EUROPE'S DEMAND FOR ANTI-DUMPING DUTIES

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Abstract

In this paper the demand for anti-dumping policies in the European Union (EU) is investigated. Empirical studies show a proliferation of anti-dumping cases globally. This paper uncovers how that proliferation is segmented. As well as investigating through OLS regressions whether specific variables have an effect on the final injury decision by the European Commission. It is observed that firms belonging to specific countries do not influence the decision by the jury, but rather the year in which the duty was decided upon. The metal sector carries a large burden of the entire EU's demand for anti-dumping protection, hosting a plethora of firms involved in petitioning for protectionism. The most active firm is Hydro Agri (now Yara International) with 73 involvements. Some sectors petitions had a significantly higher approval rate. For example, the metal industry had a high petitioning and acceptance rate. Whereas the textile industry was also moderately influential, but most of their petitions were getting denied.

Contents

1.Introduction

Ever since the end of the second world war, international trade is at an all-time high. The decrease in transport costs and increase in globalization have led to an increasing trade to output ratio (Dean & Sebastia-Barriel, 2005). As a result, firms or even countries attempt to increase their competitiveness, this can be done through methods such as currency devaluation, or striving for dominant pricing strategies. Frequently, foreign countries, or in Europe's case (the focal point of this research), the European Commission, will respond to these with protectionist policies. In this paper, the development of the demand for protectionist policies will be examined. Identifying both the countries and the firms that are cardinal in shaping trade policy; more specifically, their activity in relation to anti-dumping investigations. An anti-dumping duty entails a protectionist duty in response to dumping. Dumping is a pricing strategy set to undermine foreign competition in an international trade setting. This is done by pricing a product internationally under the "normal" value of a good. A normal price could be the price of the product in the home (exporting) market or tied to its costs and profits. Prusa (2001), recorded that from 1987 to 1997, over 2000 anti-dumping cases were initiated worldwide, a 500% increase from the decade before.

When a firm (or firm under a union) in the European Union suspects malicious dumping strategies are being used to gain an advantage, they can issue a complaint to the European Commission. The European commission then further investigates to construct a decision on whether or not to implement a protectionist policy against this good. The data used in this paper to explore these petitions, dates back to 1987 all the way up to 2015; with this, the exploration of the development of protectionist demand will be uncovered. This leads to the question: "How did demand for anti-dumping protection evolve in the EU over time?". Economists have previously evaluated the effects of anti-dumping measures, however, the research on the European firms that are pivotal in requesting protectionist policies and the commissions response is scarce. This paper therefore seeks to shed light on which firms, regions and sectors are most involved in petitioning to anti-dumping policy. A topic which could prove to be apt in research on the ever-growing international trade economy.

2.Relevance

As anti-dumping measures became increasingly popular after the 1980s, two different interpretations can be observed. Firstly, either a much larger incidence of dumping in the global economy, and anti-dumping measures are a defensive response. Or secondly, firms have realized that anti-dumping measures may also be used offensively. Numerous works by different researchers have been published about the welfare consequences of antidumping measures, and the intentions behind anti-dumping measures. Bloningen & Prusa (2001) stated that there were more anti-dumping measures being petitioned to the GATT/WTO than an accumulation of all other trade policies since the 1980s until their research. Vandenbussche and Zanardi (2007) suggested that this rapid increase was caused by retaliatory motives.

That being said, the consequences are a lot more ambiguous than other protectionist policies due to the additional political-economy factors as argued by Bloningen & Prusa(2001). Anti-dumping measures suffer from "Legislative delegation, bureaucratic oversight and discretion, log rolling and favoritism". Since anti-dumping measures from the European commission can be one of three: Ad valorem[1], specific duty, or variable duty, these essentially all work similarly to a tariff. So, the same principals of a tariff may be applied; domestic production benefit, while consumers lose, and deadweight loss[2] is created. Prusa(1992) had come to the conclusion however, that since many petitions are withdrawn due to a settlement agreement being made, before the final injury decision was arrived at; these principals should be re-evaluated.

A recurring theme in works on this topic, is that after firms file for an anti-dumping policy to be imposed, exporting firms can alter their pricing strategy as to avoid the duty completely. Prusa (1992) suggests that cases can have a similar effect regardless of the outcome of for example the European Commission. In other words, the threat of an imposition of an anti-dumping policy is often sufficient to warrant a response by the exporter. This may have serious consequences to the moral hazard of the petitioners, for example, firms might seek to use these petitions not to achieve a duty imposed by the European Commission, but rather to threaten the exporting country with duties, which Prusa (1992) concludes as a benefit to the domestic industry. This could also explain why many petitions in the dataset used are either voluntarily withdrawn by the petitioner or terminated before any protectionist policy is levied.

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[1] Ad Valorem tax is a tax which is based on the value of a transaction, an example of this is Value Added Tax(VAT).
[2] Diagram explaining deadweight loss can be found in appendix 7.1

This will be discovered in more depth in the results & conclusions chapter. The high number of withdrawals found also goes hand in hand with the research done by Vandenbussche and Zanardi (2007). Because if firms are using anti-dumping as an attacking strategy, retaliation is to be expected. Bown & Blonigen (2003) stated that this retaliation can act as a dampening effect – fear of retaliation may lead to a respective government agency being hesitant on approving a duty. Which could explain why the number of cases did not continue to grow exponentially after the 1990's. Most of the works on anti-dumping involve investigations on the economic consequences, or analysing the proliferation. Very little is published on how demand for anti-dumping protectionism is shaped and has evolved over the years. As such, this paper seeks to fill that void and uncover the firms and countries that are most active in shaping anti-dumping policy.

3.Data.

Most of the data required in this research has been downloaded from the website of the World Bank, the first set of data is the Global Antidumping Database (GAD). This database contains every anti-dumping complaint filed towards their respective commissions. For this paper, only the GAD-EUN (Global Antidumping Database – European Union) is investigated. The World Bank is a very credible source as their services are peer reviewed and their databases are created with the intent for "supporting critical management decisions and providing key statistical information for Bank operational activities"(https://data.worldbank.org/about) . This results in a reliable source of information.

However, that does not mean that the data was without caveats. Since the GAD-EUN refers to all the companies in the database as "domestic firms", they will also be referred to firms in this paper. Moreover, some data on petitions are missing – for example, 3% of the firms that petitioned were missing, and data such as dates and decisions were missing for a significant portion of the cases. Moreover, lots of entries on the firms had similar names for the same firms. For example, the firm 'Pechiney Electrometallurgie Paris France' had multiple entries written as 'Pechiney Électrométallurgie France'. Minute differences such as this made it so that statistical analysis required manually changing of entries, such that the firms have uniform names. To do this, the names of the firms were changed so that they lost distinguishable features. In other words, different plants would be renamed to their mother company. For example, 'Bic - Violex Sa Athens Greece' and 'Bic Sa Rennes France' were both renamed to 'Bic'. Such that they could be properly tallied and used in data transformation. This in itself

brought more caveats, as some of the smaller firms had names in an unfamiliar language or had rebranded/ceased to exist making it difficult to distinguish the name of the firm.

Lastly, since the data extended over such a long period of time, many firms either renamed, rebranded, or partnered up. Firms such as Corus for example, changed to Tata Steel, but to keep the validity of the data, these were kept as separate firms since at the time of the petition the firm was still named Corus. Alongside the GAD, a database with the GDP of each country was gathered from the World Bank. This was used because similarly to the GAD, the GDP database was reliable accurate information that proved crucial to this research.

