# THE EVOLUTION OF ANTI-DUMPING ACTIVITY IN NEW

# USER COUNTRIES

by

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A THESIS

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Over the past several decades the number of countries with antidumping laws has increased substantially. As countries continue to adopt antidumping laws, it is vital to understand the ways that antidumping usage evolves in new user countries. This paper examines the evolution of antidumping filings over the first ten years after antidumping laws are adopted. Our statistical analysis of data on countries that adopted antidumping laws after 1979 indicates that the number of filings and the percentage of cases that receive an affirmative decision increase over the first ten years after a country adopts AD laws. We also see an increase in the percentage of cases initiated by metal industries over these years.

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# Background

     Dumping occurs in international trade when a firm charges an export price that is significantly lower than the price that they charge in their own market. Sometimes dumping may be related to "predatory pricing," in which a foreign company deliberately sells goods at a low price in order to drive out domestic competition. Even if the harm is not deliberate, a firm may file an antidumping (AD) duty to protect their domestic industry from damage by foreign competition.

     The current rules for AD implementation were codified in the Uruguay Round of the General Agreement on Tariffs and Trade (GATT). The "Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994" includes details on how to determine whether dumping has occurred, how to calculate injury to the domestic industry, and other definitional and procedural guidelines.[1] The key criteria in the determination of dumping under the Uruguay Round are called "fair value" (or "normal value") and "material injury."

     If the exporting firm is found to be charging a price that is below "fair value," they may be subjected to a penalty. "Fair value" is meant to indicate the "ex factory" price of the good in the exporter's market. By "ex factory" we mean the price of the good as it leaves the factory, i.e. before the addition of transportation costs and other things that might increase the final price to the consumer. If the exporting country does not sell the product in their own market, then the price of the good in a third country may be used. Another way to calculate fair value is through "constructed cost." In this method the agency attempts to calculate the cost of producing one unit of the good, plus

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[1] Available at https://www.wto.org/english/res_e/booksp_e/analytic_index_e/anti_dumping_05_e.htm

some overhead costs and profits. This information is requested from the firm that is accused of dumping, and providing this information can be costly and difficult. If the exporting firm refuses to provide this information, then the agency can use "facts available" to estimate the fair value, which is often information provide by the petitioning firm.

The second criterion is evidence of whether the dumping activity has caused (or threatens to cause) material injury to the domestic industry. Various indicators of domestic performance may be used to determine material injury, such as productivity and employment. The agency is also supposed to establish a causal relationship, but this can be very difficult to prove. If the "fair value" and "material injury" criteria are met, then an antidumping duty can be implemented.

When a firm is found guilty of dumping, there are a number of penalties that can be levied. Ad valorem duties are calculated based on a percentage of the price of the good. Specific duties represent a fixed value charged for a certain amount of the good sold. A price undertaking occurs when a price floor is established. Sometimes the exporting firm may choose to cease exporting the good entirely due to these duties.

# Introduction

Over the last several decades there has been a proliferation of countries using AD laws.  Developing countries have moved from having only a negligible share in AD filings to becoming responsible for over half of all initiations.[2] Furthermore, AD laws have become the *defacto* tool for trade protectionism. Even the expansive Trans-Pacific Partnership Free Trade Agreement explicitly refuses to alter the existing AD framework.[3] With the rapid increase in new AD users, and the enshrinement of AD laws as the dominant form of legal protectionism, it is vital that we understand the motivations among new AD users for implementing AD laws, and the manner in which these laws are utilized by domestic firms and industries.

There is a rich literature on the use of AD duties by "traditional" heavy users such as Canada, the United States, and the European Union. Much of this literature has focused on understanding macroeconomic factors that determine the volume and size of AD duties.[4] Many key papers in the field have also identified the effect of AD on overall trade flows.[5] Another important area of study has been the possibility of retaliation or collusion in response to AD duties.[6] The proliferation of new AD users over the past several decades has opened up new opportunities for research. Various papers have looked at the differences in macroeconomic determinants of AD filings

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[2] Thomas J. Prusa, "On the spread and impact of anti- dumping," *Canadian Journal of Economics/Revue canadienne d'économique* 34, no. 3 (2001): 591.

