Exchange Rate Movements and the Demand for Protection in the United States, 1975-2004

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Abstract

Standard models of trade politics cannot explain the temporal variation in protectionism evident in the United States during the last thirty years. This paper builds a model that does explain this temporal variation. I incorporate the real exchange rate into the standard model of sectoral trade policy preferences to show how the number of sectors that benefit from protection grows as the real exchange rate appreciates. I conceptualize the conditions under which political institutions encourage producers to respond to real exchange rate appreciation by demanding tariff protection rather than currency depreciation. The theoretical model thus suggests that temporal variation in protectionism is a consequence of how political institutions channel producers' responses to real exchange rate movements. I test the model using data on antidumping and escape clause petitions in the United States between 1975 and 2004. The empirical analysis yields robust support for the study's principal hypotheses.

Although American trade policy has been tethered to the multilateral trade system since 1945, American industry's support for this arrangement has waxed and waned. Indeed, demands for protection by American industry throughout this period have risen and fallen in clearly identifiable waves. Three such "protectionist waves" are evident in the last thirty years.[1] The first emerged midway through the first Reagan administration, peaked early in the second Reagan administration and had receded by 1988. The second wave emerged around 1990, peaked in the months surrounding the 1992 election, and had almost fully dissipated by 1995. The third and final wave emerged in 1999, peaked in 2001, and had largely receded by 2005. Each protectionist wave is readily characterized by a symbolic leader and a prominent foreign scapegoat. The 1980s wave is best symbolized by Richard Gephardt's Japan bashing. The early 1990s is best symbolized by the "great sucking sound" Ross Perot feared that free trade with Mexico would generate. Lindsay Graham and Charles Schumer led the most recent wave, and focused greatest attention on China.

Standard models of trade politics cannot explain these protectionist waves.[2] The standard approach derives sectoral trade policy preferences from trade's impact on the income earned in traded goods production. Trade's impact on the return to traded goods production is in turn a function of factor proportions used in production and the impact of international trade on factor prices. Factor proportions used in production determine whether industries are relatively labor-intensive or capital-intensive producers. International trade raises factor prices in activities that make intensive use of society's

[1]I offer here only a brief sketch of these waves. As we shall see below, these three protectionist waves are visible in quantitative indicators of antidumping petitions and congressional hearings on trade-related issues.

[2]See, e.g., Alt et al. (1996); Fordham and McKeown (2003) Hansen and Mitchell; (2000) Hathaway (1998); Hiscox (1999, 2002; 2001); Ladewig (2006).

abundant factor relative to factors employed in activities that make intensive use of society's scarce factor. In a capital-abundant economy such as the United States, this implies that the return to factors employed in capital-intensive (or export-oriented) industries rises relative to the return to factors employed in labor-intensive (or import-competing) industries. Owners of factors employed in export-oriented industries therefore prefer low tariffs, while owners of factors employed in import-competing industries prefer high tariffs.

This standard approach lacks the moving parts needed to account for the protectionist waves evident in American trade politics. In the standard model, the number of industries that benefit from protection does not vary from one year to the next. All producers are either import-competing and thus always benefit from protection or export-oriented and thus always benefit from liberalization. Yet, the existence of protectionist waves implies that the number of industries that benefit from protection does vary from one year to the next. Moreover, our standard model suggests that variation in sectoral trade policy preferences must be a consequence of factor price movements. Yet, in the standard model factor prices don't rise and fall within sectors: factor prices fall in import-competing industries relative to factor prices in export-oriented industries. The standard model cannot explain protectionist waves, therefore, because protectionist waves are driven by changes in trade policy preferences that the standard model cannot explain.

In order to explain protectionist waves, we must either modify the standard model or develop an alternative one. I modify the standard approach by theorizing about how exchange rate movements affect trade policy preferences. This paper is not the first to highlight a link between exchange rates and trade politics. Economists have long

recognized that devaluation and trade barriers (tariffs, quotas, and subsidies) are policy substitutes from the perspective of an individual firm.[3] Political scientists have recognized the relationship in practice. Jeff Frieden highlights how in the late 19th century American industry responded to a strong currency by demanding higher tariffs. "After the return to gold in 1879, manufacturers concentrated on obtaining tariffs…A specific tariff accomplished essentially the same effect on output prices as a devaluation, did not involve raising imported input prices, and could be obtained relatively easily through targeted political action rather than requiring a change in national macroeconomic policy."[4] Frieden's observation is echoed in a small empirical literature that finds that antidumping petitions vary systematically with exchange rate movements in the United States, Canada, Australia, the European Union, and Mexico.[5]

This paper is the first, however, to present a theoretical model that explains why exchange rate movements generate trade policy demands. The model focuses on sectoral trade policy preferences and political institutions. I incorporate the real exchange rate into the standard model of sectoral trade policy preferences to show how the number of sectors that benefit from protection grows as the real exchange rate appreciates. I conceptualize the conditions under which political institutions encourage producers to respond to real exchange rate appreciation by demanding tariff protection rather than currency depreciation. The theoretical model thus suggests that protectionist waves are a consequence of how political institutions channel producers' responses to real exchange rate movements.

[3]See, e.g., Corden (1997) and McKinnon and Fung (1993).
[4] Frieden (1997, 375). See also Broz and Frieden (2001, 333).
[5] See e.g., Knetter and Prusa (2003), Niels and Francois (2006), and Irwin (2005).

I evaluate the model using data on U.S. antidumping and escape clause petitions filed between 1975 and 2004. The analysis yields three specific findings. First, annual variation in the number of demands for protection is systematically related to real exchange rate movements. Second, the sectors that most often demand protection are those whose fortunes are most sensitive to real exchange rate movements. Third, political institutions shape how industries respond to real exchange rate movements. Firms pursue policy measures that offer the greatest probability of success for the lowest cost.

II. THE REAL EXCHANGE RATE AND THE DEMAND FOR PROTECTION

Explaining protectionist waves requires a theoretical model that allows the number of sectors that benefit from protection to rise in some periods and fall in others. I build such a model by incorporating the real exchange rate into a factor-proportions based model of trade policy preferences. The resulting model is one in which trade policy preferences for a subset of producers change in response to real exchange rate movements. As a consequence, more traded goods producers benefit from protection as the real exchange rate appreciates, while fewer benefit from protection when the real exchange rate depreciates.

I build the model in three steps. I first develop an expected utility function cast at the sector level. This expected utility function tells us the conditions that determine whether a given industry benefits from protection. I then use this expected utility function to derive a "benefit from protection schedule" for the traded goods sector as a whole. This schedule identifies the number of industries that prefer protection in any given period and illustrates how real exchange rate movements alter this number from one

period to the next. Finally, I consider how political institutions encourage firms to seek tariffs rather than currency depreciation in response to real exchange rate movements.

The Expected Utility Function

The pursuit of policy measures to offset a competitive disadvantage is a costly and uncertain endeavor. As a consequence, producers seek such policy measures only when the benefits they expect are greater than the lobbying costs. We can therefore express an individual sector's decision to seek such policy measures with an expected utility framework. Sector *s*'s expected utility from political activity is the difference between the expected benefit the policy measure confers and the cost of political activity needed to acquire the measure:

$$\mathbf{E(U_s) = (P_i\, T_{s,i}\, Q_s - L_i).} \qquad \mathbf{(1)}$$

P_i is the probability that lobbying by sector *s* yields the policy measure *i*. $T_{s,i}$ is the benefit of policy measure *i* per unit of sector *s*'s output and Q_s is sector *s*'s total output. L_i is the cost of lobbying for policy measure *i*.

We can further define $T_{s,\,i}$ as the difference between unit cost in sector *s* and the world price of the goods sector *s* produces. Thus,

$$\boldsymbol{T_{s,i} = (f_s - \prod_{s,w})} \qquad \mathbf{(2)}$$

Where f_s is unit cost for sector *s* and $\prod_{s,w}$ is the world price for the good produced by sector *s*. Let f_s be a function of unit factor payments for sector *s*. Factor payments are a product of the factor mix sector *s* employs and economy-wide factor prices. I assume that all producers in sector *s* in all countries employ the same production function. Factor prices reflect home country factor endowments. As a consequence, all producers in a given sector in a given country have identical unit costs (identical production function

and identical factor prices). Unit cost in every sector varies across countries as a function of differences in local factor prices. World price ($\prod_{s,\,w}$) equals average unit cost for all producers of good *s* in the world economy.

