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Trade Policy and Antitrust: Do Consumers Matter to Legislators?\*

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## Trade Policy and Antitrust: Do Consumers Matter to Legislators?

**ABSTRACT:** We provide one of the first efforts to measure the importance of consumer preferences in legislators' trade policy decisions by estimating the degree to which the level of antitrust enforcement in the legislator's state impacts his or her vote on free trade agreements. To the extent that antitrust and trade liberalization are both viewed as pro-consumer in nature, we would expect to see a positive relationship between antitrust enforcement in their legislative district and Congressional votes in support of trade liberalization. We find evidence suggesting that consumer preferences do play a role in legislative decisions on trade policy.

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## I. INTRODUCTION

The basic political economy models of legislator voting decisions include constituent interests as major determinants. This is particularly appropriate in models where the economic interests of constituents are directly affected by the legislation. In the large and growing body of empirical research on the political economy of trade policy, constituent interests are typically assumed to derive in large part from the impact that the change in trade patterns would have on the constituents as workers or owners of other factors of production.<sup>1</sup>

The political economy of trade models developed over the past 20 years clearly suggest that consumer welfare should matter in legislators' decisions.<sup>2</sup> Unfortunately, data limitations typically prevent researchers from testing whether consumer interests actually matter.<sup>3</sup> In this research, we provide one of the first efforts to measure the importance of consumer preferences in legislators' trade policy decisions by estimating the degree to which the level of antitrust enforcement in the legislator's state impacts his or her decision to vote in favor of new free trade agreements.

We believe the level of antitrust enforcement is a suitable measure of consumer preferences. As discussed in Ghosal and Gallo (2001), there are two commonly cited justifications for antitrust enforcement. First, antitrust laws may be used to correct for deviations from competitive behavior; these corrections increase consumer welfare at the expense of producers with market power. Second, interest groups may lobby for antitrust enforcement to redistribute wealth from one group (producers) to another (consumers).

State attorneys general can file antitrust actions against any firm, regardless of the location of the firm, if they have a legitimate interest in protecting the economic welfare of their constituents.<sup>4</sup> A natural hypothesis to come from the models mentioned above is that states that engage in more antitrust enforcement are doing so because (1) the state has more deviations from anticompetitive behavior and/or (2) the state has a stronger consumer lobby

demanding antitrust enforcement.<sup>5</sup> If the latter, this same consumer lobby should be able to influence its elected officials to vote in favor of new trade liberalization efforts that would increase consumer welfare.

In this paper, we explore the extent to which consumer interests matter in U.S. Congressional votes taken during the 108<sup>th</sup> Congress (2003-04) on four free trade agreements (FTAs). If antitrust and trade liberalization are both viewed as pro-consumer in nature, we would expect to see a positive relationship between antitrust enforcement in their legislative district and Congressional votes in support of new FTAs.

## II. LITERATURE REVIEW

The standard economic assumption underlying legislative voting behavior is that representatives are concerned with electoral success (*e.g.*, reelection or election to higher office). As a consequence, the basic model is that representative votes are determined by the economic and ideological interests of the legislator's constituents.<sup>6</sup> Baldwin (1985) identifies constituent factors that would tend to increase legislative support for "protectionist" policies, including the greater the proportion of workers in the congressional district employed by import-sensitive industries and the smaller the proportion of workers in the district employed by export industries. In addition to these constituent characteristics, political factors also are important determinants of support. These include the policy position of the member's political party, the preferences of the President (stronger if from the same political party), the member's congressional leadership, and general support for policies such as income assistance for low-income workers and retaliation against "unfair" trade practices.<sup>7</sup>

Empirical tests of these theories have been carried out on roll-call votes on several FTAs. The analysis is generally undertaken on the votes in one of the houses of Congress. Nollen and Iglarsh (1990) examine votes taken by U.S. Senators on an amendment to the

*1984 Omnibus Trade Bill*, the *1985 Textile Import Quotas Bill*, and the *1987 Omnibus Trade Bill*. Their models incorporate measures of the state's export dependence and indicators of the impact of imports on the state. To capture ideological influences, they also include measures of the legislator's political party as well as pro-business and pro-labor ratings. There is empirical support that legislator votes on trade bills are determined by constituent interests and ideology.

Marks (1993) analyzes congressional voting on five amendments to the omnibus trade bills of 1987. Explanatory variables in his models include the employment levels in six "trade-sensitive" industries – textiles, footwear, steel products, machine tools, semiconductors, and autos/automobile parts to account for the impact on affected constituent groups.

Kahane (1996) focuses on the votes in the U.S. Senate on the 1991 extension of fast-track procedures, a precursor to the 1993 congressional vote on the North American Free Trade Agreement (NAFTA). His model of Senate votes includes employment data for several industries affected by free trade with Mexico to measure the "winners" and "losers" of the fast-track authority, as well as measures of union membership, political party, and ideological measures. Overall, he finds the larger are the groups identified as losers as a result of fast-track authority in the state, the less likely was the senator to vote for extending the authority. Conconi, Facchini, and Zanardi (2009) expand this analysis by examining the determinants of all fast-track authority votes between 1973 and 2002. They find that congressional votes for this authority depend on the "trade exposure" of the legislator's constituency, as measured by the ratio of employees in export industries to employees in import industries, relative to the U.S. measure of exposure.

Probably the most important FTA, at least as measured by public attention, was NAFTA. Several papers focus on the determinants of the roll-call votes on this bill.<sup>8</sup>

Baldwin and Magee (2000) analyze congressional voting on NAFTA, along with votes on the General Agreement on Tariffs and Trade (GATT), and “most favored nation” (MFN) treatment for China. In addition to measures of union strength, income, and a measure of the legislator’s ideology, the authors include employment levels from several industries determined to be “winners” and “losers” of these FTAs. The empirical results from probit models on the votes for these trade measures indicate that employment measures in most of the individual industries, either “winners” or “losers,” did not have much of a statistical impact.

