0.005			-0.018**
				0.53			*-2.44*
(Number of Countries)^2				0.0001			0.001
				0.13			*1.38*
GDP growth		0.017	0.017	0.011	-0.05**	-0.051**	-0.015*
		0.71	*0.71*	*0.55*	*-2.32*	*-2.30*	*1.38*
Trade Deficit		1.57e-14	1.51e-14	1.25e-13	-1.7e-12 ***	-1.64e-12 ***	-7.15e-13 ***
		0.04	*0.04*	*0.38*	*-3.33*	*-3.33*	*-3.09*
Year Dummies		*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Industry Dummies		*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
No. observations		163	163	163	181	181	181
Wald χ^2 (degrees of freedom)		83.9**(17)	82.6**(17)	65.6(19)***	43.4***(18)	434**(18)	126.8(20)*
Log likelihood		-35.1	-35.1	-33.9	-51.5	-51.5	-45.4
Pseudo R^2		0.27	0.27	0.29	0.25	0.25	0.34

See note in Table 3. z-values presented in italics. Each regression also includes a constant. Robust standard errors in parenthesis, corrected for heteroscedasticity and for clustering on each legal case. * indicates significant at the 10% confidence level; ** 5% level and *** 1% level (two-tailed test). In all regressions, 26 observations corresponding to two years are eliminated because decisions are deterministic. Either a positive or negative decision is always made.

A sensitivity test using alternative proxies was carried out and the results remain qualitatively unchanged. The results discussed above are robust.

6   Sensitivity Analysis

The aim of this section is to check the robustness of the results presented in Section 5. It focuses on three concerns. First, since different specifications of the model can be constructed and several different proxies used, it is important to ascertain that it is not a particular choice of regressors that drives the results. In fact, different proxies can represent the same effect. For this reason, several other proxies are considered with different variations for the domestic political influences and comparative costs. The results are presented in Table 4. Second, so far we have ignored the cumulation rule by which the Commission can cumulate imports when an AD investigation involves imports from multiple sources. Without cumulation, imports are evaluated on a country-by-country basis. When cumulation is applied the Commission aggregates all "like" imports from all countries under the investigation and assesses the combined impact on the European industry. The results are displayed in Table 5.

Table 4 reports some of the results of the different specifications used in the dumping and injury regressions and documents alternative specifications of the regressions using other proxies for domestic political influence. In column (1) the results of column (1) and (2) of Table 3 are reproduced, for ease of comparability. In column (2) a different proxy for the case size is used (SIZE2) - defined as the percentage of the value of imports of the products mentioned in the case in the total European imports - instead of the value of imports (SIZE1 in hundred million constant 1990 dollars). The significant determinants of the dumping decisions remain the same as in the original specification. The relative measure of case size remains insignificant and has the expected sign. In Column (3) I investigate the relevance of the number of countries involved in a case, as this can be relevant to the likelihood of a positive decision being made. In general, the belief is that the more countries, the more likely an affirmative decision will be made. But, acting against a bigger number of countries may increase or decrease the effectiveness of filing and this could have an impact that is different in the decisions on dumping and injury. The presumption is that the total cost of filing is probably increasing in the number of countries but there may be economies of scale. Since the information provided by the petitioning firms constitutes the basis on which the Commission investigates, we suspect that it may have an impact in the decisions made. In Europe, unlike in the US, the information on which the decisions are made is kept confidential. The variables used are the number of countries named in each case and the square of the number of countries involved to explore if non-linearity exists. None of the variables that relate to the number of countries in the case are significant at conventional levels. When introducing this variable the share of EU exports to the country of the defendant (X) remains significant. However, industry size as measured by employment and the average wage per worker become insignificant. In all specifications, the hypothesis that all coefficients in the dumping regression except the intercept are zero is rejected.

In a similar fashion, the same robustness exercise is carried out for the injury decisions using different alternative proxies of case size and introducing the effect of the number of countries against which the investigation refers to. The results are reported in Columns (5) and (6). When introducing an alternative proxy for the size of the case the results remained qualitatively unchanged.

Table 5: Probit Estimates (marginal effects) of Dumping and Injury Decisions by the European Union (1995-2003): Cumulation