[3] Trans Pacific Partnership, chapter 6, article 6.8, available at https://medium.com/the-trans-pacific-partnership/trade-remedies-edc8bd7d4a7e#.dil5bx2mv

[4] Michael M. Knetter, and Thomas J. Prusa, "Macroeconomic factors and antidumping filings: evidence from four countries," *Journal of International Economics* 61, no. 1 (2003): 1-17.

[5] Tibor Besedeš and Thomas J. Prusa, *Antidumping and the Death of Trade*, No. w19555. National Bureau of Economic Research, 2013.

[6] Bruce A. Blonigen and Chad P. Bown, "Antidumping and retaliation threats," *Journal of International Economics* 60, no. 2 (2003): 249-273.

between developing and developed countries,[7] and the consequences of AD law adoption for new users.[8]

This project merges previous research on AD characteristics and new AD users with an analysis of the evolution of AD duties over time. The evolution of AD usage can be examined from both a government and a firm perspective. Blonigen (2006a) outlines the evolution of discretionary practices in the U.S. Department of Commerce's calculation of dumping margins, and finds that the Department of Commerce altered its method of calculating dumping margins over time to increase the penalty in favor of the domestic industry.[9] In another study, Blonigen (2006b) examines firm learning in the AD process, and finds evidence that firms with AD experience were more effective at arguing for their case. He also finds that firms with experience were more willing to file weaker AD cases because of the subsequent reduction in filing costs.[10]

This thesis will examine the evolution of dumping behavior based on the changes in the volume and size of dumping margins during the first ten years after a country adopts AD laws. A major limitation of previous research on new AD users is that comprehensive data has not been historically available. High quality cross-country data has recently been made available on Chad Bown's Global Antidumping Database. My thesis will utilize this data by extending Blonigen's analysis of the evolution of AD practices over time with the increased interest in new AD users (primarily in developing countries). In particular, I will test the null hypothesis that the volume and size of AD

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[7] Aradhna Aggarwal, "Macro economic determinants of antidumping: A comparative analysis of developed and developing countries," *World Development* 32, no. 6 (2004): 1043-1057.

[8] Prusa, "impact of antidumping," 2001.

[9] Bruce A. Blonigen, "Evolving discretionary practices of US antidumping activity," *Canadian Journal of Economics/Revue canadienne d'économique* 39, no. 3 (2006): 874-900.

[10] Bruce A. Blonigen, "Working the system: Firm learning and the antidumping process," *European Journal of Political Economy* 22, no. 3 (2006): 715-731.

margins do not increase over the course of the first ten years after a country adopts AD laws. I will also examine how the share of AD filings by a few key industries changes over these years. One alternative hypothesis is that there will be an increase in the volume and size of AD margins as domestic industries seek an advantage over foreign competition, and as firms and agencies learn how to more effectively use AD laws. Another hypothesis might be that the volume and size do not change significantly due to the threat of retaliation or the presence of collusion between domestic and foreign firms.

My thesis is organized as follows. First, I will describe my data sources, and examine the advantages and drawbacks that they provide. Second, I will present my methodology, and describe the various models that I am estimating. Third, I will examine the results of these regressions, and discuss the implications for my hypotheses. Finally I will comment on the potential for further research, as well as the broader policy implications of my thesis.

# Data

Data on AD filings come from Chad Bown's Global Antidumping Database (GAD).[11] Originally established in 2005, the database is hosted by the World Bank, and is the first comprehensive database of information on AD filings compiled from primary source national government documents. The GAD has full data on 31 countries (where the European Union is counted as one country). There are 18 other countries for which minimal data exists. The full information includes the country initiating the filing, the country under investigation, the product being dumped with its harmonized system product code, the final dumping measure imposed, and the low and high end of the range for the dumping margin reported by the WTO. It also includes the date of initiation, and the date for all of the preliminary and final proceedings, as well as the revocation date if applicable.