Kamdar and Gonzalez (1998) also study U.S. Senate votes on NAFTA and GATT. They include the output as a share of gross state product of certain industries identified as “winners” (primarily capital intensive industries and the service industry) and “losers” (the “low-skill” industries) as a result of these free trade measures. In addition, they include measures of unemployment change, labor union membership, the number of workers receiving trade adjustment assistance, the percentage of Hispanic voters in the state, measures of corporate and labor campaign contributions and membership on the Senate International Trade Subcommittee of the Finance Committee and the Foreign Relations Committee. The measures associated with the “loser” industries were the expected sign in the NAFTA vote while the “winner” industry measures were statistically insignificant in both the NAFTA and GATT votes.

Arce, Koopman, and Tsigas (2008) follow a similar empirical framework in their estimation of the determinants of the U.S. Senator’s free-trade position, as measured by an index based on votes taken on ten trade bills during the 108<sup>th</sup> Congress. They find the Senator’s political party, percentage of labor unionization in the state, and the amount of the Senator’s political contributions from business affect the Senator’s free-trade position. The authors do not use the conventional measures of industry-specific pressures on legislators in

their regressions, instead employing a general equilibrium model to calculate the impact on Gross State Product (GSP) caused by changes in import/export prices.<sup>9</sup> They find the presence of import industries such as food and textiles (“losers”) to have a larger negative impact on the Senator’s free trade position than did export industry measures.

A final note about the literature on the determinants of congressional voting on FTAs is whether there are differences between the outcome of roll-call votes taken in the Senate and the House of Representatives. As Baldwin (1985, p. 16-17) notes, the state-wide constituents of Senators are likely to be more diverse so that the intensity of any voters affected by the trade legislation would be diluted. If this is the case, then the Senate might act less “protectionist” than the House of Representatives. On the other hand, the Senate relies more on its individual members and less on the work of the committee structure. This characteristic may mean that Senators are influenced more by interest group demands, including groups representing constituents affected by proposed trade legislation. As a result, the Senate may be as or possibly more protectionist than the House.

With these differences in mind, Baldwin (1985, p. 51) lists possible differences in characteristics of the two houses – *e.g.*, “size, constitutional functions, and rules governing behavior” – as factors that could explain differences in the types of trade legislation that are voted on in each. Because it is a smaller institution, it is easier for members of the Senate to present their views and to negotiate with a potential majority of colleagues in the individual committees and on the Senate floor. The longer terms in office for Senators may shield them to some extent from special interest lobbying. Baldwin also notes that Senators may take more seriously than House members the constitutional authority of Congress with respect to trade legislation.

In contrast to the large literature on legislators’ trade policy preferences, there are only a few empirical studies that employ survey data to examine the determinants of constituents’

preferences toward various trade policies. Scheve and Slaughter (2001) use a survey of the political opinions of a random sample of the U.S. population to estimate what determines individual voters trade policy preferences. They find that lower-skilled workers are much more likely to support the imposition of new trade barriers. Interestingly, home ownership also is a significant determinant of trade policy views; those voters who own assets in counties with large import-competing sectors are more likely to support new forms of trade protection.

More recently, Hoffman (2009) examines the results from a survey of a random sample of the U.S. population who were asked several questions focused on globalization, tariffs, free trade, specific trade agreements (*i.e.*, NAFTA and the Central America Free Trade Agreement) and the Free Trade of the Americas to determine attitudes toward international trade. He finds public opinions on trade policy are not consistent and vary according to the type of trade policy considered, with the degree of “export exposure” as an important determinant. In addition, support for free trade was greater for those individuals with higher levels of education. Finally, while he found that Democrats were more likely to support specific trade agreements that were supported by a Democratic president (*e.g.*, NAFTA and President Clinton), political party affiliation did not affect voter attitudes toward the general categories of “free trade” or “globalization.”<sup>10</sup> None of the papers described above estimates the degree to which consumer preferences matter in legislative voting decisions.<sup>11</sup> In this paper, we make one of the first efforts to capture the strength of the consumer lobby in the legislator’s district by employing the level of antitrust enforcement in the legislator’s state as a proxy for consumer preferences toward trade policies.



## Antitrust, Consumer Protection and Trade

As described in Rose (1994), states increased efforts to enforce federal and state antitrust laws in the mid-1980s, a period in which state attorneys general were unhappy with the antitrust enforcement of the Reagan administration and the influence of economics on federal antitrust enforcement.<sup>12</sup> The National Association of Attorneys General (NAAG) created the Multistate Antitrust Task Force in 1983; this task force has developed state guidelines for enforcement of both vertical pricing restraints (in 1985) and horizontal mergers (in 1987, revised in 1993).

Based on NAAG guidelines, there is strong reason to believe that state antitrust enforcement, even more than federal enforcement, is done in the interest of consumer welfare. As Rose (1994) states, the NAAG Guidelines “identify wealth theory as defining the primary objective of the antitrust laws, *i.e.* that antitrust’s central purpose is to prevent income transfers from consumers to producers.” The guidelines minimize the degree to which state attorneys general should consider allocative and productive efficiency enhancements when analyzing the impact of a proposed mergers; instead, mergers are challenged almost entirely on the expected impact on the degree of competition in the market. It is important to note for the purpose of this paper that state attorneys general can file antitrust actions against any merger, regardless of the location of the firm, if they have a legitimate interest in protecting the economic welfare of their constituents.<sup>13</sup>

There is a growing literature discussing the relationship between antitrust enforcement and international trade. It is increasingly the case that entry, either from domestic or foreign origins, is considered to be a major determinant of competition in economic markets. A considerable amount of empirical literature in industrial organization has found imports or international pressures measured in other ways (*e.g.*, exchange rate movements) to influence domestic prices and profits. In analyzing the potential exercise of monopoly power in

domestic markets, both the academic literature and U.S. antitrust authorities have acknowledged the disciplining role of competition from abroad. This suggests that the discipline of trade liberalization may be viewed by legislators as consistent with antitrust enforcement in promoting well-functioning domestic markets and protecting consumer welfare.