Hypothesis and Variables	Expected Sign	Dumping		Injury	
		(1)	(2)	(3)	(4)
		Slope	z-values	Slope	z-values
* Political Track					
International Political Influences					
Share of EU exports	-/+	0.860***	*2.88*	-0.047	*-0.03*
		(0.821)		(1.792)	
Less Developed Country	?	n/a		0.221	*1.64*
				(0.224)	
Domestic Political Influences					
Concentration	+	-0.0004	*-1.51*	0.004**	*2.01*
		(0.0005)		(0.002)	
Case size –own country	+	0.00002	*0.55*	0.001**	*2.28*
		(0.00003)		(0.0003)	
Case size-other countries in the case	+	0.0001**	*2.02*	-0.00001	*-0.09*
		(0.00009)		(0.0001)	
Industry size: employment	+	-0.018	*-0.90*	0.521***	*2.70*
		(0.029)		(0.224)	
* Technical Track					
Comparative costs					
Labour Share	+	0.095	*1.40*	0.052	*0.18*
		(0.097)		(0.483)	
Average wage	?	0.0007	*0.53*	-0.016*	*-1.82*
		(0.001)		(0.013)	
Non-market economy	+	0.010*	*1.93*	0.019	*0.60*
		(0.013)		(0.034)	
Technical Precision (Number of products)	-	0.002	*1.55*	-0.013**	*-2.16*
		(0.003)		(0.008)	
GDP growth		0.002	*0.33*	0.006*	*0.24*
		(0.008)		(0.026)	
Trade Deficit		-5.89e-14	*0.48*	8.76e-13*	*1.72*
		(1.19e-13)		(5.35e-13)	
Year Dummies		*Yes*		*Yes*	
Industry Dummies		*Yes*		*Yes*	
No. observations		163		181	
Wald χ^2(df)		37.2***		45.4***	
		(18)		(19)	
Log. Likelihood		-33.1		-51.5	
Pseudo R^2		0.31		0.25	

Notes: z-values presented in italics. Robust standard errors in parenthesis, corrected for heteroscedasticity and for clustering on each legal case. * indicates significant at the 10% confidence level; ** 5% level and *** 1% level (two-tailed test). Marginal effects for "less developed country" and "non-market economy" are for discrete changes in the variables from 0 to 1 In column (1) 26 observations, corresponding to two years, are eliminated because decisions are deterministic. An affirmative decision is always made. In column (3) 13 observations, corresponding to two years, are similarly eliminated.

The variable number of countries is significant at conventional levels (Column 6). The results show that the probability of a positive decision on dumping and injury initially decreases but there are no non-linear effects that are significant. The probability of injury later increases with the number of foreign countries named in the investigation but in no significant way. Furthermore, introducing the number of countries does not change any of the previous results.

Second, so far we have ignored the cumulation rule by which the Commission can cumulate imports when and AD investigation involves imports from multiple sources. When cumulation is applied the Commission aggregates all "like" imports from all countries under the investigation and assesses the combined impact on the European industry. Without cumulation, the imports originating in a single country are less likely to represent a significant share of the domestic market and is, therefore, less likely to cause injury. When imports from different competitors are aggregated they are more likely to impact on the domestic industry. Hansen and Prusa (1996) find that cumulated cases are 20-40 per cent more likely to result in duties than non-cumulated cases for the US. So, one would expect that this is also relevant in the European investigations. In this section, we add a new variable (SIZE_OTHERS) that represents the cumulated imports from all other countries except the one considered in the sub-case whereas in the results reported in the previous tables the variable represented only the imports originating in the country investigated in the sub-case. I proceed in this manner, so that I do not restrict the coefficients of both these two variables to be the same. One would expect that the market share contributed by the *other* named countries to be important in the injury decision, since the cumulation provision is more relevant for the determination of material injury. The econometric results for the period 1995-03 are summarised in Table 5.

The cumulation rule seems more relevant in the dumping than in the injury regressions whilst all other results remain unaffected. The estimated coefficient of the variable (SIZE_OTHERS) - representing the cumulated imports from all other named countries except the one being investigated - is significant at conventional levels only in the dumping regressions. On the contrary, cumulation does not appear to be significant in the decisions of injury in this period.

7   The Determinants of Affirmative Findings

In this section, I analyse the political and technical determinants of the affirmative findings of dumping and injury where either duties are imposed or price undertakings accepted. Unlike in Section 5, the cases analysed here are those cases in which dumping an injury were found, the causation of the injury was established and definitive penalties were imposed. The dependent variable takes a value one when both dumping and injury are found and zero, otherwise. This variable is defined over the total number of investigations initiated. The results are presented in Table 6.

Column (1) and (2) analyse the determinants of affirmative findings including all investigations initiated for the mail specification. The results show that there is a negative and significant association between the proportion of European exports to the country of the defendant and the probability of an affirmative finding of dumping and injury, confirming the fear of retaliation hypothesis.

Table 6: Probit Estimates (marginal effects) of Affirmative Findings by the European Union: 1995-2003