4.1 Methodology – Country Activity

In the European Union there are firms with a prominent role when it comes to petitioning for anti-dumping policies. These mostly came from the countries with the largest number of inhabitants. As such, Germany, had by far the most petitions. The heatmap portrays this - allowing for a clear overview of how the petitions are distributed within the European Union, simultaneously indicating which countries are absent from the European union in the European region, and as they were not recognized in the data set and left blank. Germany, having the highest number of firms involved with petitions at 754, has been used as the index of 10, in order to judge the concentration of petitions per country, the total amount of petitions for said country were divided by 75.4, this means that Germany with a total of 754 becomes the extreme 10, and countries that have half of that would fall in the middle; at 5.

Figure 1 – Heatmap of European Petitioners.
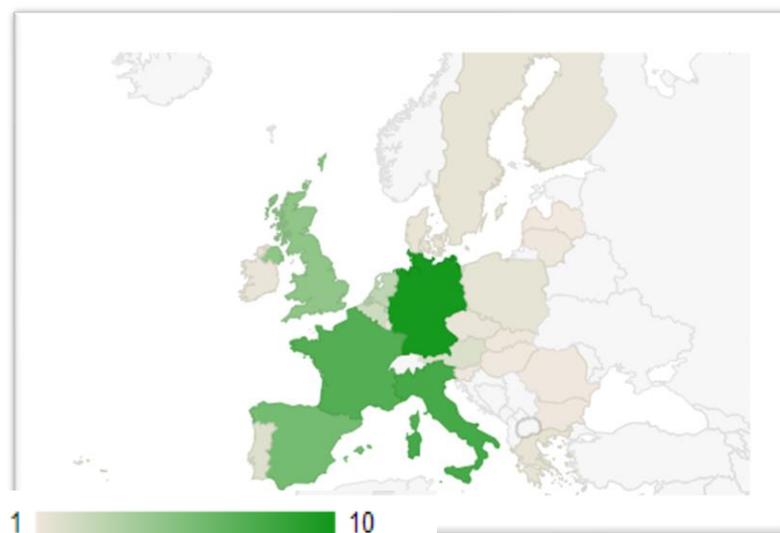
It is also important to note that many petitions were a collaboration of multiple countries, which results in the map potentially not accurately assimilating the full spectrum. Moreover, some European firms and/or unions also filed complaints. For example, Unifer, the European Steel Association, which represents the entire European steel production, and even though they are based in Brussels, it would not be representative to accredit this to Belgium, as it concerns the Aggregate of the European steel production. As such, those did not contribute to total petitions per country, and are not included in this map.

Lastly, roughly 3% of entries regarding petitions were incomplete and the firms and/or countries that petitioned for anti-dumping regulations were missing. Since these do not shed light upon which countries are most involved in petitioning for anti-dumping regulations, they will be omitted.

As can be seen from figure 1 – Heatmap of European Petitioners, there exists a relationship between the size of the economy and the number of petitions. The countries with a larger GDP (Gross domestic product) are the main players in requesting anti-dumping intervention. It might therefore be a more interesting approach to eliminate the size of a country's economy to isolate the concentration of petitions. To do this the number of petitions will be a ratio to the output. For example, Germany's GDP is almost $4Trillion. However, since the petitions dated all the way back to 1978, the GDP will be averaged by summing all the values for GDP since 1978 until 2015 and divided by the total amount of years, in billions. Next, the number of petitions is divided by the average GDP from 1978 to 2015. Table 1 – All Countries, displays the following for each country in the European Commission that has previously petitioned for anti-dumping regulations to be imposed. The following table was constructed by utilizing the values on GDP provided by the world bank and averaging them from 1978 until 2015. The total amount of petitions was tallied up to find the petitions per GDP. Lastly, the petitions were indexed to Luxembourg, as they had the highest concentration of petitions per GDP. Similarly to figure 1, a Heatmap Accounting for GDP was constructed..

Table 1 – All Countries

Country	Petitions	Average GDP in billions	Petitions per GDP	Petitions per GDP index Luxembourg
Austria	77	231.9132902	0.33202064	0.26631076
Belgium	125	282.2706041	0.44283747	0.35519594
Bulgaria	7	26.89396121	0.26028148	0.20876943
Czech	24	120.4597565	0.19923666	0.15980593
Denmark	30	189.5502378	0.15826939	0.12694645
Finland	25	149.5694127	0.16714647	0.13406668
France	542	1607.574441	0.3371539	0.27042811
Germany	754	2212.100173	0.34085256	0.27339476
Greece	35	156.5275461	0.22360282	0.1793498
Hungary	3	88.54400906	0.03388146	0.02717601
Ireland	28	117.8141493	0.23766246	0.19062691
Italy	591	1316.363452	0.44896415	0.3601101
Latvia	1	18.39730569	0.05435579	0.04359829
Lithuania	10	27.11178323	0.36884331	0.2958459
Luxembourg	33	26.46900238	1.24674136	1
Netherlands	175	481.372604	0.36354375	0.29159516
Poland	39	284.4409831	0.13711104	0.10997553
Portugal	73	127.537949	0.57237866	0.45909976
Romania	5	89.21411281	0.05604494	0.04495314
Slovakia	14	53.92760777	0.25960729	0.20822866
Slovenia	8	31.82123817	0.25140442	0.20164922
Spain	428	747.939825	0.57223855	0.45898738
Sweden	35	304.8494911	0.11481075	0.09208867
UK	334	1616.408171	0.20663098	0.16573684

Figure 3- Heatmap Accounting for GDP.

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After accounting for average GDP, the spread of petitions increased dramatically. Interestingly enough, a country that was merely a blip on the overall petitions on the Heatmap of European Petitioners (Figure1); that being Luxembourg, has become the forefront of investigation requests when accounting for Average GDP. Reasons for this might be due to the high GDP per capita, as Luxembourg has been thriving economically and amassing a significant GDP over the past few years. Simultaneously, hosting a large amount of corporations and subsidiaries for administrative reasons, as corporation tax is relatively low there and is sometimes even considered to be a tax haven.

The Heatmap Accounting for GDP does not, however, consider that the European Union underwent significant changes during its existence. Several enlargements occurred throughout its existence. Because of this, some countries that have been petitioning joined the European Union much later than others. For example, the very first logged petition was by the UK in 1978. Almost 30 years before countries like Bulgaria, Romania and Croatia joined the EU. As such the following section will be dividing European Union in time periods, based on enlargements. The very first enlargement after the first petition was initiated, occurred in 1981 - when Greece joined the Union which at the time comprised of Belgium, France, Germany, Italy, Luxembourg, the Netherlands, Denmark, Ireland, and the UK, afterwards, Portugal and Spain joined in 1986. However, since from 1978 until 1986 only a handful of

petitions were initiated, the statistical volume is too low to determine a trend or relevance, as such, the first two enlargements will all be considered as the initial point. In other words, from the very first petition in 1978 until 1995. Similarly to before, missing values and values for which a union represented a country will be omitted. Moreover, the GDP will be averaged from 1978 to 1995. Giving us an overview of how the petitions per GDP changes when accounting for duration in European Union in table 2.

Table 2 – Initial point.