One of the earliest studies addressing the impact of imports on the domestic industry was Esposito and Esposito (1971). Although their econometric results were quite weak and fragile with respect to model specification, more recent studies (*e.g.*, DeRosa and Goldstein (1981) and DeGhellinck *et al.* (1988)) have found similar disciplining impacts of foreign competition. Feinberg (1989a) suggests that imports – especially from developing economies which have been the target of many recent FTAs – are likely to have an especially strong impact on domestic markets where tacit collusion may otherwise be possible. Feinberg and Shaanan (1997) find this to hold empirically and that an easing of non-tariff barriers (as expected to emerge through FTAs) would also likely have desirable pro-competitive impacts.<sup>14</sup>

The joint U.S. Department of Justice/Federal Trade Commission Merger Guidelines (as revised in 1997) say (in section 3.0):

A merger is not likely to create or enhance market power or to facilitate its exercise, if entry into the market is so easy that market participants, after the merger, either collectively or unilaterally could not profitably maintain a price increase above premerger levels. ....In markets where entry is that easy (i.e., where entry passes these tests of timeliness, likelihood, and sufficiency), the merger raises no antitrust concern and ordinarily requires no further analysis.

While the guidelines do not specifically discuss supply from abroad it is understood that this competition is potentially relevant to understanding domestic market competition. It is also

clear (from section 1.3 of the Guidelines) that foreign firms either currently selling in the U.S. market or which could quickly supply the U.S. market in response to price incentives are treated in the same manner as domestic firms in judging the nature of competition.

On the other hand, importers may engage in anticompetitive behavior in the domestic market. Wooton and Zanardi (2005) explore the relationship between antitrust policy and antidumping protection; theoretically both policies are designed to correct for anticompetitive behavior, namely price discrimination and/or predatory pricing, with antitrust legislation used to correct for domestic anticompetitive behavior and antidumping used to correct for these same activities by foreign firms. The authors acknowledge, however, that antidumping policy in its current form has little relationship with price discrimination or predation, instead serving as a substitute for other forms of trade protection. This paper suggests that regional trade agreements should be used to improve regional antidumping legislation, and encourage its eventual elimination.<sup>15</sup>

While much support for antitrust has historically been in terms of a populist anti-“big-business” agenda, the more modern view of antitrust tends to focus on the pro-competitive results expected from enforcement against cartels, big-rigging, large horizontal mergers, and certain monopolistic restrictions. If it is the case that less-restrictive trade policy and more active domestic antitrust enforcement have similar impacts on domestic prices, we should expect legislators to vote in similar ways on the two types of policies. Unfortunately, votes on antitrust issues are quite rare. We argue that a good indication of how a legislator *would* vote on antitrust issues is the aggressiveness of antitrust enforcement in his/her home state. We incorporate a measure of this aggressiveness in probit models used to explain the recent votes by members of Congress on FTAs.<sup>16</sup>

### III. ECONOMETRIC SPECIFICATION AND DATA

Over the past decade there has been a great deal of attention given by policy makers to negotiating bilateral FTAs (in part as a substitute for additional multilateral trade liberalization which has foundered since the creation of the World Trade Organization in the mid-1990s). In this paper we focus on four such FTAs – with Australia, Chile, Morocco, and Singapore – which were passed by both houses of Congress during the 108<sup>th</sup> Congress (2003-04). Below we provide a discussion of the variables we include in our empirical model, as well as the empirical methodology employed.

#### The Political Economy of Trade Protection

Following the political economy literature described above, members of Congress are assumed to make decisions about how to vote on a proposed FTA in a way that maximizes their chances of reelection.<sup>17</sup> Their decisions should be based on how they perceive the FTA will affect their constituents. While FTAs in general – and the four considered here – differ in many respects, they all reduce barriers to trade and are expected to promote more competitive domestic markets. We expect that legislators who represent districts with a strong consumer lobby should be in favor of actions that increase competition and lower consumer prices, and, thus, will be more likely to support new FTAs.<sup>18</sup> Our measure of the strength of the consumer lobby is the aggressiveness of state attorneys general in pursuing (as lead plaintiffs) antitrust actions under both state and federal statutes; based on a database (maintained by the National Association of State Attorneys General) of cases filed between 1990 and 2006, we calculate the number of cases filed in each state over this 16 year time period.<sup>19</sup>

Following earlier studies such as Baldwin and Magee (2000), we assume an economy with industry-specific capital and labor whose income includes rents from industry-specific

skills. The reduction in tariffs associated with an FTA will decrease the earnings of capital-owners and workers in import-competing industries, while increasing the earnings of the capital-owners and workers in the export-oriented industries. To capture the expected impact of the FTA on each Congressional member's constituents, we include a number of district-level economic variables, as described below.

Members representing districts with more workers employed in import-sensitive industries are less likely to vote in favor of new FTAs, while those representing districts with more workers employed in export-oriented industries should welcome new trade liberalization efforts. We calculate the district's share of employment in each of the three-digit North American Industrial Classification (NAICS) manufacturing industries (NAICS Codes 311-339), as well as in the agricultural sector (NAICS Code 110) using employment data from the U.S. Census Bureau's 2003 County Business Patterns.<sup>20</sup> The impact of these employment shares will likely vary with the particular FTA. For example, the International Trade Commission (2005) predicted that the FTAs with Singapore, Chile and Australia would likely result in an increase in imports of textile and apparel products; however, the same report predicted that the FTAs with Chile and Australia would also result in an increase in *exports* of U.S. textile and apparel products.