I incorporate the real exchange rate (*R*) via its impact on unit cost.[6]

$$\boldsymbol{T_{s,i} = (f_s\, R - \prod_{s,w})} \qquad \textbf{(3)}$$

I normalize the equilibrium real exchange rate to 1. Real appreciation ($R > 1$) raises home factor prices relative to the world price; a real depreciation ($R < 1$) reduces home factor prices relative to the world price.

Substituting (**3**) into (**1**) yields the full expected utility function:

$$\mathbf{E(U_s)} = \boldsymbol{P_i\,(f_s\, R - \prod_{s,\,w})\, Q_s - L_i}\,. \qquad \textbf{(4)}$$

A sector therefore pursues a tariff if its expected per-unit benefit from the policy is greater than the per-unit cost of lobbying:

$$\boldsymbol{P_i\,(f_s\, R - \prod_{s,\,w}) > L_i / Q_s} \qquad \textbf{(5)}$$

Given this expected utility function, the expected benefit from protection changes as the real exchange rate moves. The expected benefit rises as the real exchange appreciates and falls as the real exchange rate depreciates.

Real Exchange Rate Movements and Trade Policy Preferences

This section illustrates how real exchange rate movements change the number of sectors that derive positive expected benefits from protection. I use the individual sector expected utility function to derive a "benefit from protection" schedule for the traded goods sector as a whole. The benefit from protection schedule plots the tariff required to offset a sector's competitive disadvantage given the capital-labor ratio embodied in its

[6] See, e.g., Dornbusch (1987). One could incorporate the real exchange rate via its impact on the local currency value of the world price. I chose this depiction to emphasize that producers take the world price as given and consequently, the real exchange rate alters local costs relative to that world price.

production function and the real exchange rate, for all possible capital-labor ratios (see figure 1). The horizontal axis is the capital-labor ratio. Labor intensive sectors are located at the origin and the relative importance of capital in production increases as we toward the right. The vertical axis is the difference between domestic unit cost and world price at a given real exchange rate ($f_s R - \prod_{s, w}$). The benefit from protection schedule thus plots the difference between unit cost and world price for all possible combinations of capital and labor, given the real exchange rate. Sectors whose production function embodies a capital-labor ratio located to the left of *A* in figure 1 benefit from a tariff. Sectors that employ production functions to the right of *A* do not benefit from protection.

(Figure 1 about here)

Real exchange rate movements alter the expected benefit from protection for all traded goods producers. Real exchange rate movements alter the relationship between local unit factor costs and world prices ($\boldsymbol{f_s R - \prod_{s, w}}$) for all traded goods sectors. Real appreciation above the equilibrium real exchange rate ($\boldsymbol{R + x;\ 0 < x < n}$) raises local factor costs relative to world price while real depreciation ($\boldsymbol{R - x;\ 0 < x < n}$) reduces local unit factor costs relative to world price. Real exchange rate appreciation thus shifts the benefit from protection schedule up and to the right while a real depreciation pushes the schedule down and to the left (see figure 2). All domestic traded goods producers thus suffer as real appreciation raises their unit factor costs relative to world prices. All domestic traded goods producers gain as currency depreciation lowers their unit factor costs relative to world prices.

(Figure 2 about here)

The change in the expected benefit of protection caused by real exchange rate movements alters the trade policy preferences of some traded goods sectors. As the real exchange rate appreciates, some sectors for which $P_i(f_s R - \prod_{s,w}) < L_i/Q_s$ find that $P_i(f_s R + x - \prod_{s,w}) > L_i/Q_s$ where x represents the magnitude of the real exchange rate appreciation. Figure 2 illustrates graphically the impact of real exchange rate appreciation on trade policy preferences. As the real exchange rate appreciates, the proportion of capital-labor ratios located to the left of A increases. Real exchange rate movements thus alter the trade policy preferences of "marginally competitive" sectors. In contrast, real exchange rate movements affect the return to, but not the trade policy preferences of highly advantaged sectors (capital-intensive sectors) and heavily disadvantaged sectors (labor-intensive sectors). Real exchange rate movements thus alter the return to all traded goods producers, but alter the trade policy preferences of only a subset of traded goods producers.

The number of sectors whose trade policy preferences change in response to real exchange rate movements depends upon two considerations. First, the magnitude of the real exchange rate movement plays an important role. Second, how traded goods sectors are distributed along the capital-labor ratio dimension matters. Suppose that sectors are distributed uniformly across the capital-labor ratio dimension. In this case, real exchange rate movements produce changes in trade policy preferences proportional in size. Small appreciations change trade policy preferences for only a few sectors, while large movements change trade policy preferences for many sectors. If sectors are normally distributed across the capital-labor ratio, however, a small appreciation changes trade policy preferences for many sectors, while a substantially larger movement produces few

additional shifts. If the distribution of sectors is bimodal or heavily skewed in one direction, then moderately large real exchange rate movements produce no changes in trade policy preferences, while slightly larger movements will induce many sectors to change their preferences.

In short, producers' trade policy preferences are a function of the factor proportions they employ in production and the real exchange rate. At the equilibrium real exchange rate, trade policy preferences are identical to those generated by our standard model. Sectors that rely intensively on the scarce factor benefit from protection. Real appreciation transforms marginally competitive sectors into uncompetitive sectors, thereby increasing the number of sectors that prefer protection. Real depreciation transforms marginally uncompetitive sectors into marginally competitive sectors, thereby reducing the number of sectors that benefit from protection. The number of sectors whose preferences change is a function of the magnitude of the appreciation and the distribution of sectors along the capital-labor ratio dimension.

Political Institutions and Lobbying Activity

Political institutions shape how sectors respond to real exchange rate appreciation. Political institutions determine what it costs to pursue protection through each policy arena ($\boldsymbol{L_i}$). Institutions also determine the probability that political activity in each policy arena will generate the desired policy outcome ($\boldsymbol{P_i}$). Every possible policy measure is thus characterized by an L_i / P_i ratio. Sectors maximize their expected utility by pursuing the remedy that offers the lowest L_i / P_i. If two policy measures are equally costly, producers pursue the one with the higher probability of success. If two remedies are equally likely to yield the desired outcome, sectors pursue the lower-cost remedy.

The assertion that producers respond to real exchange rate movements by seeking tariff protection thus rests on the assumption that tariff protection is a lower cost and higher probability of success response to real appreciation than currency depreciation. Two considerations make this a reasonable assumption. First, the officials who set trade policy have a greater incentive to respond to private-sector demands than the officials who set exchange rate policy. Congressional authority to set tariffs combined with political representation tied to exclusive geographic districts creates strong incentives for legislators to satisfy producer demands (Alt et al. 1996; Alt and Gilligan 1994). Although Congress has delegated much of its authority over trade policy to the executive and administrative agencies (the International Trade Commission and the International Trade Administration), it ensures that trade policy is responsive to producer demands (Destler 2005).

In contrast, neither Federal Reserve nor Treasury officials have much incentive to respond to demands from individual producers (Destler and Henning 1989). Federal Reserve officials have no direct electoral incentive to respond to producers' demands, but perhaps a weak incentive tied to legislative oversight. Treasury officials may have electoral incentives to respond to producer demands, yet must balance the interests of traded goods producers against those of non-traded goods producers and the finance industry. Hence, trade policy is likely to be much more responsive to individual producer demands than exchange rate policy.

Second, firms are better able to organize to pursue a tariff than to pursue currency devaluation. This is a direct consequence of the severity of the collective action problem in each arena. Tariffs provide highly concentrated benefits and widely diffused costs.