Country	Petitions	Average GDP (billions)	Petitions/GDP	Petitions/GDP Index Luxembourg
Belgium	54	150.8085266	0.35806994	0.209896
Denmark	12	100.0871195	0.119895548	0.070281
France	247	910.3616579	0.271320741	0.159044
Germany	393	1301.889814	0.301868865	0.176951
Greece	21	74.10489439	0.283382092	0.166115
Ireland	12	34.32405868	0.349609005	0.204936
Italy	251	765.0128736	0.328099054	0.192327
Luxembourg	16	9.378979738	1.705942485	1
Netherlands	66	240.3918099	0.274551783	0.160938
Portugal	28	54.73161999	0.511587269	0.299885
Spain	197	345.7054073	0.569849345	0.334038
UK	167	768.8296262	0.217213274	0.127327

Figure 4- Heatmap of Europe initially

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Once again, Luxembourg proves to be the highest in petitions when accounting for GDP. It is interesting to note that between 1978 and 1995 Luxembourg takes up an even larger share than in the previous figure, where duration in European Union was not accounted for. This shows that in the early stages of the European Union, Luxembourg was even more active than in other periods. Even though Luxembourg only had 0.1% of the total European Union's GDP, they carried more than 1% of all petitions. Compare this to Spain, the second highest petition to GDP with 33.4% of Luxembourg intensity, Spain had 7.3% of the entire GDP in the EU, yet only carried 13% of all petitions. In other words, Luxembourg petitioned ten -fold their share of GDP. While Spain, who held the second highest petitions per GDP only did this to a factor of 1.8. During this time, all the Luxembourgian firms that had petitioned were involved in either Chemicals or in Steel sectors. At the forefront was Arbed, who petitioned on 14 different occasions. Out of these, only 4 were accepted, and 10 were withdrawn.

The first enlargement saw three more countries join the European Union in 1995. These countries were Austria, Finland, and Sweden. After that there were 9 years until the next enlargement in 2004 which was much larger than the previous ones occurred. Using the enlargement in 1995 as a new starting point for all the petitions, the petitions are effectively "reset" to 0 and the petitions to GDP for this enlargement can be observed without duration in European Union bias.

Figure 5 – Heatmap First Enlargement
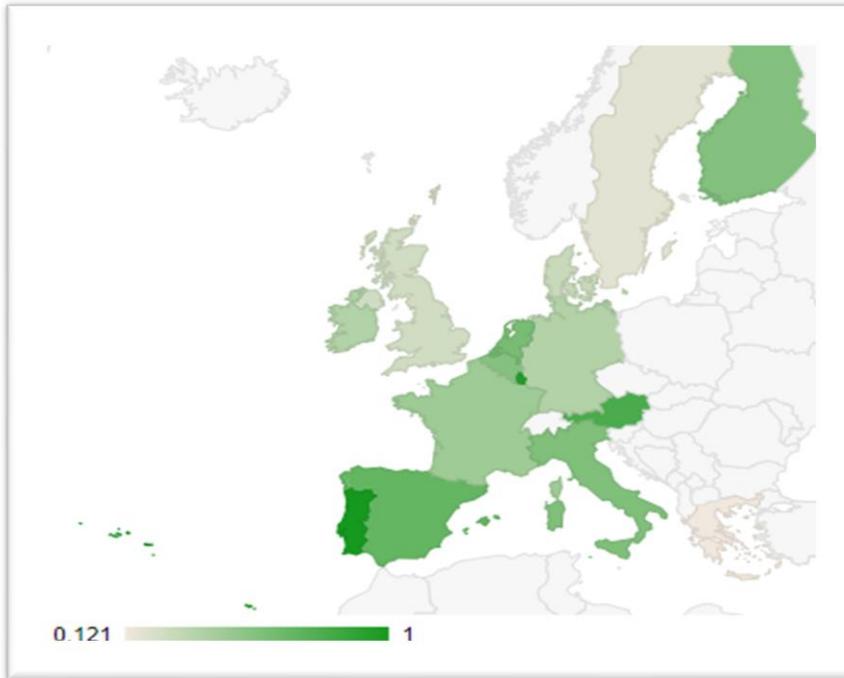
For the period between 1995 and 2004, a much larger spread in petitions to GDP can be observed. This time the country with the highest intensity of petitions per GDP was Portugal, Luxembourg following as a close second. The following map was created using table 3 – First EU Enlargement.

Table 3 - First EU Enlargement.

Country	Petitions	Average gdp(billions)	Petitions per GDP	Petitions/gdp index Portugal
Austria	57	229.6640702	0.248188582	0.79007
Belgium	48	275.2444313	0.174390449	0.555145
Denmark	17	187.818838	0.090512753	0.288133
Finland	25	142.5745555	0.175346856	0.558189
France	226	1584.463528	0.142635028	0.454056
Germany	267	2298.941496	0.116140407	0.369715
Greece	6	157.5468157	0.038083918	0.121234
Ireland	13	111.1796998	0.116927821	0.372222
Italy	238	1320.997222	0.180166919	0.573533
Luxembourg	7	23.59366132	0.296689857	0.944466
Netherlands	90	475.9745495	0.18908574	0.601925
Portugal	42	133.700464	0.314135035	1
Spain	151	700.3327515	0.215611793	0.686367
Sweden	16	286.3612707	0.055873477	0.177865
UK	136	1720.107994	0.079064803	0.25169

As can be seen from the First Enlargement table, Luxembourg had 94.4% of the intensity Portugal had, which is radically different from the previous time period, where Luxembourg had by far the highest intensity, and only Spain came close with 33.4%. There are many uninvestigated factors that could have attributed to this shift, firstly Luxembourg's petitioning decreased from 16 to 7, even though their GDP almost tripled.

The next enlargement in 2004 is the biggest enlargement the European Union has experienced, seeing many Balkan countries join. These countries are Cyprus, Czechia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. There were also enlargements in 2007 and 2013, but due to the small scale of these enlargements, and the fact that these countries play an extremely small role in petition for anti-dumping these enlargements have been categorized within the enlargement of 2004. As such the next section will encompass the remaining years of 2004-2015. Table 4 – Second Enlargement below shows the data of which the map is comprised.

Table 4 – Second Enlargement.

Country	Petitions	Average GDP(Billions)	Petitions per Billion of GDP	Petitions per GDP(billion) index Lithuania
Austria	20	388.1963275	0.05152	0.199197
Belgium	23	470.5973844	0.048874	0.188965
Bulgaria	7	47.18672397	0.148347	0.573564
Czechia	24	192.0187066	0.124988	0.483249
Denmark	1	315.4291258	0.00317	0.012257
France	79	2598.797916	0.030399	0.117532
Germany	103	3403.103533	0.030266	0.117021
Greece	8	272.5745	0.02935	0.113477
Hungary	3	130.3986336	0.023006	0.088951
Ireland	4	241.0010233	0.016597	0.064172
Italy	109	2088.208042	0.052198	0.201816
Latvia	1	26.31558697	0.038	0.146923
Lithuania	10	38.66369641	0.258641	1
Luxembourg	10	52.33650675	0.191071	0.738752
Netherlands	23	821.8286239	0.027986	0.108206
Poland	39	446.3513253	0.087375	0.337825
Portugal	4	224.6023381	0.017809	0.068857

Romania	5	162.267734	0.030813	0.119136
Slovakia	14	86.6057886	0.161652	0.625006
Slovenia	8	45.97583281	0.174004	0.672766
Spain	90	1350.521072	0.066641	0.257659
Sweden	20	495.1854453	0.040389	0.156158
UK	32	2726.806658	0.011735	0.045373

Once again Luxembourg is a significant contributor when accounting for their GDP, however, this time some of the newer entries into the EU, primarily the Eastern European countries have a significant intensity of petitions to GDP. More interesting points include the petitions in Finland, or the lack thereof rather. Between 1995 and 2004, Finland had one of the higher intensity's however, between 2004 and 2015 they did not petition a singular time.