To examine the changes in AD filings after AD laws were first adopted in a country, I needed the dates that each country adopted AD laws. This data was retrieved from a forthcoming book chapter by Blonigen and Prusa (forthcoming).[12] While countries began adopting these laws in the early 1900s, the earliest cases listed in the GAD were from 1978. Thus I was only able to use countries that adopted laws after 1980. The countries that adopted AD laws after this date, and for which data was available, as well as the number of cases documented in each country are listed in the appendix.

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[11] Chad P. Bown, "Global Antidumping Database," The World Bank, June (2015), http://econ.worldbank.org/ttbd/gad/

[12] Bruce A. Blonigen and Thomas J. Prusa, "Dumping and Antidumping Duties," in *Handbook of Commercial Policy*, ed. Kyle Bagwell and Robert Staiger. (North Holland, forthcoming).

Data for real effective exchange rates based on annual consumer price index came from a dataset hosted by Bruegal.[13] The real effective exchange rate data used in this thesis are based on 67 trading partners because this was the best data available going back to 1980.

The GDP data I used came from the World Bank's "World Databank."[14] This data calculates GDP at market prices in current U.S. dollars. For political reasons, the World Bank does not include GDP from Taiwan. This data was pulled from the "National Statistics" database compiled by the Taiwanese government.[15]

There is an additional caveat about the data that must be addressed. In 1993, seven years after adopting AD laws, Mexico entered into a massive trade war with China. During this year, Mexico filed over a thousand AD cases against China, many with margins upwards of 1000%. This event would account for over 30% of the total observed cases if left in, and would significantly skew the dumping margin data. Thus I have chosen to omit this year in my analysis.

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[13] Bruegel (2012), *Real effective exchange rates for 178 countries: a new database* [Data file], retrieved from http://bruegel.org/publications/datasets/real-effective-exchange-rates-for-178-countries-a-new-database/
[14] The World Bank (2015), *GDP growth (annual %)* [Data File], retrieved from http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG
[15] National Statistics, R.O.C (Taiwan), *Principal Figures(2008SNA)-Annual* [Data file], retrieved from http://statdb.dgbas.gov.tw/pxweb/Dialog/varval.asp?ma=NA8101A1A&ti=Principal%20Figures(2008SNA)-Annual&path=../PXfileE/NationalIncome/&lang=1&strList=L

## Methodology/Model

Each observation in our dataset is based on a given country in a given year after that country implemented its AD laws (up to the first ten years). The models given in Table 1 estimate the effect of the variables on the number of cases filed in a given year. Since the dependent variable is positive and discrete, we use a negative binomial regression. The regressors included in the model are number of years since AD law implementation, real GDP, real effective exchange rate, and country fixed effects. We include a squared version of the years since implementation variable to capture non-linear aspects of the relationships. We might expect a significant squared years variable in many of the models where the dependent variable increases at a decreasing rate over time. Such a relationship could be present in the model for AD filings if firm learning allows firms to file weaker cases, leading to lower growth in filings in later years as firms have more difficulty finding additional cases.

The inclusion of real GDP and real effective exchange rate variables are based on a paper by Knetter and Prusa (2003), that identifies real GDP and real exchange rate fluctuations as the primary macroeconomic factors that effect antidumping filings.[16] Similarly to Knetter and Prusa's model, we take the log of both the real effective exchange rate and the real GDP. We also include a one year lagged real exchange rate variable, and a one, two, and three year lagged real GDP variable. These lagged variables were also included in Knetter and Prusa's model to account for the influence of these variables in previous years on the decision to file an AD petition.

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[16] Knetter and Prusa, "Macroeconomic factors."

The rest of the models in Tables 2 through 4 are basic multivariate regressions. They include the same regressors, but replace the dependent variable with minimum and maximum dumping margins, percentage of cases given an affirmative and negative final decision, percentage of filings in a given industry, and duration of the case.