Because a tariff affects a single product, only the few firms that produce that product benefit. A small number of actors with homogeneous interests reduces the collective action problem. In contrast, all traded goods producers benefit from currency depreciation. Moreover, the interests of traded goods producers only partially overlap. Import-competing producers might prefer the government use monetary policy to manage domestic demand rather than the exchange rate while export-oriented producers might care little about domestic demand management and prefer that the government dedicates monetary policy to the exchange rate (Frieden 1991). Because of the large number of producers involved, and the heterogeneity of interests, collective action problems associated with exchange rate policy are more severe than those connected to trade policy.

Because the relevant officials have a stronger incentive to respond positively to private-sector demands, and firms can more easily organize to exert pressure on these politicians, trade policy offers a higher probability of success than exchange rate policy. Firms should respond to exchange rate movements by demanding tariffs rather than depreciation.

Protectionist waves therefore are the product of how political institutions channel producers' pursuit of their foreign economic policy objectives. Sectoral trade policy preferences are shaped by the interaction between the factor proportions they employ in production and real exchange rate movements. Consequently, the number of sectors that benefit from protection increases as the currency appreciates and falls as the currency depreciates. Political institutions shape how producers respond to real exchange rate movements. Producers pursue the policy measure that offers the greatest probability of

success at the lowest cost. Institutions play the key role in determining these probabilities and costs. I turn now to evaluate these expectations empirically.

EMPIRICAL ANALYSIS

I evaluate the theoretical model by using data on administered protection filings in the United States between 1975 and 2004 to test three specific hypotheses.[7] I focus on administered protection—antidumping and escape clause petitions specifically—because it offers the best available measure of industry demands for protection. Annual measure of antidumping and escape clause petitions aggregate directly comparable items in each year and over time. If in year *t* twenty-five sector filed antidumping petitions and in year *t+1* thirty-five sectors filed antidumping petitions, we know that the number of demands for protection increased by ten. Hence, administered protection offers a direct and consistent measure of the willingness of firms to dedicate resources to the pursuit of tariff protection. Moreover, given their importance as trade remedies—a point I return to below—year-to-year variation in administered protection petitions should be a good indication of broader protectionist pressures within the political system. Protectionist waves are clearly evident in this measure of industry demands for protection (see figure 3).

(Figure 3 about here)

Alternative measures introduce substantial error by aggregating incomparable items. Creating an index of trade legislation by counting the number of trade bills

[7] The length of the time series is dictated by the availability of an index of the dollar's trade weighted real exchange rate. Indices prior to 1975 are available only for the nominal exchange rate; the U.S. government maintained the dollar at a fixed nominal exchange rate within the Bretton Woods system until 1973 (though it devalued against gold in December 1971).

introduced in Congress each year, for example, requires decisions about the weights to attach to each bill. Should one weigh an omnibus trade bill (that might contain a large number of protectionist measures and a large number of liberalizing measures) the same as an industry-specific tariff bill? How should one weigh legislation that changes the rules governing the administered protection process? How does one handle bills that are liberalizing rather than protectionist? Nor can one readily compare counts of trade bills across time. How much confidence do we have that twenty-five trade bills introduced in one year are identical to twenty-five different trade bills introduced the next year? One could minimize this problem by looking only at a sub-sample of legislation, restricted by time period or by sector. Although this approach minimizes the aggregation of non-comparable items, it raises other concerns about the extent to which the selected sub-sample is representative of a broader dynamic.

I evaluate three specific hypotheses, each of which focuses on a distinct element of the theoretical model. I first test the expectation that the number of antidumping petitions that firms file each year varies in line with the real exchange rate movements by estimating a time series model. I then test the expectation that marginally competitive producers are most likely to have varying trade policy preferences by examining the relationship between measures of revealed comparative advantage and antidumping petitions. Finally, I evaluate the importance of political institutions by testing whether the number of antidumping petitions that firms filed rose significantly following an easing of the material injury standard employed in the AD process. I discuss the specification and estimation issues in detail below.

Real Exchange Rate Movements and Antidumping Petitions

The theoretical model posits that the number of antidumping petitions that firms file rises as the dollar strengthens and falls as dollar weakens. I test this hypothesis with a time series analysis of the relationship between the absolute number of antidumping cases filed each year and changes in the dollar's real exchange rate. Each annual observation is a count of the number of antidumping petitions filed in each year. The series ranges from a low of 14 petitions to a high of 94 with a mean of 44.

I construct the principal explanatory variable, *Exchange Rate*, from an index of the dollar's real trade-weighted value against other major currencies. A broad currency index is more appropriate than a bilateral exchange rate, for the broader measure provides a more accurate measure of change in the price competitiveness of US traded goods producers relative to the countries with which it trades most heavily. The particular index I employ, constructed by the Federal Reserve Board, includes European currencies, Australia, Canada, Japan, Sweden, Switzerland, and the United Kingdom. Each observation is the lagged percentage change from year *t-1* to year *t.* A positive number indicates a real appreciation and a negative number indicates a real depreciation. I expect a positive coefficient on this variable: the economy-wide demand for protection will increase as the dollar appreciates.

The small sample size limits the number of factors for which I can control. Hence, I focus on factors emphasized by previous research. The business cycle is the most important alternative hypothesis advanced to account for temporal variation in protectionism. The business cycle hypothesis asserts that more firms demand protection in recessions than in booms[8] I employ three macroeconomic indicators that previous

[8] See, e.g, Cassing, McKeown, and Ochs (1986); Gallaroti (1985); Grilli (1988); McKeown (1984); Takacs (1981).The literature has yet to offer a general theoretical model that can account for this pattern of

studies have employed as measures of the economy's position in the business cycle: *GDP Growth, Unemployment*, and *Capacity Utilization*. *GDP Growth* is the annual percentage change in Gross Domestic Product. *Unemployment* is the percent of the civilian labor force actively seeking employment. *Capacity Utilization* is the percent of existing manufacturing capacity in use. I expect a negative coefficient on *GDP Growth* and *Capacity Utilization*, while *Unemployment* should return a positive coefficient.

I also control for *Import Growth*. Common wisdom suggests that the exchange rate and imports move together. A stronger dollar reduces the domestic cost of foreign goods, resulting in greater demand for imports. A weaker dollar will raise the domestic cost of imports, and we would therefore expect imports to fall. Were I to omit import growth, I would risk attributing changes in the demand for protection to exchange rate movements when in fact they are a function of greater import competition. *Import Growth* is the annual percentage change in imports. I expect a positive coefficient on this variable: demand for protection rises in response to an increase in imports.

Finally, I control for two characteristics of the political system. *President's Party* (coded Democrat=0, Republican=1) controls for the president's political party. I do not have strong prior expectations about the direction of this effect. I discuss the substantive meaning below. I also controlled for two presidential election years with dummy variables, one for 1988 and one for 1992. I discuss this in greater detail below.

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industry lobbying. Existing models explain why firms lobby for protection during recessions, but all struggle to explain why many of these firms cease lobbying during booms. McKeown (1984) candidly notes that his rationalist model cannot explain tariff reductions during booms while his satisficing model allows them but does not strongly predict them. Cassing et al (1986) offer an explanation that is contingent on very specific (i.e., non-general) assumptions about industry location, firm ownership, and political representation.

Count data are typically non-normally distributed; they are always truncated at zero and they are commonly skewed. Employing ordinary least squares to estimate models against count data can therefore produce estimates that are biased, inefficient, and inconsistent. I rely instead on poisson regression. The results do not change in any meaningful way if the models are estimated with negative binomial regression rather than poisson regression.

Table 1 presents the results. Focus first on models one through three. As a group, the models highlight a consistent set of relationships. The goodness of fit statistics suggest that the models fit the data relatively well. The models return significant log likelihood ratios in spite of the small sample size while the pseudo R-squared statistics suggest that the models account for almost one-half of the variation in the sample.

(Table 1 About Here)

The positive and statistically significant coefficient on *Exchange Rate* in all models indicates that as the dollar appreciates against the United States' principal trading partners, antidumping petitions increase substantially. The magnitude of the effect of an exchange rate movement is large. With other variables set at the mean, a one standard deviation exchange rate appreciation (roughly a seven percent real appreciation) generates between 9.5 and 13.5 additional antidumping petitions. This represents an increase of almost one-third of the annual average number of petitions. A dollar depreciation of the same magnitude reduces petition filings, but they fall off less rapidly than they increase. Hence, controlling for other factors, the intensity of protectionist pressures is highly sensitive to changes in the dollar's value.