Variables	All cases initiated		Excluding withdrawn, expired and community interest	
	(1)	(2)	(3)	(4)
* Political Track				
International Political Influences				
Share of EU exports (-/+)	-6.217***	-5.635***	-4.422***	-4.359***
	-3.27	*-3.09*	*-2.80*	*-2.76*
Less Developed Country (?)	-0.302*	-0.286	-0.072	-0.078
	-1.75	*-1.59*	*-0.47*	*-0.52*
Domestic Political Influences				
Concentration (+)	-0.0009	0.0009	0.006	0.011*
	-0.17	*0.15*	*1.12*	*1.71*
Case size (imports) (+)	0.0002	0.0002	0.0003*	0.0003
	0.65	*0.87*	*1.78*	*1.40*
Industry size: employment (+)	1.520	1.763*	1.969**	2.652***
	1.60	*1.78*	*2.14*	*2.72*
* Technical Track				
Comparative costs				
Labour Share (+)	0.993	1.135	1.235	1.104
	0.87	*1.01*	*1.02*	*0.91*
Average wage (?)	0.007	-0.002	-0.002	-0.015
	0.19	*-0.05*	*-0.07*	*-0.44*
Non-market economy (+)	0.089	0.088	0.156*	0.165**
	1.09	*1.10*	*1.85*	*1.96*
Technical Precision				
(Number of products)	-0.044***	-0.048***	-0.050***	-0.050***
	-2.96	*-3.20*	*-3.87*	*-3.60*
Number of Countries (?)		-0.029		-0.167**
		-0.38		*-2.18*
Number of Countries Square (?)		0.006		0.017**
		0.72		*2.26*
GDP growth	0.078	0.066	0.004	0.072
	0.55	*0.46*	*0.03*	*0.48*
Trade Deficit	4.88e-13	1.22e-12	8.43e-13	2.99e-12
	0.17	*0.41*	*0.28*	*1.01*
Year Dummies	*Yes*	*Yes*	*Yes*	*Yes*
Industry Dummies	*Yes*	*Yes*	*Yes*	*Yes*
No. observations	261	261	216	216
Positive findings (%)	61.7	61.7	71.3	71.3
Wald χ^2(df)	83.5***(25)	105.9***(25)	80.6***(23)	110.0***(25)
Log. Likelihood	-139.3	-138.0	-98.7	-95.5
Pseudo R^2	0.20	0.20	0.24	0.26

Note: z-values presented in italics. The unit of observation is the sub-case. A sub-case is defined as the investigation against each single named country in and AD legal case.* indicates significant at the 10% confidence level; ** 5% level and *** 1% level (two-tailed test). In column (1) and (2), 10 observations corresponding to two industry dummies and one year dummy are eliminated because the outcome was deterministic. Either a positive or negative decision was always made. Similarly in column (3) and (4), 15 observations corresponding to three industry dummies and one year dummy are eliminated because the outcome was deterministic.

Column (1) analyses the determinants of affirmative findings including all investigations filed for the main specification. The results show that that the probability of an affirmative finding is negatively associated with the share of EU exports.

In Column (2), the specification includes the number of countries named and tests for non linear effects. The main results remain unchanged in this specification, except that industry size as measured by employment, becomes an additional weakly significant determinant. There is some weak evidence (at 10% level of confidence) that probability of an affirmative is associated with higher employment in accordance with the pressure group theory.

I explore whether the results change when withdrawn or expired cases are excluded from the sample. Often cases are filed and then withdrawn or terminated because they lead to arrangements between firms or other collusive outcomes. It is possible that in cases withdrawn, dumping either did not exist or firms colluded and reached a settlement of some kind without the intermediation of the Commission. Similarly, cases in which the period of investigation has expired can be interpreted in a similar fashion to those withdrawn. Generally, the period expires because domestic firms do not provide the necessary evidence in the time stipulated by the regulations.

The evidence presented in Column (3) and (4) shows that the fear of retaliation hypothesis is confirmed here too and that industry size as measure by employment becomes more significance and has the expected sign. An affirmative decision is positively associated with high employment. The number of countries enters in a non-linear way (Columns 4). The probability of an affirmative finding decreases with the number of countries named initially but increases after a critical point. However, the non-market economy dummy becomes significant and has the expected sign highlighting some country bias against these countries. The fear of retaliation hypothesis is also confirmed. The probability of an affirmative finding of dumping decreases with the proportion of European exports to the country of the defendant. The technical determinants (comparative costs) are not important.

8 Comparison of the Results with those for the US

A comparison of the analysis in this study and results from previous ones is summarised in Table 14 in Appendix A. The results refer to those sub-cases investigated. Previous research (Finger et al. 1982 and Tharakan and Waelbroeck 1994) has found that AD decisions in the US and in the EU are influenced by factors other than technical criteria envisaged by the World Trade Organization (WTO) and its predecessor the General Agreement on Tariffs and Trade (GATT). In previous research the dumping decisions have been found to be mainly dominated by technical criteria, whilst the injury decisions have been found to be more open to political economy considerations. In this study, political economy factors were also found to be relevant in the decisions on dumping.

The econometric analysis discussed in this paper is based on a sample of 280 legal cases initiated between 1995 and 2003. The specification used in this paper differs from previous ones in that it introduces several controls that account for macroeconomic effects and industry heterogeneity. The phenomenon of having an affirmative decision on dumping or injury can be explained by the general features of the double track model of administered protection.

Dumping decisions

One of the similarities between the results in this study and previous ones is that mainly technical determinants (comparative costs) are individually and jointly important in the decisions on dumping. The significant technical determinants in this study, as well as in previous ones, are the average wage per worker and the labour share. The average wage per worker has a negative sign for the US whilst it is positive for Europe, in accordance with the strategic trade policy theory. The differences in performance of the human capital variable for the US and Europe suggest that the European Commission is receptive of implications of the strategic trade policy theory. This could be viewed as a more interventionist approach or as an indication of the underlying preferences of the decision-makers that emphasises strategic issues in the domain of antidumping. The capital intensity variable was found to be a significant determinant of the dumping decisions in this study as it was for the US and a previous study for the EC. Whereas the results for Europe are in accordance with the Heckscher-Ohlin theory of comparative advantage, those for the US are possibly more in line with the Leontief Paradox. Among the technical determinants, the dummy for a non-market economy was not found to be significant in this study as opposed to what was previously found for European decisions on dumping. This confirms that the built-in technical artifice does not make the non-market economies more vulnerable to dumping findings in Europe. There is no evidence of aggressive response geared towards non-market economies.