Import-sensitive industries typically employ low-income, less-skilled workers, thus we include several demographic characteristics of the Congressional districts. We would expect the probability that a member would vote in favor of an FTA to increase with the average per capita income in the district. In contrast, the likelihood of voting for an FTA should be lower in districts with a high proportion of unskilled workers, which we measure using the share of the population without a high school diploma and the share with a high school diploma but no college degree. The U.S. Census Bureau's 108<sup>th</sup> Congressional District Summary File of the 2000 Census provides all three variables.

Legislators from districts with extremely high unemployment rates may be less likely to vote for free trade agreements in the fear that increased trade will exacerbate poor economic conditions.<sup>21</sup> We include the average unemployment rate in 2003 in the Congressional district to account for this possibility. The Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics provides state and county-level unemployment rates. We use county-level unemployment rates from the BLS to calculate a weighted average unemployment rate in the Congressional district using the concordance available from the Missouri Census Data Center's Geocorr2K website.<sup>22</sup>

Because labor unions typically oppose free trade agreements, we would expect the likelihood of voting for any FTA analyzed in this sample to decrease with the unionization rate of the state. We measure unionization using the percentage of state workers that are members of unions as reported in the Hirsch and Macpherson (2003) Union Membership and Coverage Database.

Finally, we include a number of legislator-specific variables that may influence voting decisions. Senators have a broader constituent base and longer terms; as a result, they may be less vulnerable than House members to narrow interest groups. To account for this possibility, we include a dummy variable for Senators in some specifications and estimate the model separately for House members in other specifications.<sup>23</sup> The Republican Party, in recent years, has been considered less protectionist than the Democratic Party. Therefore, we hypothesize that members of the Republican Party are more likely to vote for the FTAs in this sample. We include the number of terms each legislator has served in office to account for the possibility that more senior members of Congress are less likely to be influenced by interest groups associated with trade issues.<sup>24</sup> Information on the members of Congress comes from Congressional Quarterly's Congress Collection Database.

Although political contributions from firms, labor interests and business interests often have proved to be statistically significant determinants of Congressional voting on trade legislation in the literature described in Section 2, we omit political contribution data from our econometric model. As discussed by Baldwin and Magee (2000) and Liebman and Reynolds (2006), the same unobserved factors likely influence both political contributions to a legislator and his or her vote on passage of a new FTA; as a result, political contributions are endogenous to the model and inclusion of contributions variables would bias the results. There is unlikely to be much correlation between our primary variable of interest, state antitrust enforcement, and political contributions to the individual legislators from that state, thus omitting contributions should not bias the key results discussed below.<sup>25</sup>

### The Political Economy of Antitrust Enforcement

State level antitrust enforcement can also be seen as the result of local political and economic influences. The previous literature has explored the determinants of antitrust enforcement at the federal level both over time and across industries.<sup>26</sup>

Because most of the literature on the political economy of antitrust enforcement has concentrated on regulation at the national level, few researchers have considered what types of state level characteristics create a cross-sectional variation in the level of enforcement. We expect that the larger the size of the state economy, as measured by the log of gross state product (GSP), the more antitrust enforcement undertaken by its attorney general. One might also expect that the larger the firms in the state, the more likely that the state would intervene in mergers or undertake other forms of regulation. We measure this using the proportion the state's establishments in 1990 that had more than 250 employees, as reported in U.S. Census' 1990 County Business Patterns.<sup>27</sup>

Empirical studies such as Ghosal and Gallo (2001) find that antitrust enforcement by the U.S. Department of Justice is countercyclical. The authors speculate that antitrust violations increase during periods of declining economic activity. Because we measure antitrust enforcement using the total number of cases brought by the state between 1990 and 2006, we are unable to measure the degree that business cycles impact state-level antitrust enforcement. Instead, we include the average state unemployment rate between 1990 and 2006 to capture whether the relative level of economic activity in a state influenced the degree of antitrust enforcement.

Because the motivation for antitrust enforcement may be different for attorneys general who are elected rather than appointed, we include a dummy variable for the five states that appoint their attorney general: Alaska, Hawaii, New Hampshire, New Jersey and Wyoming.

Empirical studies of the national level of antitrust enforcement such as Areeda (1994) and Ghosal and Gallo (2001) investigate whether antitrust enforcement increases under Democratic administrations, with mixed results. Because most state attorneys general are elected officials, state antitrust enforcement may be more influenced by political party. To account for this possibility, we include the average proportion of state voters voting for the Republican candidate for governor between 1990 and 2006.<sup>28</sup>

We include two final variables to capture characteristics of the state electorate. As noted above, one theory of antitrust enforcement speculates that enforcement may be a method of allowing government agencies to redistribute wealth from producers to consumers. If this is the case, we would expect antitrust enforcement to decrease with the state's average per capita income. Although labor unions are exempt from antitrust laws, we include the percentage of state workers that are members of unions to account for the possibility that unions may enact pressure on officials to secure antitrust enforcement on particular firms.



### Econometric Specification

It is expected that legislators who vote in favor of one FTA will also vote in favor of other FTAs, thus the residuals in the empirical analysis of votes on the Australian, Chilean, Moroccan and Singaporean FTAs will likely be correlated. As reported in Table 1, each of the FTAs passed by a clear majority, although the agreements with Australia and Morocco enjoyed more support than the agreements with Singapore and Chile in both the House and the Senate. All four agreements passed by a greater majority in the Senate than in the House. There is a high degree of correlation (0.92) between legislators' votes on the Chilean and Singaporean FTAs, which were considered in the House and Senate on the same day, but less correlation among the votes on the other FTAs. For example, the degree of correlation between legislators' votes on the Australian and Moroccan FTAs, which were considered during the same month, is only 0.60.

The same unobserved factors may influence both a legislator's support for a particular piece of legislation and the level of antitrust enforcement undertaken by his or her states' attorney general. For example, legislators from districts that are home to many large conglomerates may be less likely to pursue antitrust actions against these firms, but more likely to vote in favor of trade legislation that would benefit these firms. In a simple regression of antitrust enforcement on the legislator's decision to vote in favor of the FTA, the error will be correlated with the independent antitrust variable, thus biasing the results.