The models provide no evidence that the business cycle has a systematic impact on petition filings. None of the three indicators of the business cycle yield statistically significant coefficients. In contrast, *Import Growth* is significant in all models. The positive coefficient on *Import Growth* indicates that firms are more likely to file antidumping petitions in periods of rapid import growth. The effect is substantively important. With all other variables set at their mean, increasing the rate of import growth by one standard deviation above the mean (roughly a six percentage point jump) generates an additional eleven anti-dumping petitions. The more important point, however, is that the relationship between the real exchange rate and the demand for protection is robust to the inclusion of *Import Growth*.

The political control variables warrant some discussion as well. *President's Party* has a positive and significant impact on petition filings. Firms file significantly more petitions under Republican administrations than they do under Democratic administrations. The substantive impact is large. With all other variables set at their mean, a shift from a Democrat to a Republican administration is associated with nineteen additional anti-dumping petitions. This may reflect firms' beliefs about the relative willingness of the two political parties to provide protection. If firms' demands for protection are based at least in part on some *ex ante* estimate of the probability of success, then this finding is consistent with the assertion that firms believe that Republican administrations are more likely to offer tariff protection than Democratic administrations.

The 1988 and 1992 *Presidential Election Year* dummy variables also return positive and significant coefficients against both dependent variables. This relationship is

specific to these two election years, rather than a broader presidential election year effect. I ran models that employed individual dummy variables for each presidential election year; only 1988 and 1992 returned significant coefficients. Hence, the narrower conclusion, (the demand for protection was higher in the 1988 and 1992 presidential election years) is more accurate than the broader specification (the demand for protection is higher in presidential election years than in other years). These findings may be tapping into the high salience of trade policy in the late 1980s and early 1990s. This may suggest that firms are more likely to seek tariff protection when trade policy is a salient and conflictual issue in a presidential election.

While these political dynamics are interesting, the more important point is that their inclusion does not weaken the relationship between the real exchange rate and the demand for protection. Nor, for that matter, is the relationship between the real exchange rate and the demand for protection dependent upon their inclusion. These variables improve the fit of the model, but do not affect the significance of the primary hypothesis under investigation.

The steel industry accounts for approximately half of all antidumping petitions filed each year in the period under study. One must worry that the results reflect the activities of the steel industry alone rather than a more general pattern. Models four through six therefore evaluate steel's impact on the results. Model four controls for the petitions filed by steel while model five employs an index of antidumping petitions that excludes steel. Both models are fully consistent with our prior findings. *Exchange Rate* returns positive and statistically significant coefficients. The magnitude of the estimated coefficient is reduced by about one-half. This is not surprising, given that omitting steel

petitions from the index reduces the average value of the dependent variable by one half. The standard error of the estimated coefficient for *Exchange Rate* remains approximately the same, however, and we thus have a bit more uncertainty surrounding the relationship between change in the real exchange rate and antidumping petitions. Yet, even with these wider confidence intervals we can reject the null hypothesis that the exchange rate has no impact on antidumping petitions. The results are not driven solely by the activities of the steel industry.

Although the relationship between the real exchange rate and petition filings is not driven entirely by steel industry petitions, steel industry demands for protection are more sensitive to exchange rate movements than other industries. Model six highlights this greater sensitivity. The estimated coefficient for *Exchange Rate* in this steel petitions only model is almost four times larger than the estimate returned in the "everything except steel" model. This suggests that, all else being equal, any given real exchange rate appreciation will generate four times as many additional antidumping petitions from the steel industry as from all other sectors combined. Consequently, although the relationship between the real exchange rate and petition filings is not solely reflective of the activities of the steel industry, antidumping petitions are more responsive to real exchange rate movements in the steel industry than in other sectors.

The relationship between real exchange rate movements and protectionist pressure is robust to alternative methods of model estimation and model specification. I estimated the models using negative binomial regression in place of poisson regression. This alternative procedure yielded equivalent results. *Exchange Rate* returned statistically significant and positive coefficients in all of the negative binomial models with

coefficients not greatly different in magnitude than those generated by the poisson models. I also estimated versions that incorporated a lagged dependent variable; the lagged variable was never statistically significant and its inclusion in the models did not alter the results reported here.

Who Files Anti-dumping Petitions?

The theoretical model leads us to expect that marginally competitive sectors are most sensitive to real exchange rate movements. I evaluate this hypothesis using data on sectoral antidumping petition filings and sectoral comparative advantage. Sectoral antidumping petition filings are the number of petitions filed by each two-digit SITC sector between 1975 and 2004. I employ a revealed comparative advantage index as my measure of sectoral comparative advantage (Richardson and Zhang 2001). This index measures U.S. exports in sector *i* as a share of US exports in all sectors divided by world exports in sector *i* as a share of all world exports (times 100). A value greater than 100 indicates that the sector has a comparative advantage, with the size of this advantage growing in line with the magnitude of the index score. A value less than 100 indicates a disadvantaged sector, where the severity of this disadvantage increases as the index falls toward zero.[9]

I expect the greatest number of antidumping petitions to be filed by sectors with RCA values close to 100, and the number of petitions filed to fall off as we move toward higher and lower values on the RCA index. The raw data (figure 4) suggests a pattern consistent with this hypothesis. Seventy-three percent of the non-steel antidumping petitions filed between 1975 and 2004 (361 out of 491) were filed by firms in sectors that

[9]Richardson and Zhang calculate RCA indices at two points in time: 1980 and 1995. The results presented here are insensitive to the choice of index year or to the use of an average of the two years.

are less than one-standard deviation away from the mid-point of the RCA index. The three sectors that initiate investigations most frequently, manufactures of metals, general industrial machinery, and inorganic chemicals, score close to the mid-point of the RCA index. In contrast, firms in sectors with very high and very low RCA values rarely initiate anti-dumping investigations. The apparel industry, for example, though highly uncompetitive, filed only 7 investigations over this thirty year period. Footwear producers, another disadvantaged industry, filed none. Nor do highly advantaged sectors file many petitions. Pharmaceuticals, specialized machinery, advanced materials, and other such sectors rarely filed antidumping petitions in the time period. Thus, marginally competitive producers initiate the majority of antidumping cases, while highly competitive and uncompetitive producers rarely file antidumping petitions.

(Figure 4 about here)

A poisson regression provides more systematic evidence of the relationship between comparative advantage and antidumping petition filings. The dependent variable is the number of antidumping petitions filed by each sector, and I employ revealed comparative advantage and revealed comparative advantage squared to capture the hypothesized non-linear relationship. The results, presented in table two, are consistent with the hypothesis (see Table 2). Both RCA variables return highly significant coefficients, while the positive sign on RCA and negative sign on RCA squared indicate the expected inverted U-shaped relationship between revealed comparative advantage and petition filings.

(Table 2 about here)

Indeed, using the estimated equation to generate predicted antidumping petitions and then plotting these predicted values illustrates the relationship between revealed comparative advantage and petition filings (see figure 5). We see very few petition filings from very uncompetitive sectors. Petitions rise quite steeply as we move toward more advantaged sectors. The predicted number of petitions peaks at sectors with RCA scores close to 100 and then fall off sharply as we move toward highly competitive sectors. The statistical model thus suggests that anti-dumping petitions are filed most frequently by firms in sectors that are neither highly advantaged nor heavily disadvantaged in international trade.

(Figure 5 about Here)

The steel industry serves as useful out of sample test of the relationship between competitiveness and protectionist demands. Does the steel industry fit the pattern evident revealed by the empirical analysis? The answer appears to be yes. As a group, steel mills score at the bottom of the middle range of the RCA index (a value of 69, slightly less than one standard deviation below the mean RCA). They are therefore neither highly competitive nor are they heavily disadvantaged. Consequently, their competitive position is similar to the other frequent filers of antidumping investigations. As we have already seen, the steel industry is the single most frequent filer of antidumping petitions. Thus, although the steel industry does not create the pattern we see here, it does indeed fit this pattern.