When controlling for macroeconomic effects and industrial sector heterogeneity, one significant political determinant in the dumping decision in Europe in the period 1995-2003 is the proportion of European exports to the country of the defendant. A likelihood ratio test indicates that comparative costs variables are jointly significant in the dumping decisions.

Injury decisions

The similarity between the results in this study and previous ones is that only political track variables are significant in the injury decisions. Comparative costs variables were not found to be jointly significant. The analysis for European injury decisions between 1995 and 2003 shows that several domestic political determinant – that is, industrial concentration, case size and industry employment - are statistically significant and very robust (at least 5% level of confidence). No international political determinants were found to be significant.

Two other proxies for industry size were significant for the US; namely, concentration and employment. However, only employment had the expected sign. In a previous study for Europe, industry concentration and value added were found to be significant and had the expected sign. But as pointed out earlier, value added is likely to be highly correlated with employment and either one or the other of these variables should be taken to capture industry size effects. Furthermore, none of these two variables are found to be important determinants after controlling for macroeconomic effects and industry heterogeneity. The capital intensity variable was found to be significant in a previous study for Europe, but it is not significant here.

The Commission is obviously more responsive to the firms whose cases are big in terms of imports. This may be cause for concern but it could also have another interpretation. Import values originating from the countries named in an investigation are often high at the time of initiation. Very often these high import values represent new importers entering the European market very aggressively. And, because imports are one of

the things contained in the European Commission checklist for injury, it should not be surprising that it is found to be an important determinant of the injury decisions.

A final caveat is that the results for the period 1995-2003 should be interpreted with caution since the sample contains all new AD investigations and only some review cases. In Europe, AD measures are imposed for a period of 5 years and after that, they ceased automatically (provided there is no review of the case). The reviewed cases are, therefore, like new cases. Data limitations resulted in most review cases being omitted in the recent period (only 15 are included in the sample). Review cases represented 36% of all investigations (188 out of 525 investigations) in the period 1985-94.

9   Conclusions

This paper examined the political and technical determinants of AD investigations in Europe in the period 1995-2003. The results presented in the previous sections are consistent with the hypotheses formulated. The findings in this study suggest that Europe is operating a double track AD mechanism. In this period, economic variables are significant in the dumping decisions whereas only political determinants are important in the injury decisions. This pattern is similar to the mechanism in the US. In spite of Europe's less cohesive political structure, the main features are similar.

The present study improves upon previous research in that by using a unique dataset with information collected from the reports published in the Official Journal of the European Commission and other sources, gathers a data set of 280 legal cases. First, the econometric analysis improves on previous studies in that it explicitly controls for industry heterogeneity and macroeconomic effects. It is shown that a decision on dumping and injury being positive can be explained by the general features of the double track model of administered protection as captured by the main regressors. Several comparative costs variables are individually significant in the determination of dumping. Moreover, the relevance of the number of countries named in the investigations in the probability of dumping and injury being positive is analysed. Filing investigations against a larger number of countries decreases the probability of injury. The model is robust to the use of different proxies. Second, the results are change slightly when cumulated imports – by which the European Commission can cumulate imports from all the countries named in the investigation – are analysed. Cumulation is relevant in the injury decisions. Third, in affirmative cases where both dumping and injury are found the fear of retaliation hypothesis is confirmed.

The analysis in this paper contributes to the debate that the AD laws are serving different purposes. The fact that the determinants of injury are political rather than technical goes in favour of the presumption that because the criteria for injury are less clear, political economy factors would tend to be more prevalent. The results are consistent with the hypothesis formulated. However, fact that the variable "case size" is a (weakly) associated with a positive decision on injury could also be interpreted as the fact that new exporters enter the EU market very aggressively with very high levels of imports in the year in which the investigations are filed. This result seems to be in accordance with other studies that find that protection – when considering tariff levels or the change in tariff levels - is higher if the industry has experienced an increase in import penetration (Treffler 1993). Especially in the analysis of the injury decisions, there is some evidence of the significance of traditional measures of industry power, such as industry size and concentration.

The econometric analysis in this study finds support for a higher probability of dumping when the industry is high skill, high-wage in the assessment of dumping. The analysis of the dumping decisions in the European Union indicates that the probability of a positive decision on dumping increases in industries with high human capital content, as shown by the significant and robust importance of the average wage per worker in the decisions once an investigation has been initiated. This is an indicator of how much the European Commission is concerned with protecting industries with high levels of human capital.