Figure 6 – Heatmap of the Second Enlargement

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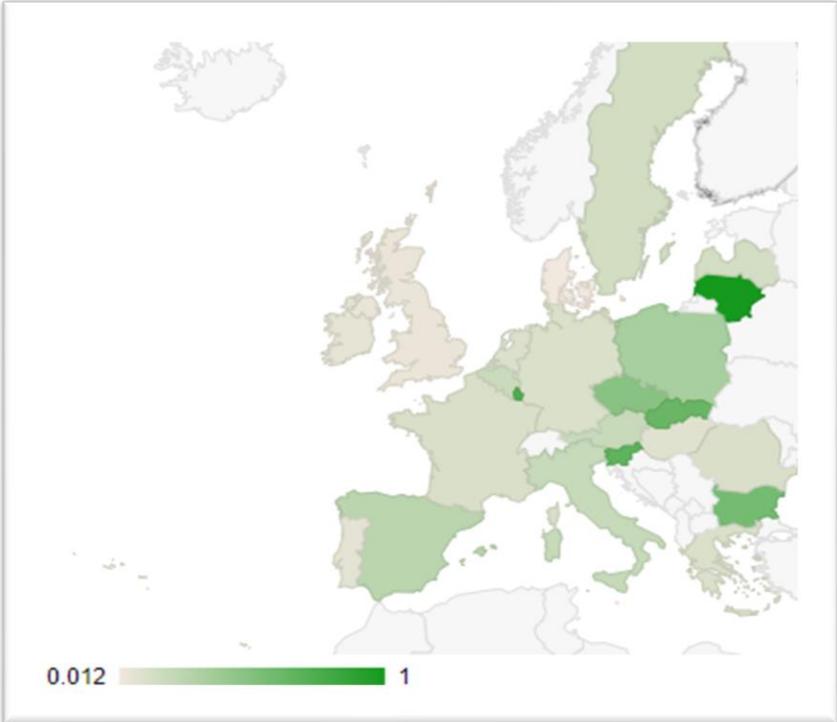
The total intensity of petitions per country accounting for GDP sheds light on the demand for anti-dumping measures to be imposed by the European Commission. What it fails to unravel, however, is the rate of success at which these policy petitions are imposed. For example, one country might petition for a lot of anti-dumping measures, however, the European Commission might conclude that it is not a just response and deny the petition. Moreover, in some years, petitioners might be denied more frequently due to exogenous reasons. As such, the year in which the injury decision for each petition was made will be controlled for. Some reasons why a year might have more declined petitions than others may be due to tense trading periods (fear of trade war), volatility in international trading volume and more. As such a linear ordinary least squares (OLS) regression will be used to control for each country, as well as the year of the injury decision.

Using the data provided by the Global Antidumping Database, the final injury decisions(F_INJ_DEC) for each petition are observed. As such a binary 0 implies that the petition was either:

- negative (no policy imposed)
- withdrawn prior to ruling by the petitioning industry
- terminated by the petitioning industry
- partially affirmative/negative,
- or "other" reasons as to why the petition wasn't accepted (e.g missing data)

A binary 1 on the other hand, means that the petition was responded to with "affirmative".

When the Year and Country are controlled for, we can observe the regression results in table 5. The null hypothesis is that the R-squared is equal to 0. Indicating that the model has no explanatory power. As the P value for the F-test is 0, however, it is statistically significant at all levels of confidence. As such the null hypothesis is rejected. The R-squared is quite high at 0.766. This means that the model explains 76.6% of the variation in the Injury decision through the countries and years. The interesting variables are the P values for the T tests of the categorical variables (countries and years). Ideally, for each of the countries and the years, they are close to 0. Such that they statistically significant at all levels of confidence. However, in the regression that was not the case, from the regression only one country was statistically significant at 95% confidence. That being Lithuania, however, since Lithuania only had 10 petitions in total, of which all of them were rejected, this country also does not signify enough relevance. From the regression we can therefore say that there was not enough evidence to suggest

that one country was more likely to receive an affirmative response from the European Commission than another country, and all of these can be ignored.

What seems more likely, is that the year in which the final decision was made has a larger effect. As all the years besides 1992 and 2003 were statistically significant at some confidence level, this is likely because these years involved a low number of petitions. We can conclude that for the rest of the years, however, that the year in which the European Commission made their decision impacted the outcome. For example, in 2001, the coefficient was 0.628, suggesting that in 2001, firms had a much lower chance of having their petitions approved than for example 2014, at which the coefficient is 0.996. Implying almost all petitions would have been accepted. This leads us to conclude that in the year 1990, where the coefficient was a meagre 0.45, statistically significant at 90% confidence, firms were least likely to have their petitions approved. During this time, a lot of the petitions were for anti-dumping duties against NPK fertilizer. Further research into why these specific cases were not affirmative could provide us with more interesting insight into how anti-dumping policies are shaped.

An issue that arose during the research is that many of the countries are not statistically relevant, as such it is difficult to make a definitive conclusion about the entire dataset. A reason for this might be because the sample size for some countries may be too small, as any amount of noise can usually be cancelled out by increasing the sample size. Some countries, however, had such low number of petitions that they were grouped together into "Rest of EU", this was done to increase variety. However, since even the larger countries have returned insignificant results, it is likely that the reduction in residual variance by the predictors (years, countries) is too small. As such, revisiting this research with an increased number of adequate predictors to explain the variation would be required to reach improved conclusions. It would be more interesting to revisit this when every country has many cases petitioned for, as well as having better predictors.

Table 5 – Regression Country and Year on Final Injury Decision	(1)				
VARIABLES	F_INJ_DEC	1982	0.996***	2008	0.824***
			(0.371)		(0.240)
Austria	0.042	1987	0.963***	2009	0.476**
	(0.241)		(0.243)		(0.239)
Belgium	-0.011	1988	0.885***	2010	0.639**
	(0.239)		(0.239)		(0.248)
Czech Republic	-0.060	1989	0.773***	2011	0.837***
	(0.251)		(0.240)		(0.245)
Denmark	0.050	1990	0.451*	2012	0.560**
	(0.247)		(0.237)		(0.268)
EU	-0.072	1991	0.610**	2013	0.899***
	(0.246)		(0.239)		(0.242)
Finland	0.028	1992	0.191	2014	0.996***
	(0.251)		(0.237)		(0.372)
France	0.078	1993	0.733***	2015	0.934***
	(0.237)		(0.238)		(0.243)
Germany	0.079	1994	0.674***		
	(0.236)		(0.238)	Observations	3,225
Greece	0.158	1995	0.685***	R-squared	0.766
	(0.246)		(0.239)	Standard errors in parentheses	
Ireland	0.051	1996	0.806***	*** p<0.01, ** p<0.05, * p<0.1	
	(0.248)		(0.239)		
Italy	0.057	1997	0.679***		
	(0.237)		(0.238)		
Lithuania	-0.592**	1998	0.693***		
	(0.273)		(0.240)		
Luxembourg	-0.127	1999	0.719***		
	(0.247)		(0.238)		
Netherlands	0.075	2000	0.800***		
	(0.238)		(0.237)		
Poland	0.137	2001	0.628***		
	(0.243)		(0.241)		
Portugal	-0.098	2002	0.871***		
	(0.241)		(0.238)		
Rest of EU	0.113	2003	0.041		
	(0.251)		(0.239)		
Slovakia	-0.058	2004	0.908***		
	(0.257)		(0.241)		
Spain	0.004	2005	0.726***		
	(0.237)		(0.240)		
Sweden	-0.028	2006	0.521**		
	(0.245)		(0.239)		
UK	-0.036	2007	0.482**		
	(0.236)		(0.234)		