The relationship between revealed comparative advantage and antidumping petition filings is consistent with our expectations. Marginally competitive firms are the most frequent users of the antidumping investigation process. Highly advantaged firms

rarely file anti-dumping petitions, presumably because higher tariffs offer little benefit. Heavily disadvantaged firms rarely file anti-dumping petitions, presumably because their continued survival requires more permanent protectionist measures. As a consequence, marginally competitive sectors turn to antidumping investigations with greatest frequency.

Institutional Structure and Lobbying Activity

Finally, the theoretical model posits that firms pursue the policy remedy that offers the greatest probability of success at the lowest cost—the lowest L_i/P_i ratio. I specifically hypothesized that the L_i/P_i ratio associated with tariffs in the United States is lower than the L_i/P_i ratio attached to currency depreciation. As a consequence, firms demand tariffs in response to exchange rate movements. A direct test of this hypothesis requires a change in the institutional framework governing U.S. exchange rate policy in the period for which data are available. Because no such change has occurred I cannot test the monetary versus trade policy institutions hypothesis.

Instead, I evaluate the more general claim that producers' responses are shaped by institutional incentives by examining how producers responded to changes in the material injury standards embodied in antidumping and escape clause actions (Section 201 and 202). Until the mid-seventies, the probability of gaining any kind of protection via an antidumping investigation or an escape clause action was relatively low.[10] The Tariff Commission recommended protection in only 4 of 30 escape clause petitions (13 percent) filed between 1963 and 1974. It proved even more difficult to gain protection through the

[10]Destler (1995).

antidumping channel, as only twelve of 371 anti-dumping cases (3 percent) filed between 1955 and 1968 resulted in positive findings.[11]

Congress eased material injury standards in the 1970s. The 1974 Trade Act relaxed the injury requirement for escape clause petitions. Previously, an import surge had to be due to a prior U.S. tariff concession made under the GATT and the surge had to be a "substantial cause" of injury to the industry. The 1974 Act eased both standards; injury no longer had to result from a prior tariff concession, and imports had only to be a "major cause" of injury. Congress also gave the International Trade Commission (ITC) greater independence from the executive. Congress did not, however, remove the executive's discretion about the final decision. Consequently, although the ITC recommended relief in a larger share of the petitions, the executive rarely granted the recommended relief. The ITC recommended relief in 48 percent of the cases after 1974, but the president accepted the recommendation only one-third of the time. Thus, the escape clause yielded protection about 16 percent of the time.[12]

Congress reduced the injury requirement applied to antidumping cases in the 1979 Trade Act. As a consequence, not only did it become easier to satisfy the injury requirement for dumping, but the injury requirement in dumping investigations was now more lenient than the injury standard in escape clause cases. For antidumping petitions, imports need only be a source of "harm that is not inconsequential, immaterial, or unimportant."[13] In addition, the Senate pressured the Carter administration to shift responsibility for enforcing antidumping investigations from the Treasury to the Commerce Department, because they believed Commerce would be more sympathetic to

[11]Destler (1995, 141-2).
[12]Destler (1995, 149).
[13]Destler (1995, 149).

industry demands. Subsequently, the share of antidumping investigations that produced affirmative findings rose to an average of 51 percent per year from 1980 through the early 1990s. Therefore, new rules raised the probability of success in both channels, but made antidumping investigations much more likely to yield protection than escape clause actions.

Our theoretical model leads us to expect producers to alter their behavior in response to these rule changes. We should see an increase in the number of petitions filed in both channels in response to the easing of the material injury requirement. We should see escape clause petitions lose ground to antidumping investigations after the enactment of the 1979 Trade Act. Descriptive statistics bear out both expectations (figure 6). Escape clause and anti-dumping petitions both rise sharply in the second half of the 1970s. Yet, as the probability of an affirmative finding in AD petitions rises relative to the likelihood of gaining protection through the escape clause, AD petitions rise sharply and escape clause petitions drop dramatically. By the mid-1980s, few firms file escape clause petitions while the number of anti-dumping petitions remains high. This is exactly the change we expect if firms are responsive to L_i/P_i ratios.

(Figure 6 about here)

We gain more systematic evidence by incorporating the 1979 legislation into poisson models of antidumping and escape clause petition filings. To do so I create a dummy variable called *Institutional Change*, coded 1 for each year subsequent to the 1979 easing of material injury requirement for AD investigations. All other years are coded zero. I then estimated poisson models of annual petition filings in each arena. I expect *Institutional Change* to return a significant and positive coefficient in the anti-

dumping petitions model and a significant and negative coefficient in the escape clause model. Table three presents the results.

(Table 3 about here)

The results suggest that firms responded to the easing of the material injury standard in antidumping investigations in the hypothesized fashion. The coefficient on *Institutional Change* in the antidumping petitions model is positive and significant, indicating that even controlling for other relevant factors, the number of petitions filed each year was greater following the easing of the injury standard than prior to the change. In contrast, *Institutional Change* in the escape clause petitions model returns a negative and significant coefficient. This indicates that, controlling for other relevant factors, firms filed fewer escape clause petitions after the easing of AD rules than they had previously. Firms thus appear to have responded to changes in the rules governing administered protection in the manner suggested. They shifted their activity away from channels where the likelihood of success was relatively low and toward those channels where the likelihood of success was relatively high.

The models also strengthen the conclusions we drew about the relationship between real exchange rate movements and demands for protection in the previous section. On the one hand, the model of escape clause petitions provides additional evidence that temporal variation in protectionist demands is sensitive to the real exchange rate. *Exchange Rate* is positive and statistically significant, indicating that the number of escape clause petitions rise as the dollar strengthens and fall as the dollar weakens. Thus, escape clause petitions conform to the same dynamic as AD petitions, once we control for their relatively disfavored position in the trade policy process after the 1979 Trade

Act. Notice also that including *Institutional Change* has no substantive impact on the other variables in the model of antidumping petitions. Antidumping petition filings remain highly responsive to real exchange rate movements, and business cycle measures continue to perform relatively poorly.

CONCLUSION

This paper has combined models of trade and exchange rate policy preferences to create a single model that can explain the protectionist waves evident in the United States. I modeled individual sectors' expected utility from protection by incorporating the real exchange rate into a factor proportions based model of trade policy preferences. I used this utility function to derive a benefit from protection schedule for the traded goods sector as a whole. I used this benefit from protection schedule to illustrate how real exchange rate movements alter the number of traded goods sectors that benefit from protection. Finally, I suggested that political institutions encourage producers to respond to real exchange rate movements by seeking tariffs rather than currency depreciation by making tariff protection a lower cost and higher probability of success option.

I evaluated empirically this theoretical model using administered protection filings in the United States between 1975 and 2004. The analysis supported three critical elements of the argument. First, year-to-year variation in the number of antidumping petitions is highly responsive to real exchange rate movements. The number of sectors that file petitions increases as the currency appreciates and decreases as the currency weakens. This finding holds when we model all antidumping petitions, when we model the petitions filed by all sectors other than the steel industry, and when we model only the

petitions filed by the steel industry. Moreover, whereas real exchange rate movements had a systematic impact on demands for protection, standard business cycle indicators did not. Thus, real exchange rate movements offer a better explanation for protectionist waves than the most likely alternative hypothesis.

Second, marginally competitive firms are more likely to file antidumping petitions than highly advantaged and heavily disadvantaged sectors. Three-quarters of all antidumping petitions other than those filed by the steel industry are filed by sectors whose revealed comparative advantage falls within one standard deviation of 100. Heavily disadvantaged sectors, those with RCA values more than one standard deviation below 100, rarely file antidumping petitions. Highly advantaged industries, those with RCA scores more than one standard deviation above 100, file petitions only on rare occasions. Year-to-year variation in the demand for protection, therefore, largely reflects change in the political activities of the sectors whose competitive position is most sensitive to real exchange rate movements.

Finally, political institutions shape producers' responses to real exchange rate movements. The relaxation of the material injury standard in escape clause and antidumping investigations led to an increase in the number of petitions filed in both channels. Moreover, the relatively greater easing of the material injury standard in antidumping investigations in 1978 was followed by a sharp increase in antidumping investigations and an equally sharp reduction of escape clause petitions. Producers thus directed their political activities toward those arenas that offer the highest probability of success.