To account for the possible correlation in the errors, we estimate the determinants of the decision to vote on all four FTAs and the level of state antitrust enforcement simultaneously using a model proposed in Baldwin and Magee (2000). The model specifies that while the decision to vote for a particular FTA is a binomial variable dependent on the level of antitrust enforcement, the level of antitrust enforcement is a continuous variable truncated at zero. Specifically, define a dummy variable  $S_{ij}$  to equal 1 when the legislator

chooses to support FTA  $j$ . Define  $A_i$  as the level of antitrust enforcement conducted in legislator  $i$ 's state between 1990 and 2005. The model we use to explain the votes for the FTAs and the level of antitrust enforcement is defined as

$$(1) S_{ij} = \Phi(\beta_{Aj}A_i + \beta_j'X_i + \varepsilon_{ij}), j = \text{Australia, Chile, Morocco, Singapore}$$

$$(2) A_i = \begin{cases} \gamma'W_i + \sigma\varepsilon_{iA} & \text{if } \gamma'W_i + \sigma\varepsilon_{iA} \geq 0 \\ 0 & \text{else} \end{cases}$$

where  $\Phi$  is the standard normal distribution,  $X_i$  is a vector of other variables that influence the legislator's vote,  $W_i$  is a vector of variables that determine the level of antitrust enforcement in the legislator's state, and  $\beta$ ,  $\gamma$ , and  $\sigma$  are parameters to be estimated; here  $\sigma$  is the standard deviation of the error in the antitrust enforcement equation.

We estimate the model presented in Equations (1)-(2) using full information maximum likelihood (FIML), which estimates the five equations simultaneously using the assumption that the equations' errors have a multivariate normal distribution.

We exclude from the estimation legislators who neglected to participate in one or more of the votes on the FTAs considered in this sample, which leaves us with a dataset of the votes of 495 legislators (95 Senators and 400 Representatives) on all four FTAs considered during the 108<sup>th</sup> Congressional session. Summary statistics of the explanatory variables are included in Table 2.

#### IV. RESULTS

Marginal effects from the system of equations in which we control for the log of the number of antitrust cases filed in the Congressmen's state are presented in Table 3. The top four columns present the results for the Congressional votes on the Australian, Chilean, Moroccan and Singaporean FTAs, while the lower column shows the elasticities associated

with the expected number of antitrust cases. The model predicts 74%-80% of votes correctly on each bill.<sup>29</sup>

The results suggest a strong correlation between the level of antitrust enforcement in the Congressman's state and his or her vote in favor of each FTA. Specifically, a one percent increase in the number of antitrust cases filed in the state between 1990 and 2006 results on average in a five percentage point increase in the likelihood that the Congressman votes in favor of a particular FTA; the impact of this increase in antitrust enforcement ranges from 1.2 percentage points for the Moroccan FTA to 6.3 percentage points for the Chilean FTA. If, as we hypothesize, larger values of antitrust enforcement suggest a stronger consumer lobby, the results suggest that consumer preferences are a significant determinant of legislator's trade policy determinations.

These results are robust to a wide variety of alternative specifications that are not reported, but are available from the authors upon request. In one specification we included the size of the state's economy as measured by Gross State Product. In that specification, a one percent increase in state antitrust enforcement resulted in a 1.9 to 9.9 percentage point increase in the likelihood of voting for the FTAs. To get a better measure of consumer preferences, we replaced our antitrust variable with a more limited measure of antitrust enforcement, the number of horizontal conspiracy cases filed by the state antitrust enforcement agency. These cases more clearly benefit consumers than other forms of antitrust enforcement which may instead serve the interests of other firms in the state. In this model, a one percent increase in horizontal conspiracy antitrust enforcement resulted in a 2.0 to 11.0 percentage point increase in the likelihood of voting for the FTAs.

We also explored the possibility that the influence that consumers have on legislators may be non-linear in nature or a function of characteristics of the legislators or their districts. Specifically, in alternative specifications not presented here we included an interaction term

between the level of state antitrust enforcement and the percentage by which the legislator won his or her last reelection bid, as well as an interaction between the level of state antitrust enforcement and the districts average per capita income. These interaction effects were not statistically significant.<sup>30</sup>

Many of the other explanatory variables included in the voting equations are statistically significant and of the expected sign. These results do not appear to be driven by the inclusion of our antitrust enforcement variable. The results from specifications that estimate a four voting equation system without the antitrust variable were qualitatively the same as those presented here. As expected and found in earlier studies, Republicans are more likely to support increased trade liberalization, while those members from districts with high unionization rates are less likely to vote in favor of increased liberalization. Legislators who had served more terms were less likely to vote in favor of FTAs with Chile, Morocco and Singapore. We also found evidence that legislators from districts with higher unemployment rates were less likely to vote in favor of new trade liberalization efforts, at least those with Chile, Morocco, and Singapore.

Although Members from districts with higher per capita income were more likely to vote in favor of the Australian and Moroccan FTAs as hypothesized, this characteristic did not significantly affect the decision to vote for the other two FTAs in our sample. The education level of district constituents has a mixed effect on the likelihood of voting in favor of particular FTAs. Our results indicate that while Congressmen from districts with constituents with a lower education level were less likely to vote in favor of the Chilean and Singaporean FTAs, they were more likely to vote for the Moroccan FTA. This may reflect differences in the three agreements that would result in differential impacts on low-income, unskilled workers.

Marginal effect estimates from these same specifications associated with the sectoral employment shares are presented in Table 4. Although few of the estimates are significant for the Australian FTA, the results from the Chilean, Moroccan and Singaporean FTAs suggest that these agreements would clearly have differential impacts across sectors. Results suggest that all three FTAs would benefit the petroleum, plastics and rubber, minerals and transportation sectors in the United States, while harming the textile, chemical and computer and electronic equipment sectors.