Table 1

Negative binomial estimation of average filings per year since implementation

| VARIABLES | (1) number of filings | (2) number of filings |
|---|---|---|
| years since implementation | 0.202*** | 8.169*** |
|  | (0.0564) | (3.094) |
| square years |  | -0.498** |
|  |  | (0.193) |
| log(gdp) | -2.224*** | -34.90** |
|  | (0.703) | (17.59) |
| log(gdp) (-1) | -0.0510 | -0.201 |
|  | (0.120) | (1.002) |
| log(gdp) (-2) | -0.147* | -1.513 |
|  | (0.0837) | (1.246) |
| log(gdp) (-3) | 0.310*** | 3.480** |
|  | (0.0932) | (1.621) |
| log(reer) | 2.331*** | 30.27* |
|  | (0.844) | (17.61) |
| log(reer) (-1) | -0.523 | -7.584 |
|  | (0.465) | (11.83) |
| Constant | 50.66*** | 784.9* |
|  | (16.02) | (440.3) |
| Observations | 149 | 149 |
| R-squared |  | 0.246 |

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes: Country fixed effects were included in the model, but omitted in the table. The variable log(gdp) (-x) is the log of the GDP lagged x years, and the log(reer) (-1) is the log of the real effective exchange rate lagged 1 year.

Table 2

Multiple linear models estimating percentage of cases given an affirmative decision

| VARIABLES | (1) affirmative percentage | (2) affirmative percentage |
|---|---|---|
| years since implementation | 1.372 | -3.783 |
|  | (2.028) | (4.062) |
| square years |  | 0.495 |
|  |  | (0.369) |
| log(gdp) | -14.39 | -13.71 |
|  | (23.64) | (22.95) |
| log(gdp) (-1) | 4.053 | 4.237 |
|  | (5.037) | (4.708) |
| log(gdp) (-2) | -2.120 | -1.952 |
|  | (3.584) | (3.567) |
| log(gdp) (-3) | -2.668 | -2.860 |
|  | (2.835) | (2.826) |
| log(reer) | 37.28 | 38.78 |
|  | (37.52) | (39.03) |
| log(reer) (-1) | 21.48 | 22.10 |
|  | (20.94) | (20.63) |
| Constant | 188.7 | 166.1 |
|  | (504.6) | (491.4) |
|  |  |  |
| Observations | 149 | 149 |
| R-squared | 0.477 | 0.486 |

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes: Country fixed effects were included in the model, but omitted in the table.

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Table 3

Multiple linear regression models estimating minimum and maximum dumping margins

| VARIABLES | (1) minimum margin | (2) minimum margin | (3) maximum margin | (4) maximum margin |
|---|---|---|---|---|
| years since implementation | 0.801 | -7.065 | 4.702 | 4.599 |
| | (5.099) | (16.80) | (7.755) | (19.85) |
| square years | | 0.707 | | 0.00923 |
| | | (1.301) | | (1.789) |
| log(gdp) | -9.058 | -15.64 | -20.18 | -20.26 |
| | (52.24) | (48.17) | (72.08) | (77.48) |
| log(gdp) (-1) | -40.02* | -42.91** | -39.12* | -39.16* |
| | (20.88) | (20.39) | (20.13) | (21.29) |
| log(gdp) (-2) | 30.50 | 30.68 | 28.54 | 28.54 |
| | (20.61) | (20.70) | (19.88) | (20.07) |
| log(gdp) (-3) | -2.847 | -3.707 | 1.779 | 1.768 |
| | (11.44) | (11.58) | (14.25) | (14.16) |
| log(reer) | -30.00 | -18.68 | -51.04 | -50.90 |
| | (103.1) | (100.9) | (108.1) | (115.2) |
| log(reer) (-1) | -33.65 | -30.66 | -32.25 | -32.21 |
| | (89.18) | (88.99) | (94.71) | (95.57) |
| Constant | 914.3 | 1,139 | 1,221 | 1,224 |
| | (1,207) | (1,083) | (1,613) | (1,804) |
| | | | | |
| Observations | 71 | 71 | 71 | 71 |
| R-squared | 0.341 | 0.343 | 0.301 | 0.301 |

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Notes: Country fixed effects were included in the model, but omitted in the table.