These findings highlight the substantial gains available from integrating models of trade politics and exchange rate politics. Combining these individual perspectives allowed us to extend the explanatory scope of both. We gained the ability to explain temporal variation in protectionism, which standard models of trade politics cannot do. We explained temporal variation by extending the standard logic of exchange rate politics into trade politics. Fitting the two models together thus enabled us to explain a phenomenon that neither model could explain on its own. The combined model thus explains everything that each model explains individually, and explains phenomena that neither can explain individually.

The paper's broader point does not pertain to the specific empirical relationship at center here. That is, I do not believe, nor do I assert, that real exchange rate movements always generate demands for protection. Instead, the broader point at issue concerns the substantial indeterminacy inherent in the relationships at the center of standard models of trade and exchange rate politics. Our issue-specific models assume that relative price movements caused by product market integration drive trade politics while the relative price movements caused by real exchange rate movements drive exchange rate politics. We see here, however, that exchange rate movements also sometimes drive trade policy demands. Product market integration probably sometimes drives exchange rate policy demands as well. We need models that capture these cross-issue "spillovers" and that conceptualize the conditions under which such cross-issue spillovers occur.

Political institutions as well as interests play an obviously important role in such models. Institutions provide the incentive structure that shapes how producers respond to relative price movements. In studying the impact of political institutions on producers'

behavior, two issues are paramount. First, because institutions are exogenous from the perspective of an individual firm, we need a better understanding of how political institutions shape the probability of success and the cost of lobbying. The results presented above highlight one example of how raising the probability of success for one remedy relative to another induces a change in producer behavior. Studying the impact of other instances of institutional change, such as the creation of monetary union in the EU, on producer behavior will deepen our understanding of institutional incentives. Second, although individual producers take institutions as given, political institutions are endogenous for producers as a whole. Consequently, we need to study the conditions under which producers coalesce in order to push for institutional change rather than continue to pursue their individual goals within a static institutional framework. In paying closer attention to political institutions, therefore, we gain greater understanding of how existing institutions structure behavior, and the conditions under which the private sector organizes effectively to alter institutions.

This paper certainly does not provide the final word on any of these issues; it merely raises them and suggests how we might profit from additional exploration. It has sought to demonstrate why models that integrate trade and exchange rate dynamics into a single framework can be productive empirically. I hope to offer more evidence of the utility of this approach in the future.

References

Alt, James E., Jeffry Frieden, Michael J. Gilligan, Dani Rodrik, and Ronald Rogowski. 1996. "The Political Economy of International Trade: Enduring Puzzles and an Agenda for Inquiry." *Comparative Political Studies* 29 (December):689-718.

Alt, James E., and Michael Gilligan. 1994. "The Political Economy of Trading States: Factor Specificity, Collective Action Problems, and Domestic Political Institutions." *The Journal of Political Philosophy* 2 (2):165-92.

Broz, Lawrence, and Jeffry Frieden. 2001. "The Political Economy of International Monetary Relations." *Annual Review Of Political Science* 4:317-43.

Cassing, James, Timothy J. McKeown, and Jack Ochs. 1986. "The Political Economy of the Tariff Cycle." *The American Political Science Review* 80 (September):843-62.

Corden, Warner Max. 1997. *Trade policy and economic welfare*. 2nd ed. Oxford: Clarendon Press.

Destler, I.M. 1995. *American Trade Politics*. Third ed. Washington, DC: Institute for International Economics.

———. 2005. *American Trade Politics*. 4th ed. Washington, D.C.: The Institute for International Economics.

Destler, I.M., and C. Randall Henning. 1989. *Dollar Politics: Exchange Rate Policymaking in the United States*. Washington, D.C.: Institute for International Economics.

Dornbusch, Rudiger. 1987. "Exchange Rates and Prices." *The American Economic Review* 77 (March):93-106.

Fordham, Benjamin O., and Timothy J. McKeown. 2003. "Selection and Influence: Interest Groups and Congressional Voting on Trade Policy." *International Organization* 57 (Summer):519-49.

Frieden, Jeffry. 1997. "Monetary Populism in Nineteenth Century America: An Open Economy Interpretation." *Journal of Economic History* 57 (June):367-95.

Gallarotti, Giulio M. 1985. "Toward a Business-Cycle Model of Tariffs." *International Organization* 39 (Winter):155-87.

Grilli, Enzo. 1988. "Macro-economic Determinants of Trade Protection." *The World Economy* 11 (3):313–26.

Hansen, Wendy L., and Neil J. Mitchell. 2000. "Disaggregating and Explaining Corporate Political Activity: Domestic and Foreign Corporations in National Politics." *American Political Science Review* 94 (4):891-903.

Hathaway, Oona A. 1998. "Positive Feedback: The Impact of Trade Liberalization on Industry Demands for Protection." *International Organization* 52 (3):575-612.

Hiscox, Michael. 1999. "The Magic Bullet? The RTAA, Institutional Reform, and Trade Liberalization." *International Organization* 53 (Autumn):669-8.

———. 2002. *International Trade and Political Conflict: Commerce, Coalitions, and Mobility.* Princeton: Princeton University Press.

Hiscox, Michael J. 2001. "Class Versus Industry Cleavages: Inter-Industry Factor Mobility and the Politics of Trade." *International Organization* 55 (Winter):1-46.

Irwin, Douglas A. 2005. "The Rise of US Anti-dumping Activity in Historical Perspective." *The World Economy* 28 (5):651–68.

Knetter, Michael, and Thomas Prusa. 2003. "Macroeconomic Factors and Antidumping Filings: Evidence from Four Countries." *Journal of International Economics* 61 (1):1-17.

Ladewig, Jeffrey W. 2006. "Domestic Influences on International Trade Policy: Factor Mobility in the United States, 1963 to 1992." *International Organization* 60 (Winter):69-103.

McKeown, Timothy J. 1984. "Firms and Tariff Regime Change: Explaining the Demand for Protection." *World Politics* 36 (January):215-33.

McKinnon, Ronald I., and K.C. Fung. 1993. "Floating Exchange Rates and the New Interbloc Protectionism." In *Protectionism and World Welfare*, ed. D. Salvatore. Cambridge: Cambridge University Press.

Niels, Gunnar, and Joseph Francois. 2006. "Business Cycles, the Exchange Rate, and Demand for Antidumping Protection in Mexico." *Review of Development Economics* 10 (3):388–99.

Richardson, J. David, and Chi Zhang. 2001. "Revealing Comparative Advantage: Chaotic or Coherent patterns Across Time and Sector and U.S. Trading Partner?" In *Topics in Empirical International Economics: A Festschrift in Honor of Robert E. Lipsey*, ed. M. Blomstrom and L. Goldberg. Chicago: University of Chicago Press.

Takacs, Wendy. 1981. "Pressures for Protectionism: An Empirical Analysis." *Economic Inquiry* 19 (4):687-93.