4.2 Most active firms

Having looked at the concentration of petitions per country and year, it is now time to delve deeper and look at the specific firms within each country. The aim of this is to see which firms are most active in petitioning for anti-dumping duties, but also to see the outcomes of each of their petitions. The possible outcomes to the petition (the final injury decision(F_INJ_DEC)) are states as the following on the world banks global anti-dumping database:

- A(ffirmative)
- N(egative)
- W(ithdrawn prior to ruling by petitioning industry)
- T(erminated prior to ruling by government agency)
- P(artial – some products were found affirmative/others negative)
- OTH(er, explain in the notes section),
- "." (not relevant as case never reached that stage of the investigation)".

In order to construct a model, only the relevant options were considered. Since there were only 5 partial responses, they were omitted, secondly since there were only a few "OTH" responses, these were also ignored. Lastly, the irrelevant cases as shown by "." were also omitted, alongside the "missing" petitions. That means that the relevant options were either:

- Affirmative(A)
- Negative(N)
- Withdrawn(W)
- terminated(T).

These options also made up 95% of all petitions, meaning that these were the most representative of the entire dataset.

Since the effect on a firm level is trying to be found, and each petition could involve multiple firms, each firm is matched to their respective case-id alongside the final injury decision, such that every firm has their final injury decision linked to them. This allows for a better oversight on firms that participated in multiple cases. Which is crucial for uncovering how firms are being responded to by the European

Commission. After transforming the data as mentioned, specific weighting can be added to each of the possible responses. Since we are trying to find the effect of a firm on the rate of Affirmative responses by the European Commission. These range from 0 to 1, 0 being a negative response to the case, and 1 being an affirmative response. The reasoning for each of these is as follows. If we look at the scale from 0 to 1 in terms of success in a petition, a negative response should be 0, this is because the firm went through the entire process and the European Commission denied the request. A terminated case is a case that either lacked information or not enough evidence of dumping was present. As aforementioned in the 'relevance' section, previous research suggests that anti-dumping duty petitions could be used as an offensive strategy to warrant a response by the exporter. In this sense, a terminated case is similar to a withdrawn case as pressure was being put on the exporter. Since the petitions were not responded to with "Affirmative" however, they will both be weighted at 0.

Of course, a caveat to these weightings is that there could be ulterior motives to withdrawing or terminating a case as stated by Prusa (1992). Therefore, a model that takes into account withdrawn or terminated cases, or investigation into why so many cases are withdrawn or terminated could prove useful to back up this paper.

The distribution of the final injury decision is as follows: 2240 of all firms had their case responded to with "Affirmative", whereas 1320 were not accepted.

After assigning these weights, a regression can be constructed using the firms as independent variable on the dependent variable final injury decision(F_INJ_DEC). Subsequently, a firm with a low coefficient will a firm that have their cases declined often, whereas high positive coefficients imply that most of their petitions were accepted. It is important to note, however, that many firms only have a few cases. These firms are less interesting as a single petition does not represent the response to the firms' petitions very well. The firms that are most prevalent in shaping demand for anti-dumping duties are therefore more interesting to investigate. As such, only the firms with more than 10 cased petitioned will be further investigated. The firms with less than 10 petitions have been grouped together in "other firms."

The regression has a P-value for the F-test of 0, this means that at all levels of confidence, the null hypothesis that the regression has no explanatory power is rejected. The R-squared for this regression is 0.678 as seen on figure 9 – Firm regression. This means that 67.8% of the variation in the final injury decision is explained in the model through the firms, which is moderate to high. Since the regression

was ran without a constant (due to improved clarity), we expect the coefficients for each of the firms to fall somewhere between 0-1.

Table 6 – Regression of relevant firms on Final Injury decision	(1)
VARIABLES	F_INJ_DEC
Corus	0.436***
	(0.073)
BIC	1.000***
	(0.093)
Hydro Agri	0.781***
	(0.053)
Thyssen Stahl	0.685***
	(0.062)
Observations	3,559
R-squared	0.678
Standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

The firm regression above shows the firms that will be discussed with more detail. The regression can be found in its entirety in appendix 7.2. At the forefront of all the firms involved in petitioning for anti-dumping duties stands chemical giant Hydro Agri (now Yara International), who was involved in cases 73 times. When observing the cases in which Hydro Agri petitioned, the product in question was either Urea, or Ammonium Nitrate. An important product of theirs. Urea and Ammonium nitrate are also a major component in fertilizer, which they produce as well. From the regression, it is found that the coefficient for Hydro Agri is 0.780. Indicating that the general response to Hydro Agri's petitions is very positive (78%). The coefficient for Hydro Agri is statistically significant at all confidence levels. From this, we can conclude that Hydro Agri's petitions were mostly for defensive reasoning and justified. This is because if they were to use their petitions as an offensive tool, their coefficient would find itself at the lower end of the 0-1 spectrum.

Another firm that was extremely active in petitioning and has interesting characteristics about the cases is BIC. BIC was extremely active in petitioning for anti-dumping duties, but only during a specific time period. In 1990 BIC firms petitioned a total of 24 times for multiple cases, one constant factor was that

all of their petitions were against disposable lighters[3]. All of these cases were against South-East Asian exporters. A reason for this could be that BIC's extremely popular disposable lighter was the cheapest on the market. However due to lower manufacturing costs in South-East Asia, these have been undercutting their iconic lighter. The results to all of these petitions can be found through the regression. BIC's coefficient is 1 at all confidence levels, this means that all of their cases were responded with Affirmative. From this, we can conclude that BIC's usage of anti-dumping duties were entirely justified.

4.3 Sector Activity

On the flipside, the regression shows that some firms were also more likely to be denied the anti-dumping duty on the product they petitioned against, at statistical significance. For example, Corus (now Tata Steel) which was a significant contributor to total petitions with a total of 39, has a coefficient of almost half of Hydro Agri's at 0.436. Indicating that perhaps their petitions were used as offensive measures as suggested by previous research. However, this is merely speculation, and further research would have to be conducted to come to a definitive conclusion. Another firm that was extremely active from another sector was Thyssen Stahl. This major German steel producer was at the forefront of quantity of cases petitioned from the metal industry. They accumulated a total of 54 involvements in cases. Similarly, to the other two large firms, their coefficient is largely positive and statistically significant at all levels of confidence. Thyssen Stahl's coefficient is 0.685, which is slightly lower than that of Hydro Agri. Meaning they were slightly less likely to be responded affirmative to a case. Thyssen Stahl had less total involvement in cases petitioned than Hydro Agri (54 vs 73). That said, Thyssen Stahl was still the most active firm in the steel industry when it comes to petitions.