Table 4

Multiple linear regression models estimating percentage of filings initiated by agricultural and chemical industries

| VARIABLES | (1) agriculture_pct | (2) agriculture_pct | (3) chemicals_pct | (4) chemicals_pct |
|---|---|---|---|---|
| years since implementation | -0.0383 | -0.399 | -0.614 | -1.690 |
|  | (0.656) | (1.343) | (1.124) | (2.771) |
| square years |  | 0.0346 |  | 0.103 |
|  |  | (0.138) |  | (0.236) |
| log(gdp) | 6.981 | 7.028 | 7.608 | 7.749 |
|  | (5.511) | (5.567) | (13.77) | (13.61) |
| log(gdp) (-1) | -2.935 | -2.922 | 4.962 | 5.000 |
|  | (2.038) | (2.032) | (3.976) | (3.952) |
| log(gdp) (-2) | -0.230 | -0.219 | 1.432 | 1.467 |
|  | (2.600) | (2.624) | (3.177) | (3.215) |
| log(gdp) (-3) | 2.344 | 2.331 | 1.344 | 1.304 |
|  | (1.703) | (1.725) | (3.808) | (3.843) |
| log(reer) | -3.830 | -3.725 | -6.092 | -5.778 |
|  | (8.490) | (8.649) | (14.49) | (14.38) |
| log(reer) (-1) | 3.216 | 3.259 | -8.645 | -8.515 |
|  | (7.632) | (7.711) | (10.83) | (10.81) |
| Constant | -162.1 | -163.6 | -325.8 | -330.6 |
|  | (137.9) | (140.1) | (310.1) | (310.3) |
|  |  |  |  |  |
| Observations | 149 | 149 | 149 | 149 |
| R-squared | 0.208 | 0.208 | 0.417 | 0.418 |

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes: Country fixed effects were included in the model, but omitted in the table.

Table 5

Multiple linear regression models estimating percentage of filings initiated by the metal industry

| VARIABLES | (5)<br>metals_pct | (6)<br>metals_pct |
|---|---|---|
| years since implementation | 4.354** | 8.356** |
| | (1.775) | (3.587) |
| square years | | -0.384 |
| | | (0.302) |
| log(gdp) | -61.47*** | -62.00*** |
| | (18.34) | (18.64) |
| log(gdp) (-1) | -3.447 | -3.590 |
| | (3.418) | (3.243) |
| log(gdp) (-2) | -4.118 | -4.249 |
| | (3.485) | (3.565) |
| log(gdp) (-3) | 0.585 | 0.734 |
| | (3.854) | (3.932) |
| log(reer) | 33.06 | 31.89 |
| | (28.33) | (28.05) |
| log(reer) (-1) | 19.85 | 19.37 |
| | (17.43) | (17.89) |
| Constant | 1,624*** | 1,641*** |
| | (415.6) | (424.3) |
| | | |
| Observations | 149 | 149 |
| R-squared | 0.398 | 0.405 |

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes: Country fixed effects were included in the model, but omitted in the table.

Table 6

Multiple linear regression models estimating duration of case

| VARIABLES | (1) duration | (2) duration | (3) duration | (4) duration |
|---|---|---|---|---|
| years since implementation | 5.040 | 46.68* | -4.631 | 29.83 |
| | (6.537) | (24.77) | (15.03) | (29.42) |
| square years | | -4.017 | | -3.144 |
| | | (2.571) | | (2.615) |
| log(gdp) | | | 67.99 | 51.03 |
| | | | (138.9) | (136.3) |
| log(gdp) (-1) | | | 15.77 | 18.27 |
| | | | (39.92) | (42.05) |
| log(gdp) (-2) | | | -72.59 | -69.44 |
| | | | (55.48) | (54.98) |
| log(gdp) (-3) | | | 28.41 | 28.33 |
| | | | (48.48) | (47.92) |
| log(reer) | | | -159.5 | -159.3 |
| | | | (214.5) | (214.7) |
| log(reer) (-1) | | | 235.6 | 224.7 |
| | | | (204.8) | (196.5) |
| Constant | 349.4*** | 275.0*** | -952.1 | -668.0 |
| | (53.42) | (61.28) | (3,509) | (3,409) |
| | | | | |
| Observations | 109 | 109 | 101 | 101 |
| R-squared | 0.293 | 0.309 | 0.334 | 0.343 |

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes: Country fixed effects were included in the model, but omitted in the table.