Figure 1: Lobbying Activity Schedule

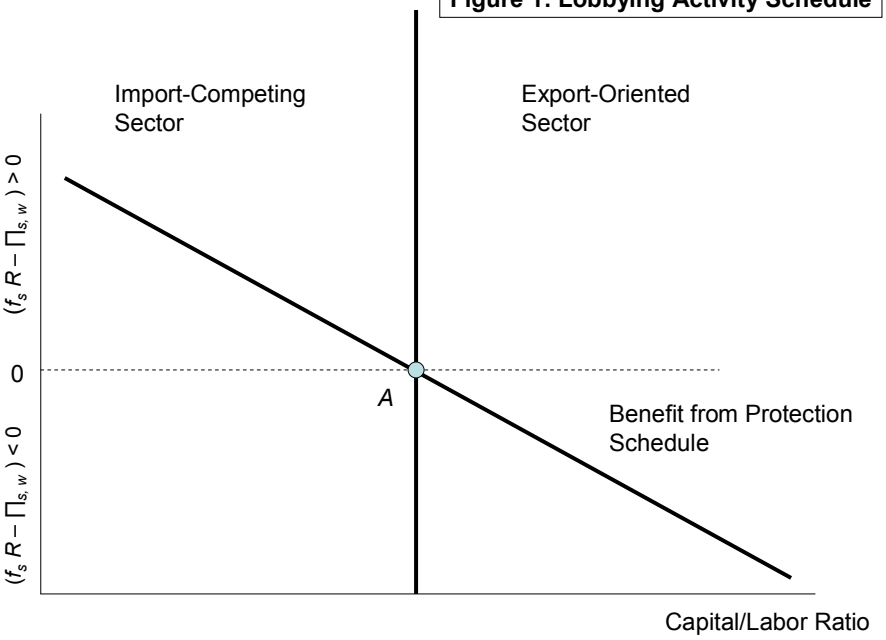

Figure 2: Lobbying Activity Schedule

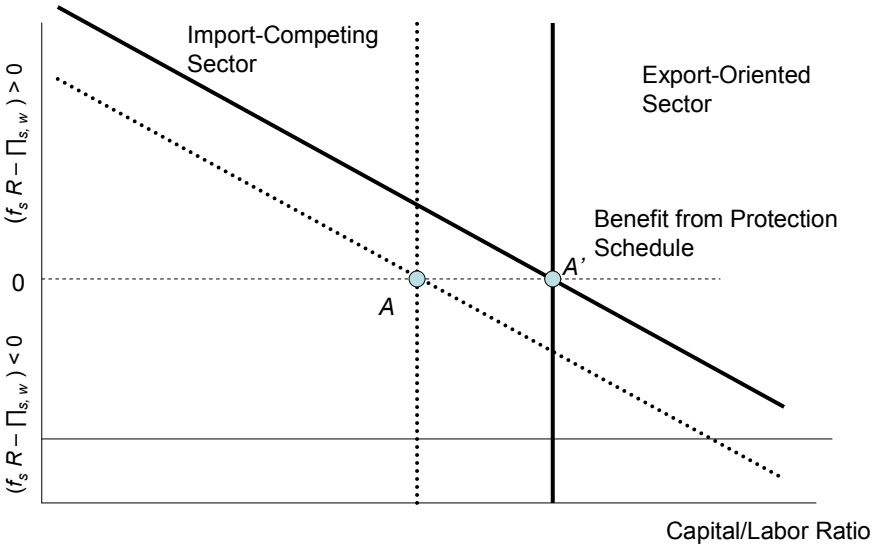

Figure 3: Antidumping Petitions, 1975-2004

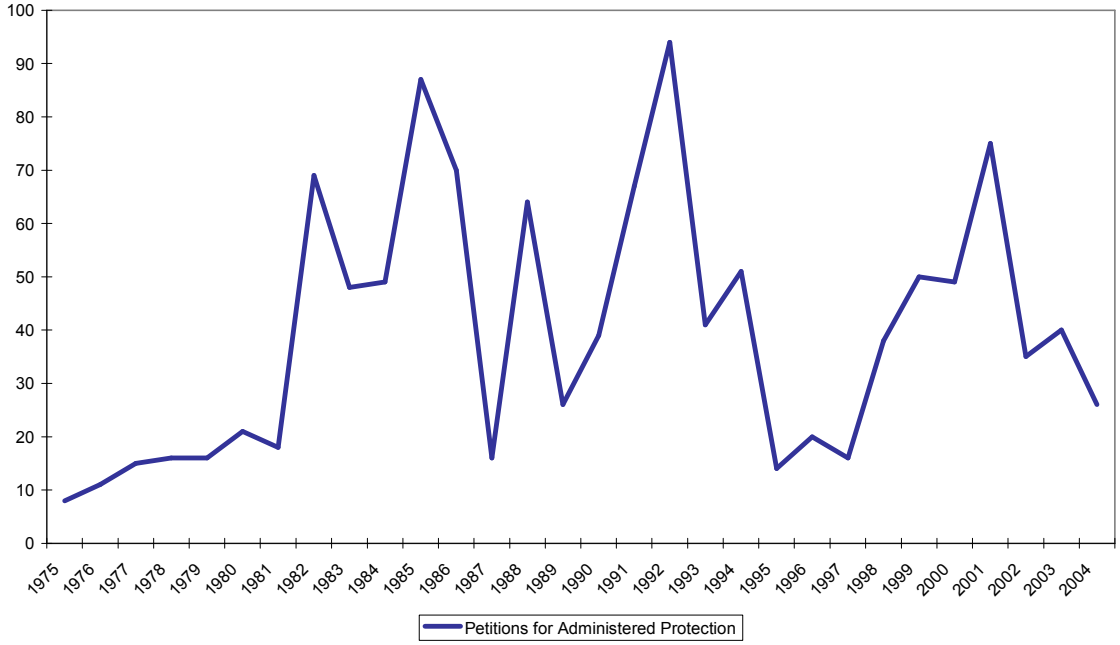

Figure 4: Revealed Comparative Advantage and Antidumping Petitions

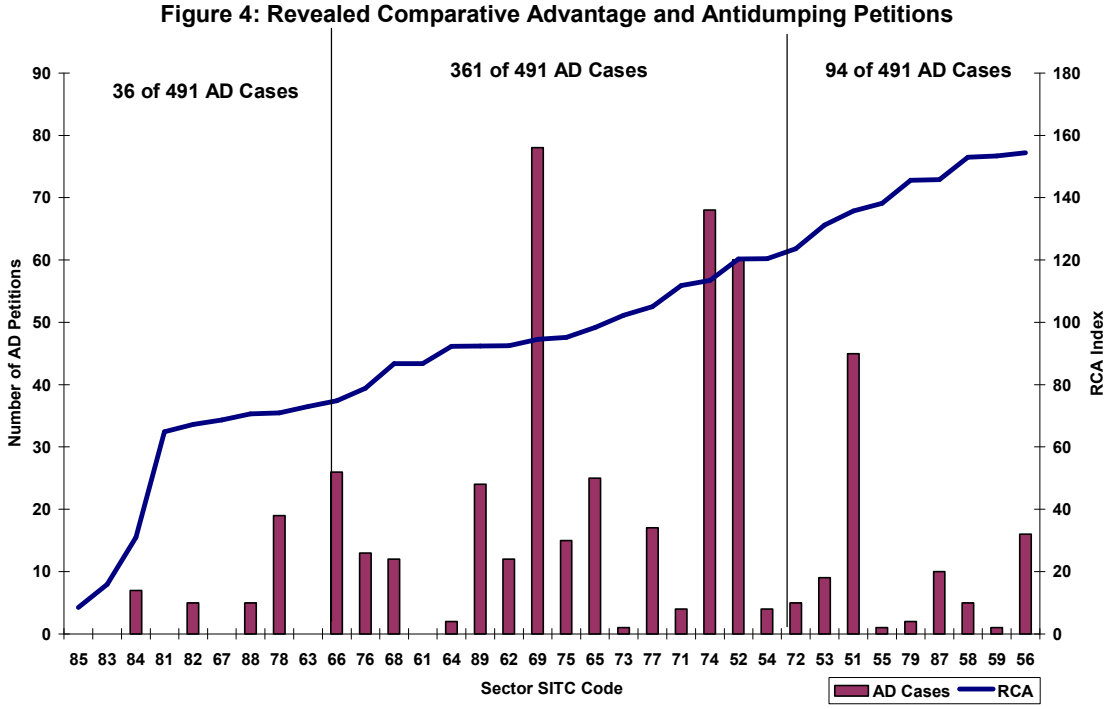

Figure 5: Revealed Comparative Advantage and Predicted Antidumping Petitions

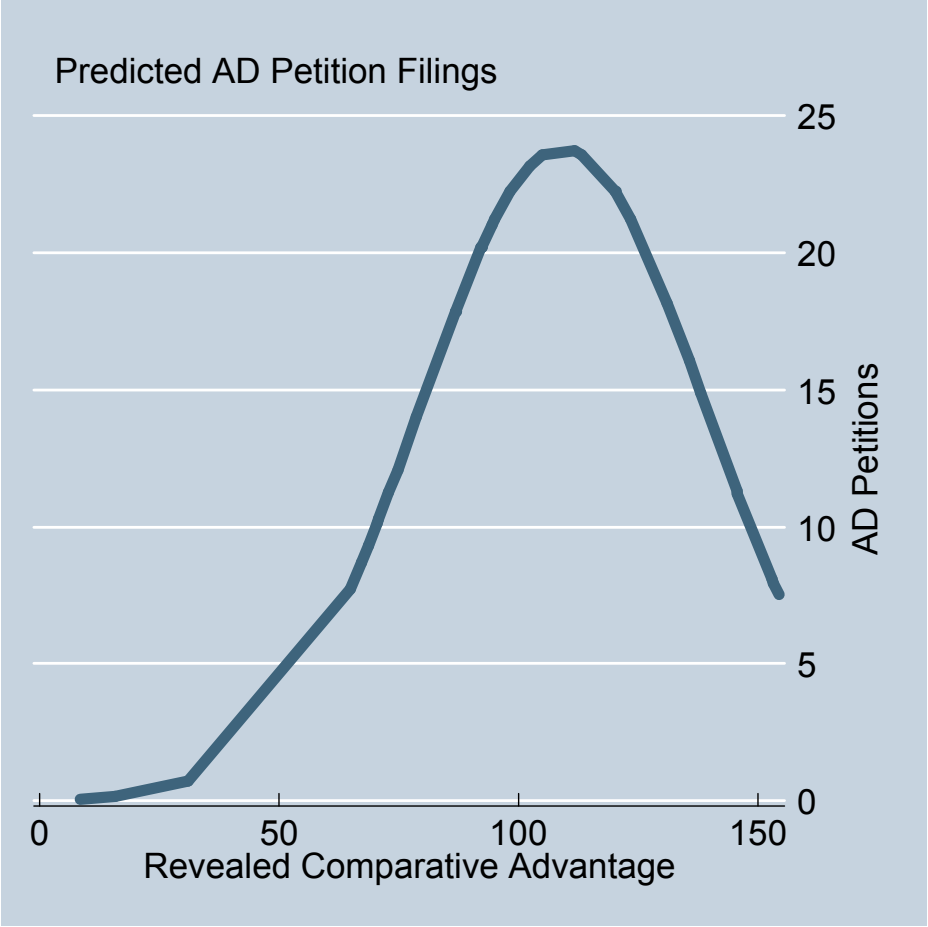

Figure 6: Antidumping and Escape Clause Petitions

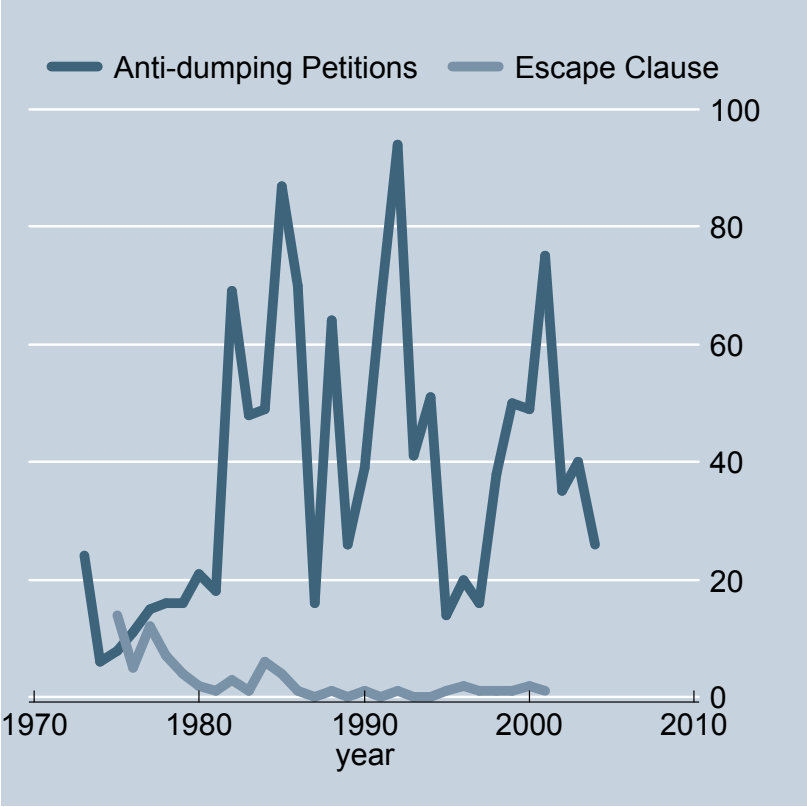

Table 1: The Real Exchange Rate and Antidumping Petition Filings in the U.S., 1975-2004

	All Petitions			Controlling for Steel	Non-Steel	Steel Only
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Exchange Rate	**4.43*** **	**4.38*** **	**4.09*** **	**1.85*** **	**2.65*** **	**10.49*** **
	(0.57)	(0.55)	(0.62)	(0.67)	(0.88)	(1.19)
GDP Growth	**0.01**			**-0.02**	**-0.04**	**-0.08**
	(0.03)			(0.04)	(0.05)	(0.06)
Unemployment		**-0.03**				
		(0.02)				
Capacity Utilization			**1.52**			
			(1.57)			
Import Growth	**0.03*** **	**0.03*** **	**0.04*** **	**.02**	**0.04** **	**0.07*** **
	(0.01)	(0.00)	(0.01)	(0.01)	(0.02)	(0.02)
1992 Election	**1.15*** **	**1.13*** **	**1.12*** **	**.32***	**0.96*** **	**2.11*** **
	(0.13)	(0.12)	(0.12)	(0.18)	(.30)	(.20)
1988 Election	**0.92*** **	**0.90*** **	**0.96*** **	**0.78*** **	**1.03*** **	**-0.14**
	(0.15)	(0.15)	(0.15)	(0.14)	(0.16)	(0.61)
President's Party	**0.54*** **	**0.56*** **	**0.54*** **	**0.42*** **	**0.72*** **	**0.01**