Several of the variables included in the antitrust enforcement equation were significant and of the expected sign. As expected larger economies, as measured by gross state product, tend to file more antitrust enforcement actions, as do states with higher unionization levels. Surprisingly, although we expected that states with lower per capita incomes would file more antitrust actions to protect consumers, the opposite is estimated. States that had large shares of “big” establishments in 1990, as measured by the share that employ more than 250 employees, tended to file fewer antitrust cases. This may reflect a desire to protect big business. Other variables, including the average state unemployment, the average share of the state voting for the Republican gubernatorial candidate, and whether or not the state attorney general was appointed, proved to be insignificant.

Finally, we tested whether consumer preferences, as measured by state antitrust enforcement, have a differential impact in the House when compared to the Senate. This is of particular concern due to the fact that our antitrust enforcement variable is a state-wide measure rather than specific to the Congressman’s legislative district. The results are presented in Table 5.

There is little qualitative difference in the results of the House of Representatives subsample when compared to the full model. Antitrust enforcement again has a positive and statistically significant impact on the likelihood of voting for FTAs, suggesting that consumer

preferences have a significant influence on legislative decisions. Marginal effects suggest that a one percent increase in the level of antitrust enforcement results in a 1.7 to 10.9 percentage point increase in the likelihood of voting for a particular FTA. Estimates associated with the other control variables are also remarkably similar to those from the full sample.

## V. CONCLUSION

The aggressiveness of enforcement of state and federal antitrust statutes by state attorneys general is an indicator of the sentiment within that state in favor of consumer interests. As such, it would be expected that this sentiment would also be expressed by the state's Congressional delegation in their votes on free trade agreements – which are also widely viewed as pro-competition and hence, pro-consumer. This study is the first to examine this issue. We find evidence that increased state antitrust enforcement is associated with greater support for negotiated free trade agreements, especially for members of the U.S. House of Representatives.

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## FOOTNOTES

<sup>1</sup> For example, the Heckscher-Ohlin model predicts that U.S. legislators from districts with a large proportion of the relatively scarce factor of production, low-skilled workers, will tend to vote against new trade liberalization efforts. Specific factors models of trade predict that legislators from districts with a large number of employees in import-sensitive industries will tend to vote against new trade liberalization efforts.

<sup>2</sup> Hillman (1982) postulates that legislators trade off political support from industry interests with the dissatisfaction of consumers; legislators in Grossman and Helpman's (1994) model maximize a weighted function of political contributions and aggregate social welfare. In both models the level of protection is predicted to fall with the sector's elasticity of import demand because there would be a greater loss of consumer surplus with an increase in the level of protection.

<sup>3</sup> One exception are papers such as Goldberg and Maggi (1999) which empirically estimate the relative weight that legislator's place on political contributions relative to aggregate welfare in structural estimates of Grossman and Helpman's (1994) model.

<sup>4</sup> In the United States, the Foreign Trade Antitrust Improvement Act (FTAIA) of 1982 extends the Sherman Act, the basis for most U.S. antitrust enforcement, to foreign activities if these activities have a direct and substantial effect on the domestic market or U.S. export activities. Legal cases since the passage of FTAIA have more clearly defined how this "direct and substantial effect" should be measured.

<sup>5</sup> It is also possible that antitrust enforcement is a result of one producer lobbying the government to transfer wealth from one of its competitors. In an alternate specification not

reported here, we attempt to eliminate this possibility by creating a new variable focusing on the subset of antitrust actions that are most likely to benefit consumers; results are not qualitatively different.

<sup>6</sup> An alternative framework is that policymakers are motivated by larger social goals which may lead them to support policies that run counter to the interests of a majority of voters.

Baldwin (1985) explains that this type of behavior best describes the President and not legislators, who are less likely to be able to take a “national” policy view and more likely to be responsive to focused local interest groups.

<sup>7</sup> Baldwin (1985) tested and found support for several of these theories focusing on U.S. House and Senate votes on the *Trade Act of 1974*.

<sup>8</sup> In addition to those discussed here, others published in the political science literature include Box-Steffensmeier *et al.* (1997), Holian *et al.* (1997), and Uslaner (1998).

<sup>9</sup> For example, their explanatory variables include the percent change in gross state product that would result from a one percent decline in import prices for import-sensitive agricultural sectors; this variable was calculated using the USAGE-ITC general equilibrium model.

<sup>10</sup> Baker (2005) and Kono (2008) use the World Values Survey to analyze international differences in public attitudes toward trade policy. Baker finds large differences across countries in support for free trade based on the consumption of exportable goods, the ratio of skilled to unskilled workers, and the amount of land. Kono (2008) finds that government regime type (*e.g.*, democracy) and public attitudes toward free trade work together to determine the country’s average tariff level.

<sup>11</sup> It is possible that some of the variables included in the empirical models described in this section, such as the income per capita in the legislator’s district, could capture the importance of consumer preferences.

<sup>12</sup> The Hart-Scott-Rodino Antitrust Improvement Act of 1976 authorized state attorneys general to institute federal *parens patriae* actions for treble damages on behalf of their states' consumers.

<sup>13</sup> While states can claim jurisdiction over foreign or transnational firms, in practice most companies targeted by state antitrust enforcement are local firms and virtually all are U.S.-based.

<sup>14</sup> Similarly, Feinberg (1989b) provides evidence suggestive of exchange rate impacts on domestic prices being limited by non-tariff barriers to trade.

<sup>15</sup> Of the four free trade agreements considered in this research, only the Chilean free trade agreement includes specific regulations governing the use of antidumping duties. Thus we do not believe that antidumping reform was a major consideration of Congressmen when they were deciding whether or not to vote in favor of the FTAs included in our sample.

<sup>16</sup> This measure also has the advantage of being more clearly exogenous – in this sense it might be viewed as an instrument for the more endogenously determined vote on a (hypothetical) antitrust matter.