# Results

*Number of Cases Filed*

The second model in Table 1 indicates that each year since AD laws were implemented is expected to increase the number of AD cases filed by about 8, an effect that is significant at the 1% significance level. The negative "years since implemented squared" term indicates that the rate at which increase in AD cases filed decreases over time. Thus, it appears that there is an initial burst of AD cases filings, which levels off as a country approaches the ten-year mark since AD law adoption.

A one percent increase in real GDP is expected to lead to a decrease of about 35 AD cases filed, significant at the 5% level. Furthermore a one percent increase in the real effective exchange rate is expected to lead to an increase of about 30 AD filings, significant at the 10% level. The signs of the coefficients on these variables are consistent with Knetter and Prusa's study, which found that "a one standard deviation real appreciation of the filing country currency leads to a 33% increase in AD filings" and "a one standard deviation fall in domestic real GDP growth leads to a 23% increase in AD filings."[17] This suggests that there are no serious problems with the specification of our model.

*Final Decision Percentages*

The models in Table 2 regress the percentage of cases with an affirmative final AD decision on the same regressors from the previous model. There are no significant variables in this model, which indicates that there must be other factors driving the

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[17] Knetter and Prusa, "Macroeconomic factors," 3.

changes in AD decisions. Despite the lack of significance in our model, the graph of affirmative and negative decision percentages over years since implementation Figure 1, and the pie charts giving the percentages of each decision in Figure 2 indicates that there is an increase in affirmative decisions as a country develops its AD laws.
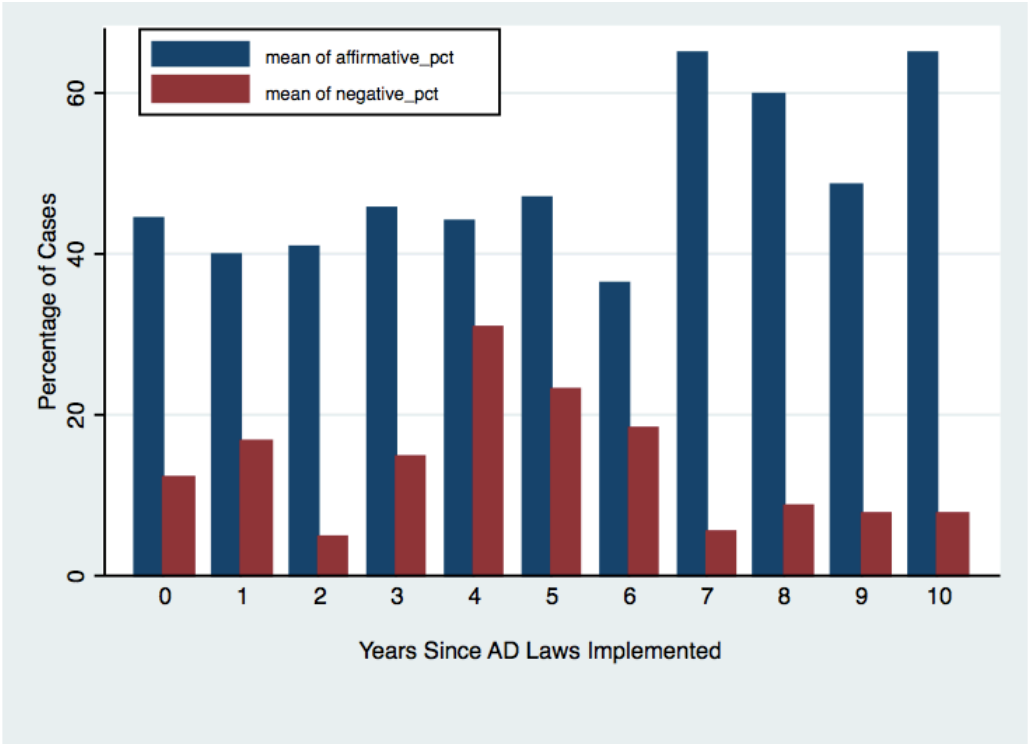