The results for this period suggest that the share of EU export to the country of the defendant is positively and significantly associated with an affirmative decision on dumping. The EU is more likely to find dumping in cases involving those trade partners with a higher proportion of European exports. However, this variable may not be measuring only the threat of retaliation. Instead it could also be a proxy for the stability of trade relations between the EU and its trading partners. If this was the case, affirmative decisions against trade partners may not affect the trade flows with these partners. Another possible interpretation of the results is that the variable used may be capturing the fact that countries with a large share of EU exports are using antidumping against the EU and Europe is likely to retaliate.

In recent years there have been changes in the regulations that are likely to affect the way in which measures are approved by the Council of Ministers. The voting rule changed in 1994. Since then the decisions in the COM have to be approved by simple majority instead of qualified majority. Abstentions were counted against the imposition of AD measures. Since 1995 there have been more disagreements between the EC and member states and among member states. In practice, Austria, Luxemburg and Belgium – which are small countries – are swing voters and decide whether a simple majority for definitive measures is achieved. The ascension of Austria, Sweden and Finland has added two countries to the anti-duties block.

Two additional changes occurred in 2004. First, a change in the voting rules occurred in March 2004. Since then abstentions in the COM count in favour of the imposition of measures (Evenett and Vermulst 2005). Second, ten countries have acceded to the European Union in May 2004. They are small countries that do not use AD measures heavily and are likely to abstain. So with the new rules introduced in March 2004 their abstentions will count in favour of measures. It will be more difficult to obtain a simple majority against measures. It is possible that these new developments could affect the outcome of antidumping activity.

A final caveat to be kept in mind is that all the econometric analysis discussed in this paper is conditional on the European firms filing a petition. The determinants of a decision on dumping and injury are analysed once firms have filed their investigations. Further research is needed to explain the determinants of a decision to file an investigation by European firms and is beyond the scope of this study. In the econometric analysis presented in this paper there is a potential problem of self-selection in the petitions filed. It could be that only cases that have a good chance of being won are actually initiated and are then part of the sample. Acknowledging this possibility implies that the interpretation of the results must be clearly associated with the investigations actually initiated by the European Commission. The inclusion of sector dummies that control for sector heterogeneity can capture to some extent a possible selection bias.

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Appendix A

Table 7: Number of AD Investigations (cases) and Sub-cases in Europe (1995-2003), by Year

Years	Number of legal cases	Number of sub-cases	Average number of countries in each legal case
1995	16	34	2.1
1996	10	28	2.8
1997	17	42	2.5
1998	9	21	2.3
1999	26	65	2.5
2000	11	31	2.8
2001	13	31	2.4
2002	13	21	1.6
2003	4	7	1.8
Sub-total	**119**	**280**	

Source: European Commission, Official Journal, series C and L

Note: a "sub-case" is an investigation initiated against one single country named in the AD legal case.

Table 8: Final Outcome of AD Investigations in Europe (1995-2003), by Year

	Total	No dumping or Injury	AD Duties	Price Undertakings	Withdrawals, Expired and others
1995	34	7	14	5	8
1996	28	11	12	4	1
1997	48	12	17	5	8
1998	21	4	4	9	4
1999	65	10	34	12	9
2000	31	9	18	2	2
2001	31	7	21	2	1
2002	21	6	8	0	7
2003	7	0	6	1	0
Total	**280**	**66**	**134**	**40**	**40**
Percentage	**100**	**24**	**48**	**14**	**14**

Source: Commission of the European Communities (Official Journal, Series C and L)

Note: The unit of observation is the sub-case. A sub-case is defined as the investigation against each single country named in the AD legal case.

Table 9: Descriptive Statistics of Variables Used in the Dumping Regressions (1995-2003)

Variable	Mean	Standard Deviation	Minimum	Maximum	Coefficient Variation
Dependent Variable					
DUMPING	0.921182	0.270120	0	1	0.293232
Regressors					
X	0.015720	0.019255	0.00277	0.207874	1.224882
SIZE1	6.54e+07	1.96e+08	0	1,85e+09	2.996108
SIZE2	0.008350	0.026139	0	0.248979	3.130260
VA	15.04811	12.54616	0.051718	36.96233	0.833737
LAB	0.024530	0.164168	0.001546	0.788804	0.669247
AVWAGE	24.11379	6.694185	9.624306	33.65210	0.277608
LS	0.447883	0.080087	0.297706	0.592907	0.178813
LDC	0.940887	0.236420	0	1	0.251273
NME	0.403941	0491899	0	1	1.217750
CON1	32.71357	15.8407	3	65	0.484224
TECH	3.024752	2.790243	1	12	0.922470
NOC	4.103448	2.440203	1	10	0.594671

Note: It refers to 203 observations. The unit of observation is the sub-case. Statistics are calculated for each sub-case. A sub- case is defined as the investigation against each single country named in an AD legal case.