This is a noteworthy observation, because the number of petitions coming from the steel industry vastly outnumbered that of chemicals. To portray this, a pie chart encompassing all relevant sectors was created. The product section of the GAD-EUN was inspected. An important distinction to make is that for investigating the sectors involved in demand for anti-dumping policies the products that belong to each of the cases were investigated, rather than the firms. This was done because each of the products

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[3] GAD-EUN Database

has a distinct Harmonized System Product code, Cross referencing this with the Harmonized Tariff Schedule[4] returns the relevant sector name as shown in the pie chart.

However, due to the large number of sectors, the pie chart only displays the sectors in which more than 30 petitions originated from. The remaining sectors have been added to the "other" section on the chart[5].

Figure 7 - Pie chart showing sector distribution

Legend:
- Base Metals and Articles of Base Metal
- Textile and Textile Articles
- Machinery and Mechanical Appliances; Electrical Equipment; Parts Thereof
- Products of the Chemical or Allied Industries
- Footwear, Headgear, Umbrellas, Sun Umbrellas, Walking Sticks, Seatsticks, Whips, Riding-Crops and Parts Thereof; Prepared Feathers and Articles Made Therewith
- Other
- Plastics and Articles Thereof Rubber and Articles Thereof
- Articles of Stone, Plaster, Cement, Asbestos, Mica or Similar Materials; Ceramic Products; Glass and Glassware
- Mineral Products
- Missing

Values shown: 1170, 428, 302, 240, 182, 176, 74, 65, 44, 31

The obvious stand out sectors are those of the Metal sector. It is therefore surprising that out of all the firms, Hydro Agri, a chemicals firm has the highest number of petitions out of any firm. When we delve

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[4] The source of this correspondence is https://hts.usitc.gov/current

[5] A more detailed list showing frequencies of every subsector can be found in appendix 7.3

deeper into which sector they fall under, it is observed that all of Hydro Agri's petitions are in the Fertilizer section. In other words, out of the 81 fertilizer petitions, 73 of them belong to Hydro Agri, Fertilizers are a subsection of the "products of the chemical or allied industries". when we compare this to the Iron and Steel industry, we see a much larger spread. More firms are petitioning, but at a lower rate. This becomes even more apparent when we take into account that the most prominent petitioner for the iron and steel industry was Thyssen Stahl, and as aforementioned they had less petitions relative to Hydro Agri(54 vs 73). Perhaps a reason as to why the metal industry's petitions are so vast, is due to other countries such as the US having strict protectionism against metal imports (Swanson & Eavis, 2020). Therefore, exporters to the US might be diverted to the EU, leading to increased protectionism from the EU.

Similarly to the firms section, a regression can be made using the same principles. In other words, the weightings for the response to each of these products from their respective products are as follows.

- 0 – Negative response, Terminated or Withdrawn.
- 1 – Affirmative

From this, we can see when a firm from one sector petitions for a specific product to be protected, how likely each of the aforementioned options are based on their coefficients. Once again, the regression was done without a constant to improve clarity. However, the R-Squared for this regression is only 0.564, implying that roughly 56.4% of the variation in injury decisions is explained by this model. As such, the independent variable(sectors) is not accounting for the mean to a large extent. In order to improve on this model, additional variables such as that relate to the dependent variable would have to be added.

Nonetheless, all the sectors are statistically significant at all levels of confidence. When we inspect the biggest sectors, we find within the metal sector that many petitions were either being rejected, withdrawn, or terminated. As such the coefficient for the metal industry is 0.581. When we compare this with the products of chemistry sector it is observed that those cases were more likely to be accepted. However, when we compare it with the second largest sector, "Textile and Textile Articles", we find that the coefficient for that sector is 0.283, indicating that almost all these petitions are being declined. Which is an interesting find considering how large of an influence the textile industry has in the anti-dumping petitions. The rest of the sectors can be seen in table 7 – Regression of Sectors on Final Injury Decision.

Table 7-Regression of Sectors on Final Injury Decision	_(1)_
VARIABLES	F_INJ_DEC
Articles of Stone, Plaster, Cement, Asbestos, Mica or Similar Materials; Ceramic Products; Glass and Glassware	0.492***
	(0.060)
Base Metals and Articles of Base Metal	0.581***
	(0.014)
Footwear, Headgear, Umbrellas, Sun Umbrellas, Walking Sticks, Seatsticks, Whips, Riding-Crops and Parts Thereof; Prepared Feathers and Articles Made Therewith; Artificial Flowers; Articles of Human Hair	0.462***
	(0.036)
Live Animals; Animal Products	0.444***
	(0.093)
Machinery and Mechanical Appliances; Electrical Equipment; Parts Thereof	0.593***
	(0.028)
Mineral Products	0.727***
	(0.073)
Miscellaneous Manufactured Articles	0.292***
	(0.099)
Optical, Photographic, Cinematographic, Measuring, Checking, Precision, Medical or Surgical Instruments and Apparatus; Clocks and Watches; Musical Instruments; Parts and Accessories Thereof	0.667***
	(0.198)
Plastics and Articles Thereof Rubber and Articles Thereof	0.581***
	(0.056)
Prepared Foodstuffs; Beverages, Spirits, and Vinegar; Tobacco and Manufactured Tobacco Substitutes	0.400***
	(0.109)
Products of the Chemical or Allied Industries	0.671***
	(0.031)
Pulp of Wood or of Other Fibrous Cellulosic Material; Waste and Scrap of Paper or Paperboard; Paper and Paperboard and Articles Thereof	0.786***
	(0.092)
Raw Hides and Skins, Leather, Furskins and Articles Thereof; Saddlery and Harness; Travel Goods, Handbags and Similar Containers; Articles of Animal Gut (Other Than Silkworm Gut)	0.455***
	(0.146)
Textile and Textile Articles	0.283***
	(0.023)
Vegetable Products	1.000***
	(0.280)
Vehicles, Aircraft, Vessels and Associated Transport Equipment	0.696***
	(0.101)
Wood and Articles of Wood; Wood Charcoal; Cork and Articles of Cork; Manufacturers of Straw,of Esparto or of Other Plaiting Materials; Basketware and Wickerwork	0.889***
	(0.114)
Observations	2,712
R-squared	0.564
Standard errors in parentheses	
_*** p<0.01, ** p<0.05, * p<0.1_	

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5. Results & Conclusions

To investigate how demand for anti-dumping regulations in the EU changed over time, three different approaches were taken. The countries in which the firms reside were investigated, to see which countries are more active than others and to see whether this influenced the results of the petitions. From this, we found that without controlling for the size of the country's industry or duration in the EU, a relationship where the size of the country's industry was a significant factor in the demand for anti-dumping policies was apparent.

However, when controlling for both size and duration in the EU, we find that some smaller countries in terms of GDP petition relatively more than some of the bigger ones. Notably, Luxembourg. Luxembourg was in the EU since the start of the petitioning, and through every enlargement remained one of the most active countries based on their GDP. Interestingly, when some of the Eastern European countries joined the EU, back in 2004, they instantly became very active in petitioning for anti-dumping duties. This could perhaps suggest that firms within these countries had pre-existing issues with products being dumped, and as they joined the EU, they petitioned at the European Commission. Alongside this, a regression was made to see if specific years or countries had a higher chance of having their petitions accepted. However, since many of the countries had a very low number of petitions due to their recency of joining the EU, and the lack of sufficient predictors. Many countries were not affecting the final injury decision at a statistical significance. It was observed that the year of the final injury decisions were affecting the decisions significantly.