Figure 1. Percentage of Affirmative and Negative Cases vs. Years Since AD Laws
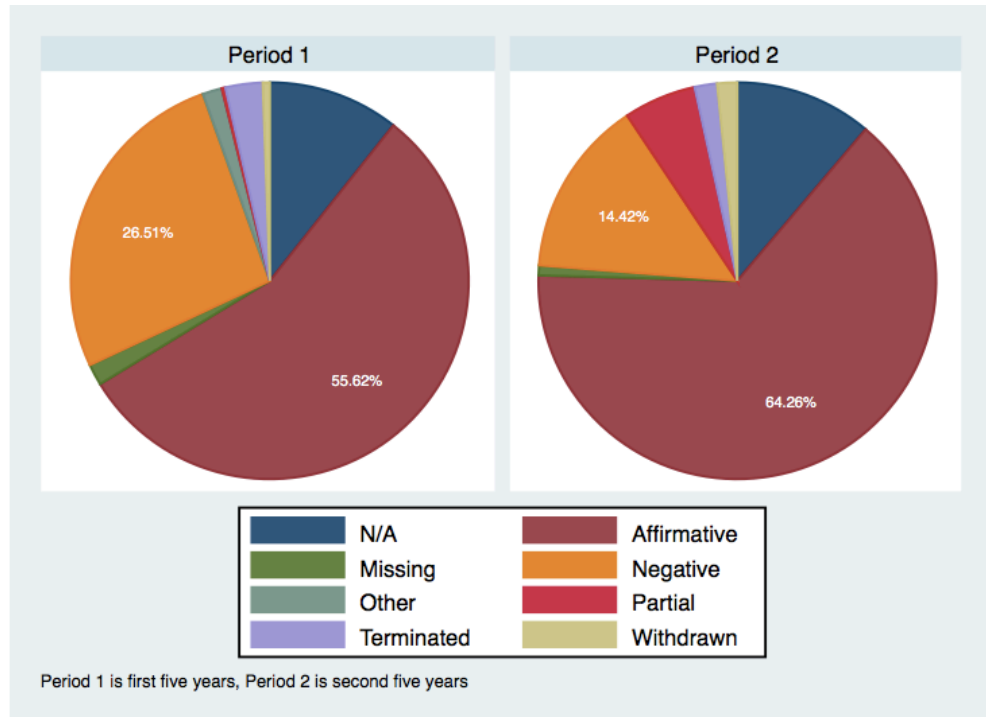Implemented

Figure 2. Percentage of final decision types over the first and second five year periods

Notably there is about a nine percent increase in the percentage of affirmative decisions, and about a 12 percent decrease in the number of negative decisions. There is also an increase in the number of partially affirmative decisions. Partial decisions require a more developed and nuanced understanding of AD laws, and the increase in partial decisions may indicate that domestic entities may be favoring filings by domestic industries through their interpretation of AD laws. Previous research conducted by Blonigen (2006b) finds evidence that the U.S. Department of Commerce (USDOC) had evolved in its discretionary practices regarding AD laws in order to favor domestic firms. While most new AD users do not have access to the same resources as the USDOC, the increase in partial and affirmative decisions and the decrease in negative decisions may indicate an evolution of discretionary practices along the same lines.

*Industry Specific Results*

One of the most interesting results from our regression analysis is the second model in Table 5, in which the dependent variable is the percentage of AD filings initiated by the metal industry. Each year since a country adopts AD laws is expected to increase the proportion of metal cases by about 8 percent at the .05 significance level. This finding is consistent with previous research that indicates the metal industry is the source of a large portion of total AD filings.[18] The results in Table 4 are not significant, indicating little change in the share of filings initiated by the agricultural and chemical industries over the first ten years after AD law implementation.

*Duration Results*

The results in Table 4 regarding duration of the case suggest that there is about a 46 day increase in the mean duration for each year after a country adopts AD laws. Previous research suggests there may be a connection between increased case duration and firm learning. In a study of firm learning and the AD process in the United States, Blonigen found evidence to suggest that firms with greater experience filing AD petitions were able to more effectively argue their cases, leading to an increase in affirmative decisions. He also found that dumping margins did not increase because firms were filing weaker cases in an attempt to work the system.