Table 10: Descriptive Statistics of Variables Used in the Injury Regressions (1995-2003)

Variable	Mean	Standard Deviation	Minimum	Maximum	Coefficient Variation
Dependent Variable					
INJURY	0.879227	0.326653	0	1	0.371523
Regressors					
X	0.015699	0.0192829	0.000187	0.207974	1.228265
SIZE1	6.50e+07	1.95e+08	0	1.85e+09	2.992298
SIZE2	0.008311	0.025941	0	0.248979	3.121170
VA	14.56344	12.41765	0.051718	36.96233	0.852659
LAB	0.237274	0.161739	0.001546	0.788040	0.681654
AVWAGE	24.19649	6.557643	9.624306	33.65210	0.288323
LS	0.450613	0.080411	0.297706	0.592907	0.271843
LDC	0.932367	0.251724	0	1	0.269983
NME	0.410628	0.493140	0	1	1.200942
CON1	32.34236	15.81326	3	65	0.488933
TECH	3.131068	2.924631	1	12	0.934068
NOC	4.236715	2.426993	1	10	0.572848

Note: It refers to 207 observations. The unit of observation is the sub-case. Statistics are calculated for each sub-case. A sub- case is defined as the investigation against each single country named in an AD legal case.

Table 11: Correlation Matrix (1995-2003)

	LAB	VA	AVWAGE	LAB.SH	CON1	SIZE2	LDC	X	NME
LAB	1								
VA	0.70*	1							
AVWAGE	-	0.64*	1						
LAB. SHARE	0.26*	-0.80*	-0.62*	1					
CON1	-0.23*	0.22*	0.70*	-0.29*	1				
SIZE2	-	-	-	-	-	1			
LDC	-	-	-	-	-	0.50*	1		
X	-	-	-	-	-	0.57*	-0.57*	1	
NME	-	-	-	-	-	-	0.20*	-0.57*	1

Note: The above tables report pair wise correlations using all 280 observations;(*) indicates partial correlation coefficients significant at the 5% level of confidence

Table 12: Number of Cases (1995-2003), by Sector of Economic Activity

	95	96	97	98	99	00	01	02	03	Total	Percentage
Chemicals	12	0	7	2	26	17	10	6	5	85	**30.4**
Iron steel	7	9	3	7	18	3	19	5	0	71	**25.4**
Textiles & Footwear	8	13	9	4	5	0	0	5	0	44	**15.7**
Electronics/Electrical Machinery	4	0	14	0	10	1	0	0	0	29	**10.4**
Other	3	5	9	8	6	10	2	0	2	45	**16.1**
Total	34	28	42	21	65	31	31	21	7	280	**100.0**
Percentage	**12.1**	**10.0**	**15.0**	**7.5**	**23.2**	**11.1**	**11.1**	**7.5**	**2.5**	**100**	

Source: European Commission, Official Journal, C and L series

Table 13: Industrial Indicators (mean), by Sector of Economic Activity (1995-2003)

	LABOUR SHARE	AVWAGE	LAB	VA	Observations
Chemicals	0.38	30.339	0.229870	26.260	85
Iron steel	0.49	25.439	0.123244	6.551	71
Textiles	0.49	14.173	0.180290	5.107	44
Electronics &Elect. Mach.	0.47	23.868	0.253265	12.968	29
Other	0.48	17.291	0.272934	9.701	45
Total	0.45	23.645	0.225543	13.630	280

Source: European Commission and EUROSTAT (Structural Business Statistics)

Table 14: Comparison of Results for US (1975-1979), the EC (1980-1987) and the EU (1995-2003)

Hypothesis and Variables	Dumping			Injury		
	US (1)	EC (2)	EU (3)	US (4)	EC (5)	EU (6)
* Political Track						
International Political Influences						
Share of EU exports ()	-	+	+	-	-	-
Less Developed Country ()	-	-*	-	-	-	-
Domestic Political Influences						
Concentration ()	-	+	-	-	+*	+*
Case Size: Imports ()	-	-	+*	+	-	+*
Industry Size: Employment ()	+	-	+	+*	-	+*
Industry Size: Value Added ()	-	+	n/a	-	+*	n/a
*Technical Track						
Comparative costs						
Capital Intensity ()	+*	-*	n/a	+	-*	n/a
Average Wage per Worker ()	-*	+*	+*	+	-	-
Scale Economies ()	-*	+	n/a	-	-	n/a
Labour Share ()			+*			+
Non-market Economy ()	n/a	+*	+	n/a	-	+
Technical Precision						
Number of Products ()	-	-	+	-	+	-*
Constant	+*	-	+*	-	+*	+
Number of countries ()						
Year Dummies	*No*	*No*	*Yes*	*No*	*No*	*Yes*
Industry Dummies	*No*	*No*	*Yes*	*No*	*No*	*Yes*
No. Observations	183	280	163	57	296	181
Successfully predicted (%)	69%	88%		84%	87%	
Correctly classified (%)						
Pseudo R^2			0.27			0.25

Sources: Finger et al. (1982), Tharakan and Waelbroeck (1994) and Table 3 in this paper.

Columns (3) and (6) are the same as in Table 3. Different aspects of industry heterogeneity and macroeconomic effects are captured by industry and year dummies. A proxy for scale economies is omitted. The industry size variable corresponding to value added is omitted because is highly correlated with employment. * indicates significant at the 10% level of confidence or less and not contradicting the hypothesised sign. In columns (1) and (4) the null hypothesis is that the sign is not the expected one (one-tail test) whereas in the rest of the table the null hypothesis is that the individual coefficient is different from zero (two-tailed test).