<sup>17</sup> To the extent that voters preferences are themselves influenced by legislative votes taken (along with, perhaps, an explanation for these votes), there may be an endogeneity issue. However, we deal with this through our equation instrumenting for antitrust enforcement, our proxy for constituent preferences.

<sup>18</sup> Of course, as we acknowledged earlier, some antitrust actions may instead reflect a bias against large corporations; this suggests that ultimately the relationship between antitrust sentiment and support for free trade agreements is an empirical question. If larger firms are more likely to export (as has been found empirically), they may have interests in common

with consumers in supporting FTAs, which could lead to legislators both favoring antitrust and these trade agreements.

<sup>19</sup> Of the case filings incorporated in our index of state antitrust enforcement, more than half involved aspects of bid-rigging, horizontal restraints, price-fixing, or market allocation agreements; these cases all would be likely viewed as promoting competition. A wide range of products is involved in these cases (everything from funeral services to gasoline retailers to school milk contracts).

<sup>20</sup> We estimated the number of employees in Congressional Districts by allocating county employment to various districts using the percentage of the county residing in each Congressional District available from the concordance constructed by the Missouri Census Data Center's Geocorr2K project. The share of employment in each manufacturing sector was then calculated by dividing by the estimated total employment in the district.

<sup>21</sup> On the other hand, Congressmen from districts with high unemployment in export-oriented industries may be more likely to vote in favor of new FTAs.

<sup>22</sup> Unemployment rates from each county were weighted by the percentage of the population in each Congressional district from that county prior to taking the Congressional district average.

<sup>23</sup> Efforts to run the model separately for the Senate failed to converge; because the explanatory variables for the Senators from each state are virtually identical, the empirical estimation technique can only identify parameters on legislator-specific variables such as the party of the Senator and the number of terms served by the Senator.

<sup>24</sup> In specifications not reported here, we also included the Member's margin of victory in their last election; the variable was not significant and, thus, omitted from the final specification.

<sup>25</sup> In specifications not reported here, we included political contributions as an explanatory variable in the voting equations, and controlled for the endogeneity of contributions by including a fifth equation in a system explaining these contributions. The results, which are available from the authors, were qualitatively the same as those presented here. Because the relationship between contributions and voting are not our focus, we choose to present the simpler model. Because many of the same determinants affect both political contributions to the legislator and the legislator's vote on a particular piece of trade legislation, including the legislator's political party, unionization rate in the state, and the number of terms in office, we believe we are implicitly instrumenting for political contributions.

<sup>26</sup> See, for example, Ghosal and Gallo (2001), Wood and Anderson (1993), Besanko and Spulber (1989), Siegfried (1975), and Harrington (2004). We know of no research exploring cross-state variation in the level of antitrust enforcement.

<sup>27</sup> We use data from 1990 to explain the total case filings between 1990 and 2006 to minimize endogeneity concerns; it seems likely that states characterized by more antitrust activity, particularly activity in the form of merger interventions, will eventually be characterized by smaller firms.

<sup>28</sup> We calculated this variable from information obtained from Congressional Quarterly's Voting and Elections Collection. Although we explored using data on the proportion of state voters registered as Republican, not all states require voters to register their party affiliation. Similarly, data on the percentage of voters voting for the Republican candidate for Attorney General are not available for those states that appoint their Attorney General.

<sup>29</sup> Of course, while our focus is on economic determinants of voting on FTAs, there are other forces involved – related to cooperation on military, environmental, immigration, and drug trafficking issues.

<sup>30</sup> Another specification which interacted the level of state antitrust enforcement with a dummy variable indicating whether the legislator was a Republican failed to converge.



TABLE 1  
Percentage Voting in Favor of U.S. FTA\*

	House	Senate
Singapore ( <i>July 24 and 31, 2003</i> )	63.7	67.3
Chile ( <i>July 24 and 31, 2003</i> )	63.5	67.0
Australia ( <i>July 14 and 15, 2004</i> )	74.2	83.3
Morocco ( <i>July 22 and 21, 2004</i> )	76.5	86.7

\*Dates in parentheses indicate the dates the House and Senate voted on the FTA, respectively.

TABLE 2

## Summary Statistics

	Full Sample		House	
	Mean	Std. Dev.	Mean	Std. Dev.
<i>FTA Variables</i>				
Ln(Cases)	2.165	1.405	2.332	1.375
Senate	0.192	0.394		
Terms	5.292	3.795	5.755	3.997
Republican	0.525	0.500	0.525	0.500
Unemployment Rate	5.989	1.249	6.092	1.271
Unionization Rate	0.127	0.061	0.130	0.062
Ln(District Per Capita Income)	9.942	0.231	9.944	0.248
No High School Degree	0.195	0.075	0.198	0.080
HS, No College Degree	0.501	0.064	0.497	0.067
<i>Additional Antitrust Variables</i>				
Average State Unemployment	5.455	0.846		
Appointed	0.059	0.235		
Average % Voting Republican	0.358	0.079		
Ln(Gross State Product)	5.521	1.056		
Ln(State Per Capita Income)	9.966	0.117		
Share Employed in Large Firms	0.627	0.133		
Number of Observations	495		400	