Our results in Figure 2 and Tables 1 and 2 correspond with Blonigen's findings. We see an increase in the number of cases, and the percentage of affirmative decisions.

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[18] Blonigen and Prusa, "Dumping and Antidumping Duties."

We also do not see a significant change in the dumping margins. Finally, we see an increase in partially affirmative decisions. This suggests that the increase in duration of cases is related to firm learning and increased firm involvement in the AD process, coupled with weaker cases being filed over time. More research is necessary to verify this pattern of behavior.

# Conclusion

The proliferation of new AD users coupled with an increase in the availability and quality of data has warranted a closer look at the evolution of anti-dumping filings in countries during the first years after the adoption of such laws. Previous literature on AD usage indicates that macroeconomic trends and domestic entities may use AD laws as a form of protectionism, regardless of whether dumping has legitimately occurred. Certain industries such as steel and chemicals have historically been responsible for a large share of AD filings. This paper sought to find whether there is evidence that these patterns develop during the early years of AD usage in a new user country.

We find evidence that many of these trends develop in the first ten years after a country adopts AD laws. In particular, each year since AD laws are implemented increases the number of AD cases filed by about 8. We also find strong evidence that real GDP growth and real effective exchange rate are the most influential determinants of the volume of AD filings in a given year. The early years after AD law adoption also see a significant increase in the percentage of affirmative and partially affirmative case rulings, and a decrease in negative rulings. This may suggest that usage of AD laws develops over time to benefit domestic firms. We also see a significant increase in the share of AD filings initiated by the metal industry, which is consistent with previous literature on the metal industries prevalence in AD filings. Finally, we see an increase in the duration of cases by about 46 days per year since AD law adoption.

Our study is consistent with previous research on firm learning and domestic government discretionary practices in the United States. The increase in number of filings and affirmative decisions coupled with low changes in dumping margins and

increased case duration indicate the possibility that firms are also adapting to AD laws at a global level. Further research is needed to understand more precisely the ways in which the usage of AD laws by firms and government agencies in new user countries develops over time.

# Appendix

Countries in Dataset

| Country | AD Cases | Percentage | Year Adopted. |
|---|---|---|---|
| Brazil | 139 | 4.63 | 1987 |
| Bulgaria | 1 | 0.03 | 1993 |
| Chile | 7 | 0.23 | 1986 |
| China | 262 | 8.72 | 1997 |
| Colombia | 80 | 2.66 | 1991 |
| Costa Rica | 8 | 0.27 | 1996 |
| Czech Republic | 3 | 0.10 | 1997 |
| Dominican Republic | 1 | 0.03 | 2001 |
| Ecuador | 2 | 0.07 | 1991 |
| Egypt | 54 | 1.80 | 1998 |
| Guatemala | 1 | 0.03 | 1996 |
| India | 20 | 0.67 | 1985 |
| Indonesia | 121 | 4.03 | 1995 |
| Israel | 54 | 1.80 | 1991 |
| Jordan | 1 | 0.03 | 2003 |
| Latvia | 7 | 0.23 | 2000 |
| Lithuania | 7 | 0.23 | 1998 |
| Mexico | 1,433 | 47.70 | 1986 |
| Nicaragua | 3 | 0.10 | 1995 |
| Panama | 2 | 0.07 | 1996 |
| Paraguay | 2 | 0.07 | 1996 |
| Peru | 167 | 5.56 | 1991 |
| Philippines | 47 | 1.56 | 1994 |
| Poland | 12 | 0.40 | 1997 |
| Slovenia | 1 | 0.03 | 1993 |
| Taiwan | 89 | 2.96 | 1984 |
| Thailand | 232 | 7.72 | 1994 |
| Trinidad and Tobago | 11 | 0.37 | 1992 |
| Turkey | 129 | 4.29 | 1989 |
| Ukraine | 14 | 0.47 | 1999 |
| Venezuela | 94 | 3.13 | 1992 |

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