Table 15: Major Sectors of Economic Activity

Sector of Economic Activity	NACE 3-digits Revision 3.1	Sector's Name
1) Chemicals	241	Manufacture of basic chemicals
	244	Manuf. of pharmaceuticals, medical chems. and botanical pts.
	246	Manufacture of other chemical products
	247	Manufacture of man-made fibres
	252	Manuf. of plastic plates, sheets tubes and profiles
2) Iron and Steel	271	Manufacture of basic metals
	272	Manufacture of cast iron tubes
	273	Other first processing of iron and steel
	274	Manufacture of basic precious and non-ferrous metals
3) Textiles and Footwear	171	Manufacture of textiles
	172	Textile weaving
	174	Manufactures of made-up textile articles, except apparel
	175	Manufacture of carpets and rugs
	192	Manufacture of luggage, handbags and the like
	193	Manufacture of footwear
	366	Miscellaneous manufacturing n.e.c.
4) Electronic and Electrical Machinery	291	Manufacture of machinery mechanical power
	292	Manufacture of other general purpose machinery
	295	Manufacture of other special purpose machinery
	321	Manufacture of electronic valves, tubes & other components
	322	Manufacture of television and radio transmitters
	323	Manufacture of television and radio receivers
5) Others	202	Manufacture veneer sheets, plywood, etc.
	204	Manufacture of wooden containers
	231	Manufacture of coke oven products
	267	Cutting, shaping and finishing of stone
	268	Manufacture of other non metallic mineral products
	287	Manufacture of other fabricated metal products
	315	Manufacture of lighting equipment and electric lamps
	316	Manufacture of electrical equipment n.e.c.
	354	Manufacture of motorcycles and bicycles

Source: Nomenclature des Activités dans la Communauté Européenne (NACE) Revision 1, Manufactured goods.

Appendix B

The Data

(Basic legal cases information): The information on a legal case (petition) decision to build dichotomous dependent variable for dumping and injury was obtained from the Global Antidumping Database Version 2.0 available in http://people.brandeis.edu/~cbown/global_ad/ .The data collection project was lead by Chad Bown, Brandeis University (Bown, 2006). It corresponds to the Commission of the European Communities, Official Journals (C and L series) available on-line and in CD-Rom. The estimations were based on the compilation of a data set built on a case-by-case basis where several pieces of information were obtained for each legal document: the investigation (legal case) number, date in which the investigation was initiated, product under investigation, countries named in the investigation (country of the defendant), the final decisions reached (injury or no injury, dumping or no dumping) and the year in which the investigation ended. The 6-digit Combined Nomenclature (CN) codes are used to identify products[14]. Different series of related industry level data were used to match the case information. The

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[14] The Combined Nomenclature is also referred to as the Harmonised System.

industry associated with each trade product was obtained by using the International Concordance published jointly by U.S. Department of Commerce, EUROSTAT and Statistics of Canada and Correspondance Tables. The econometric analysis refers to industries in the manufacturing sector. This is not at all restrictive since in the whole period only two investigations occurred in industries other than manufacturing

There are two methods of counting investigations. The first one considers a petition initiated as a case, including all countries named in the legal document that initiates the legal proceedings. Firms located in more than one country could be named in an investigation. If all countries are included as a case (observation), the size of an AD case would include aggregate imports of the product involved from all the countries named in the investigation. The second and better method consists of considering each country named in an investigation as one separate sub-case. This is a preferred approach since the dumping and injury final decisions and margins are calculated separately for each country of origin. When more than one country is named in the investigation, each country is considered as one sub-case and therefore, as one observation in the econometric analysis. As a result, a larger dataset is obtained and technical and political variables, e.g. imports, will refer just to the country of the defendant and product included in that sub-case. According to the second method, there are 309 sub-cases during the period analysed[15]. A detail of the number of cases, sub-cases and average number of countries per case in each year is described in Table 1 in Appendix A. They involve 46 countries and 20 different industries (3-digit NACE Rev. 1).

(X): The share of the value of European exports to the country of the defendant in the value of total

European exports is defined as the ratio $X_j = \dfrac{X_{EU}^j}{X_{EU}}$, where X_{EU}^j is the total exports from the EU to

country *j* and X_{EU} is the total exports of the EU in the year of the investigation. For each investigated country, annual export trade from the EU was collected (CN 6-digits) from the United Nations COMTRADE database, export and import flows.[16]

(LDC): A dummy variable that takes the value one when the country named in the investigation is a developing country. Less developed countries are defined in a broad sense including Albania, Algeria, Argentina, Belarus, Bosnia Herzegovina, Brazil, Bulgaria, China, Croatia, Czech Republic, Czechoslovakia, Egypt, German Democratic Republic, Georgia, Hong-Kong, Hungary, India, Indonesia, Kazakhstan, Kuwait, Libya, Lithuania, Macao, Macedonia, Malaysia, Mexico, North Korea, Pakistan, Philippines, Poland, Romania, Russia, USSR, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Taiwan, Thailand, Trinidad and Tobago, Turkey, Turkmenistan, Ukraine, Venezuela, Vietnam, Yugoslavia and Zimbabwe