TABLE 3

## Marginal Effects from the Empirical Model

	<i>Australia</i>	<i>Chile</i>	<i>Morocco</i>	<i>Singapore</i>
<i>Voting Equation Variables</i>				
Ln(Cases)	0.047*** (0.017)	0.063*** (0.013)	0.012 (0.008)	0.055*** (0.009)
Senate	0.028 (0.039)	-0.044* (0.025)	0.034* (0.019)	-0.024 (0.019)
Terms	-0.004 (0.003)	-0.016*** (0.003)	-0.008*** (0.002)	-0.018*** (0.003)
Republican	0.157*** (0.052)	0.516*** (0.033)	0.232*** (0.025)	0.520*** (0.031)
Unemployment Rate	0.041 (1.503)	-3.300*** (1.099)	-2.529*** (0.645)	-1.578* (0.867)
Unionization Rate	-0.876** (0.391)	-2.426*** (0.276)	-0.436*** (0.140)	-2.031*** (0.180)
Ln(Per Capita Income)	0.430** (0.199)	0.120 (0.143)	0.358*** (0.083)	0.104 (0.111)
No High School Degree	0.662 (0.522)	-1.311*** (0.442)	0.773*** (0.235)	-1.312*** (0.374)
HS, No College Degree	0.132 (0.499)	-1.712*** (0.400)	-0.025 (0.228)	-1.443*** (0.307)
<i>Antitrust Enforcement Variables</i>				
Average State Unemployment		16.717 (11.528)		
Appointed		-1.413 (0.918)		
Average % Voting Republican		0.091 (0.587)		
Unionization Rate		4.310*** (1.377)		
Ln(Gross State Product)		0.819*** (0.104)		
Ln(State Per Capita Income)		1.461* (0.783)		
Share Employed in Large Firms		-2.314*** (0.493)		
$\sigma$		0.695 (0.589)		

Standard errors in parentheses. Estimates of constant term and industry employment shares not reported. \*\*\*, \*\*, \* indicate those parameters significant at the 1, 5 and 10 percent levels, respectively.

TABLE 4

## Marginal Effects of Sectoral Employment Shares

	<i>Australia</i>	<i>Chile</i>	<i>Morocco</i>	<i>Singapore</i>
Agriculture	1.642 (11.226)	8.149 (6.866)	0.166 (3.788)	17.409*** (6.367)
Manufacturing				
Food and Beverage	-1.202 (1.113)	-2.475 (1.484)	-3.326*** (0.783)	-3.845*** (1.205)
Textiles	-1.287 (2.754)	-27.394*** (2.608)	-12.788*** (1.293)	-30.545*** (2.252)
Apparel	-2.666 (4.230)	10.726*** (4.324)	-7.158*** (1.568)	11.843*** (3.071)
Leather	-29.932 (19.990)	-5.048 (27.042)	-4.124 (8.638)	1.834 (12.423)
Wood	-1.016 (3.920)	-0.989 (3.280)	3.991*** (1.708)	-1.886 (2.898)
Paper	-3.365 (4.364)	-3.485 (3.563)	-3.305* (1.949)	-10.064*** (2.656)
Printing	-8.004 (5.901)	-9.845* (5.462)	2.377 (2.639)	-5.613 (3.727)
Petroleum	11.862 (11.637)	35.290*** (9.850)	21.880*** (7.794)	45.244*** (12.228)
Chemicals	-2.894 (2.989)	-6.970*** (2.906)	-7.161*** (1.611)	-5.517*** (2.186)
Plastics/Rubber	15.987*** (6.485)	19.480*** (4.788)	13.901*** (2.896)	19.568*** (3.356)
Minerals	2.359 (6.893)	30.181*** (7.863)	11.353*** (4.066)	41.239*** (5.962)
Primary Metals	0.237 (2.193)	-4.929 (3.843)	-6.519*** (1.924)	-5.310*** (2.024)
Fabricated Metals	-3.403 (3.201)	2.780 (2.885)	-1.454 (1.640)	-3.174 (2.057)
Machinery	-1.392 (2.806)	2.292 (3.084)	-2.699 (1.919)	5.292*** (1.966)
Computer	-1.326 (1.724)	-9.589*** (1.374)	-2.971*** (0.577)	-8.214*** (1.202)
Electrical Equip.	-0.376 (5.847)	-1.205 (6.255)	-2.840 (2.497)	-1.879 (3.686)
Transportation	1.407 (1.546)	4.140*** (1.244)	1.622* (0.887)	3.098*** (1.029)
Furniture	9.734 (8.362)	4.180 (3.379)	2.676*** (0.897)	4.626 (3.573)

Employment share coefficient estimates associated with Table 3. Standard errors in parentheses. \*\*\*, \*\*, \* indicate those parameters significant at the 1, 5 and 10 percent levels, respectively.

TABLE 5

## Marginal Effects from the Empirical Model—House Only

	<i>Australia</i>	<i>Chile</i>	<i>Morocco</i>	<i>Singapore</i>
<i>Voting Equation Variables</i>				
Ln(Cases)	0.095*** (0.007)	0.077*** (0.007)	0.017** (0.008)	0.109*** (0.009)
Terms	-0.007*** (0.001)	-0.016*** (0.002)	-0.007*** (0.002)	-0.019*** (0.002)
Republican	0.313*** (0.017)	0.649*** (0.030)	0.343*** (0.034)	0.652*** (0.029)
Unemployment Rate	0.122 (0.431)	-0.549 (0.638)	-1.441** (0.638)	0.788 (0.651)
Unionization Rate	-1.579*** (0.117)	-1.808*** (0.163)	-0.589*** (0.151)	-2.102*** (0.128)
Ln(Per Capita Income)	0.672*** (0.056)	-0.175** (0.082)	0.273*** (0.074)	-0.174** (0.078)
No High School Degree	1.127*** (0.156)	-1.931*** (0.231)	0.611*** (0.220)	-2.120*** (0.264)
HS, No College Degree	0.440*** (0.149)	-1.968*** (0.225)	-0.023 (0.211)	-1.882*** (0.194)
<i>Antitrust Enforcement Variables</i>				
Average State Unemployment		-11.241 (10.89)		
Appointed		-0.917 (2.409)		
Average % Voting Republican		-0.177 (0.574)		
Unionization Rate		4.118*** (1.212)		
Ln(Gross State Product)		0.916*** (0.091)		
Ln(State Per Capita Income)		-0.137 (0.737)		
Share Employed in Large Firms		-2.380*** (0.574)		

Standard errors in parentheses. Estimates of constant term and industry employment shares not reported. \*\*\*, \*\*, \* indicate those parameters significant at the 1, 5 and 10 percent levels, respectively.