Next, the individual firms were investigated. From this we observed that the firm that was most active was Hydro Agri, petitioning for products in the fertilizer section. The R-Squared for the regression created for the firms section is 0.678, indicating that different firms affect the final injury decision significantly. Hydro Agri's coefficient is 0.781, implying that they are towards the upper end of accepted petitions. Other influential firms such as BIC had all of their petitions approved. Indicating that whenever they petitioned, it was for good reason. Since withdrawn or prematurely terminated cases can have similar economic impact to an Affirmative response, it can be concluded that firms such as BIC, Hydro Agri and Thyssen Stahl were not using their petitions with that intent. However, Corus for example had a much lower coefficient at 0.436, implying that most of their petitions were getting rejected in one way or another. This could suggest that Corus was using their petitions as an offensive strategy, however, further research would have to be conducted to confirm this. The coefficients for the

rest of the firms can be found in appendix 7.2, but there were too many individual firms to discuss in detail in this paper.

Lastly, it was found that out of all the products investigated for Anti-Dumping 42% of those were in the Iron and Steel industry. A reason for such a high percentage might be because the Steel and Iron industry are one of the largest emitters of carbon dioxide, about 8% of global emissions in fact.[6] European regulation around emissions might be much stricter than some other exporters such as (no longer existing) Yugoslavia, Mexico, Taiwan, China, and many others. Potentially further affected because of higher leniency in these (previously) developing industries, and higher corruption – allowing them to charge much lower prices than the European counterparts. Which is exactly why anti-dumping duties might be necessary. Moreover, we find that some sectors have a significantly higher acceptance rate than others. For example, the Textile industry, albeit a prominent sector in petitions, has a much lower acceptance rate than some other large sectors like the metals.

6. Suggestions for Further Research

This paper sought to uncover how the demand for anti-dumping petitions evolved over the last few decades. This research could be extended by delving deeper into specific aspects. For example, the financial situation of firms before-and-after the anti-dumping duties could be investigated. This could bring further insights to the benefits that an anti-dumping duty might bestow upon a petitioner, providing insight as to the economic incentive behind it. However, the financial statements for specific firms from many years ago that may or may not still exist to this day proved difficulty to obtain.

Furthermore, models with a larger array of predictors could be used effectively to improve upon the models in this paper. Potentially uncovering stronger relationships between specific firms and the European Commission's response to their petitions. Moreover, to find more detailed reasoning why specific firms are much more active than others. For example, Hydro Agri was extremely active as petitioners, but why exactly was this the case? Questions as to why the demand is shaped like it is, could be researched to further reinforce the findings of this paper.

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[6] https://www.mckinsey.com/industries/metals-and-mining/our-insights/decarbonization-challenge-for-steel#

In addition, comparisons could be made with other government agencies, for example. Research comparing the anti-dumping regulations, and demand for it could be conducted. This allows us to see how the European Commission behaves in comparison to other government agencies, and if firms behave differently because of it.

Lastly, research as to why specific cases were withdrawn could prove valuable. Not only as a reinforcement to previous research on anti-dumping duties which suggested that withdrawn or premature terminations of cases proved to have significant economic effect, but also to uncover patterns in petitioner's behavior. Were some cases withdrawn due to the large lag between the initiation date and final injury decision? Or was the intent solely to attack foreign exporters? Questions like these could be answered by case specific research, providing reinforcement to this paper.

7.Appendix

7.1 Deadweight loss diagram.

A+B=Deadweight Loss
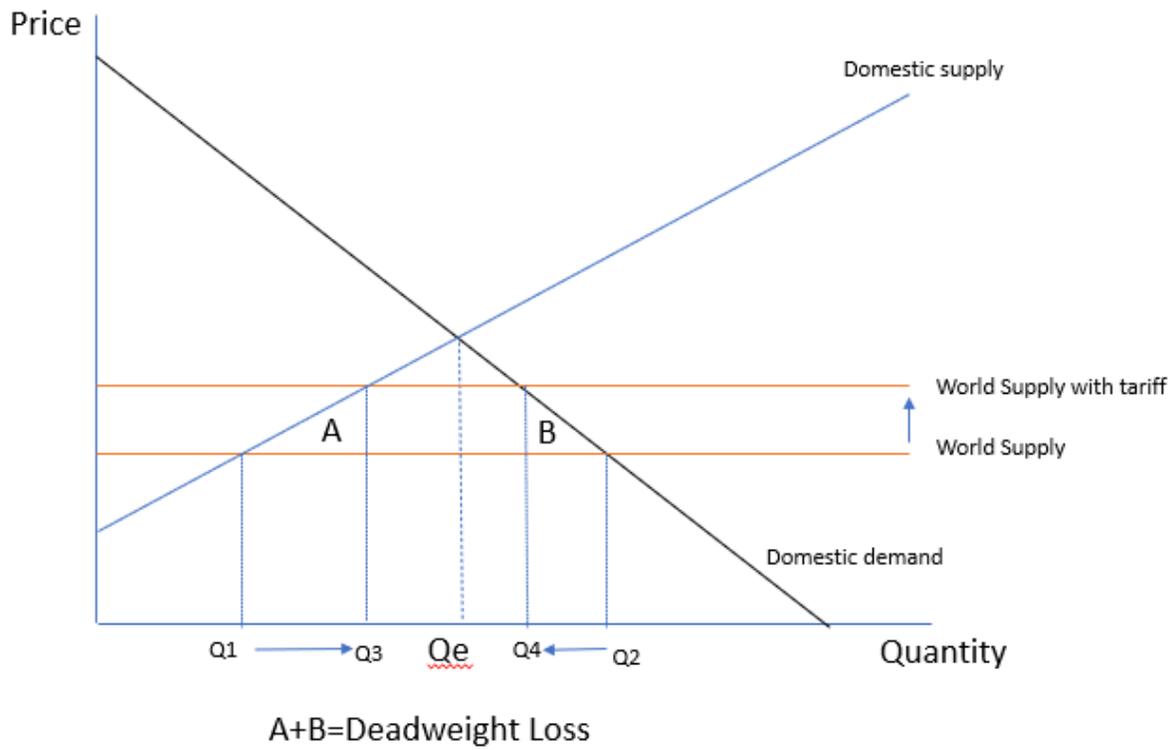
Appendix 7.2 Firm Regression

Regression table all firms(#petitions>10)	(1)
VARIABLES	F_INJ_DEC
Aceralia Corporación Sid Madrid Spain	0.750***
	(0.093)
Agfa Gevaert Ag Muenchen Germany	0.467***
	(0.118)
Agrimonte Spa Italy	0.778***
	(0.107)
Agrolinz Melamin Gmbh Linz	0.813***
	(0.114)
Alfa Acciai Srl Brescia Italy	0.000
	(0.144)
Alti Forni E Ferriere Di Servola Spa Italy	0.700***
	(0.144)
Arbed Sa Luxembourg	0.167
	(0.132)
ArcelorMittal	0.536***
	(0.086)
Babcock & Wilcox Española Sa Galindo Spain	0.300**
	(0.144)
Basf Germany	0.550***
	(0.102)
Benteler Ag Paderborn Germany	0.563***
	(0.114)
BIC	1.000***
	(0.093)
Bridon International Limited	0.800***
	(0.144)
Brilen SA	0.545***
	(0.137)
British Steel Plc London United Kingdom	0.571***
	(0.100)
Bts Drahtseile Gmbh	0.733***
	(0.118)
Bulnava Srl Milano (Italy)	0.846***
	(0.126)
Catalana De Polimers (Spain)	1.000***
	(0.144)
Celsa San Andrés De La Barca (Barcelona) Spain	0.000
	(0.144)