(SIZE1) and (SIZE2): Case size (SIZE1) is defined as the total value of EU imports of product *k* under

investigation from country *j*: $SIZE1 = M_{EU}^{kj}$. Imports are measured in the year in which the

investigation was initiated. For each investigated product, annual import trade of the EU - Combined Nomenclature (CN), Harmonised System (HS) - at 6-digit level by source was collected from United Nations COMTRADE trade statistics, for the relevant years. It is measured in US dollars and expressed in constant 1996 prices using the US GDP deflator. The number of CN 8-digit codes that define a product involved in each one of the sub-cases was identified from the relevant issues of the EC Official Journal. The second proxy of case size (SIZE2) used is the percentage of EU imports of the product *k* under

investigation from country *j*, M_{EU}^{kj}, in the total imports of the EU for that

year M_{EU} : $SIZE2 = \dfrac{M_{EU}^{kj}}{M_{EU}} * 100$.

(CON): Two different proxies for industry concentration were used. The first one is the market share of the 5 biggest firms in an industry in the European Union, *CON1*. The data used is reported in B. R. Lyons and S. W. Davies (1996) for most industries at 3-digit NACE Rev. 1, available for 1989. For some textile and chemical industries, the information was obtained from the European Commission (1989) "Horizontal merges and competition policy". The second proxy, *CON2,* is a dummy variable which takes the value

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[15] They represent 136 investigations initiated (legal cases) according to the first method. Each case involves one product. After dropping observations for which no complete series could be constructed we were left with 280 sub-cases.

[16] Adjustments were made to those countries that were separated into separate countries or regions (Soviet Union, Yugoslavia and Czechoslovakia).

one if the market share of the industry is bigger than 25%, and zero otherwise. The proxy *CON1* proved to be more significant and it is, therefore, included in the regressions reported[17].

(LAB, VA, AVWAGE, LS): The data was collected from EUROSTAT Structural Business Statistics (SBS). It corresponds to industries define at the 3-digit level in classification NACE Revision 1. (*LAB*) is the number of persons employed in the industry and it is measured in millions. (*VA*) is value added measured in hundred billion (10^{11}) Euros and transformed into constant prices of 1995 using the GDP deflator for 15 countries in Europe (EU-15). The average wage per worker (AVWAGE) is measured in thousands of Euros at 1995 prices. The data was extrapolated for certain industries, countries and years. Labour share *(LS)* is the ratio of European wages in industry *i* over the European value added in industry

$i: LS = \left(\dfrac{WAGE^i}{VA^i} \right)$. The CN 6-digit product codes were correlated with the industry codes using

correspondence tables provided by EUROSTAT.

(RVA, RLAB, RWAGE): EUROSTAT Structural Business Statistics (SBS) database for the relevant years.

Relative value added is defined as: $RVA = \left(\dfrac{VA^i}{VA_{EU}} \right)$. Similarly, is defined as the share of the number of

people employed in European industry *i* over the total number of people employed in European

manufacturing: $RLAB = \left(\dfrac{LAB^i}{LAB_{EU}} \right)$. Relative wages are defined as defined as the share of the wage bill

in European industry *i* over the wage bill in the total European manufacturing

sector: $RWAGE = \left(\dfrac{WAGE^i}{WAGE_{EU}} \right)$. *WAGE^i* is labour compensation in industry *i*.

(NME): Dummy variable that takes value one if the affected country is a non-market economy and zero otherwise. This group is broadly defined and it includes: Albania, Belarus, Bosnia Herzegovina, Bulgaria, China, Croatia, Czech Republic, Czechoslovakia, German Democratic Republic, Georgia, Hungary, Kazaquistan, Lithuania, Macedonia, North Korea, Poland, Romania, Russia, USSR, Slovakia, Slovenia, Turkmenistan, Ukraine, Vietnam and Yugoslavia.

(TECH): Represents the number of products covered by the case and was obtained from the relevant issues of the Official Journal. The 6-digit Combined Nomenclature (CN) is used to identify products.

(NOC): Represents the number of countries named in an antidumping investigation and was obtained from the relevant issues of the Official Journal.

(GDP): A series of GDP growth rate for Europe was constructed using GDP at constant prices from the World Economic Outlook (GEO) database for the period 1985-94 and Eurostat for the period 1994-03. The composition of Europe has changed in 1995. A correction was applied to reflect this change (EU-12 and EU-15).

(BTD): A series of bilateral trade deficits was constructed using trade flows from COMTRADE database.

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[17] Although information contained in the reports could ensure that the various economic factors related to the decisions of the commissioners coincide with the particular tariff-line items covered by the investigations, its relevance depends on the nature of the variable used. Pressure groups are not organised at the level of the most detailed tariff line item but at the industry level, with the correspondent higher level of aggregation.