	(0.07)	(0.07)	(0.07)	(.07)	(0.11)	(0.10)
Steel				**.01*** **		
				(.003)		
Constant	**2.96*** **	**3.17*** **	**2.91*** **	**3.08*** **	**2.59*** **	**2.17*** **
	(0.08)	(0.14)	(0.09)	(0.09)	(0.13)	(0.13)
Observations	30	30	30		30	30
R-squared	.45	.45	.45		.47	.52
Log Likelihood	-162.32	-161.07	-161.92		-99.45	-137.04

* p<.1, ** p<.05, *** p<.01 Standard errors in parentheses

Table 2: Revealed Comparative Advantage and Antidumping Petitions

Comparative Advantage	0.12***
	0.02
Comparative Advantage Squared	-0.0006***
	6.85E-05
Constant	-3.62***
	0..80
Observations	33
Log likelihood	-327.638
LR chi2(2)	147.28
Prob > chi2	0

Table 3: Institutional Change and the Demand for Protection

	Antidumping Petitions	Escape Clause Actions
Exchange Rate	**3.12*** **	**7.75** **
	(.60)	(3.73)
Business Cycle	**1.72**	**-6.10**
	(1.61)	(5.64)
Import Growth	**.04*** **	**.003**
	(.01)	(.04)
President's Party	**.44*** **	**.76** **
	(.07)	(.34)
1992	**1.02*** **	**.05**
	(.12)	(1.04)
1988	**.79*** **	**.25**
	(.15)	(1.15)
Institutional Change	**.84*** **	**-2.43** **
	(.13)	(.33)
Constant	**2.25*** **	**2.02**
	(.15)	(.38)
Observations	30	30
Log likelihood	-136.92	-40.83
Prob > chi2 =	0.0000	0.0000

* p<.1, ** p<.05, *** p<.01 Standard errors in parentheses

Summary Statistics					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Dumping	30	39.6333	24.1953	8	94
Real Exchange Rate	30	0.00168	0.066057	-0.2	0.104
GDP Growth	30	2.94667	2.037871	-1.9	7.2
Capacity Utilization	30	0.00678	0.046284	-0.1	0.148
Unemployment	30	6.38333	1.42468	4	9.7
Change in Imports	30	6.34667	7.354554	-11	24.3