Cockerill Sambre Sa Belgium	0.800***
	(0.144)
Compagnie Française De L'Azote (Cofaz) Paris	1.000***
	(0.122)
Computer Support Italcard	0.412***
	(0.111)
Corus	0.436***
	(0.073)
Cotesi (Portugal)	0.700***
	(0.144)
Dalmine S.P.A.	0.741***
	(0.088)
Degussa Ag	0.643***
	(0.122)
Dk Recycling and Roheisen Gmbh Germany	0.700***
	(0.144)
Du Pont	0.946***
	(0.075)
Eko Stahl Ag Germany	0.700***
	(0.144)
Enka Ag Wuppertal Federal Republic of Germany	1.000***
	(0.132)
Ensidesa Avilés Spain	0.000
	(0.144)
Eurofer	0.700***
	(0.144)
Ferriere a Fonderie Di Dongo Spa Italy	0.333***
	(0.107)
Ferroatlantica	0.900***
	(0.144)
Georg Fischer Gmbh Austria	0.727***
	(0.137)
Grande Paroisse Sa France	0.783***
	(0.095)
Grundig Ag Fuerth Germany	0.867***
	(0.118)
Hamburger Stahlwerke Gmbh Hamburg Germany	0.000
	(0.144)
Hoechst Ag	0.857***
	(0.100)
Hoogovens Bv	0.900***
	(0.144)
Hydro Agri	0.781***

	(0.053)
Hydro-Fertilizers Ltd United Kingdom	0.182
	(0.137)
Ici Ltd United Kingdom	0.273**
	(0.137)
Ilva Spa	0.333***
	(0.083)
Imperial Chemical Industries Ltd United Kingdom	0.667***
	(0.132)
Inox Viti	0.786***
	(0.122)
Interfit Sa Maubeuge	0.800***
	(0.144)
Kemira	0.581***
	(0.082)
La Seda De Barcelona	0.867***
	(0.118)
Mannesmann Germany	0.556***
	(0.107)
Montefibre Spa Italy	0.944***
	(0.107)
Moselstahlwerk Gmbh & Co Kg Trier Germany	0.000
	(0.144)
Nederlandse Stikstof Maatschappij (Nsm) Brussels (A Subsidiary of Norsk Hydro);	1.000***
	(0.122)
Niggeler & Küpfer Spa Capriolo Bs (Italy);	0.000
	(0.132)
Nokia Gmbh Pforzheim Germany	0.909***
	(0.137)
Nueva Montaña Quijano Sa Santander Spain	0.000
	(0.144)
Nurel Sa Spain	0.941***
	(0.111)
Other Firms	0.639***
	(0.010)
Pechiney Electrometallurgie France	0.714***
	(0.122)
Perstorp Chemicals Gmbh	0.167
	(0.132)
Philips	0.679***
	(0.063)
Preussag Stahl Ag Germany	0.700***
	(0.144)

Randers Rebslageri	0.786***
	(0.122)
Redaelli Tecnacordati Spa	0.786***
	(0.122)
Rhône Poulenc	0.862***
	(0.085)
Riva Prodotti Siderurgici Spa Milano Italy	0.000
	(0.144)
Rohrwerk Maxhütte Gmbh	0.500***
	(0.122)
Saarstahl Ag Voelklingen Germany	0.231*
	(0.126)
Salzgitter Ag	0.588***
	(0.111)
Sentinel Computer Products Europe	0.684***
	(0.105)
Siderurgia Nacional Ep Lisbon Portugal	0.000
	(0.144)
Sidmar Gent	0.727***
	(0.137)
Skw Stickstoffwerke Piesteritz	0.813***
	(0.114)
Sociedad Anómina De Fibras Artificiales Barcelona Spain	1.000***
	(0.144)
Suma Gien France	0.333**
	(0.132)
Swedish Match	1.000***
	(0.111)
Thomson	0.783***
	(0.095)
Thyssen Stahl	0.685***
	(0.062)
Trefileurope	0.733***
	(0.118)
Trenzas Y Cables Sl	0.786***
	(0.122)
Tubos Reunidos	0.667***
	(0.100)
Unimetal (Usinor Sacilor) Paris and Amnéville France	0.000
	(0.144)
Vallourec	0.500***
	(0.122)
Velener Textilwerke Grimmelt Wevers & Co Gmbh	0.000

	(0.132)
Virgilio CENA & Figli SpA	0.833***
	(0.132)
Voest Alpine	0.846***
	(0.126)
Wellman International Ltd	0.895***
	(0.105)
Éts Des Fils De V Perrin	0.000
	(0.132)
Observations	3,559
R-squared	0.678
Standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

Appendix 7.3 Sector frequencies

Sector	Frequency
Organic chemicals	83
Miscellaneous chemical products	27
Missing	19
Miscellaneous manufactured articles	23
Missing	12
Electrical machinery and equipment and parts thereof	256
Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	46
Paper and paperboard; articles of paper pulp, of paper or of paperboard	28
Iron and steel	583
Man-made staple fibers	80
Man-made filaments	43
Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals,of radioactive elements or of isotopes	44
Fertilizers	81
Plastics and articles thereof	65
Articles of iron or steel	535
Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	23
Other base metals; cermets; articles thereof	17
Articles of stone, plaster, cement, asbestos, mica or similar materials	18
Ores, slag and ash	6
Other made up textile articles; sets; worn clothing and worn textile articles; rags	48
Cotton	234
Salt; sulfur; earths and stone; plastering materials, lime and cement	13
Silk	3
Footwear, gaiters and the like; parts of such articles	182
Fish and crustaceans, molluscs and other aquatic invertebrates	27
Articles of apparel and clothing accessories, knitted or crocheted	2
Articles of apparel and clothing accessories, not knitted or crocheted	2
Clocks and watches and parts thereof	2
NA	5
Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	1
Zinc and articles thereof	15
Wood and articles of wood; wood charcoal	18
Miscellaneous articles of base metal	7
Wadding, felt and nonwovens; special yarns, twine, cordage, ropes and cables and articles thereof	16

Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	9
Rubber and articles thereof	9
Glass and glassware	19
Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	25
Aluminum and articles thereof	13
Ceramic products	28
Beverages, spirits and vinegar	7
Raw hides and skins (other than furskins) and leather	2
Coffee, tea, maté and spices	3
Preparations of vegetables, fruit, nuts or other parts of plants	5
Toys, games and sports requisites; parts and accessories thereof	1
Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modeling pastes, "dental waxes" and dental preparations with a basis of plaster	3
Animal or vegetable fats and oils and their cleavage products prepared edible fats; animal or vegetable waxes	11
Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	4
Miscellaneous edible preparations	6
Beverages, spirits and vinegar	2
Albuminoidal substances; modified starches; glues; enzymes	1

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