Fast Track Authority
and International Trade Negotiations*

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Abstract
Fast Track Authority (FTA) is the institutional procedure in the United States whereby Congress grants to the President the power to negotiate international trade agreements. Under FTA, Congress can only approve or reject negotiated trade deals, with no possibility of amending them. In this paper, we examine the determinants of FTA voting decisions and the implications of this institutional procedure for international trade negotiations. We describe a simple two-country trade model, in which industries are unevenly distributed across constituencies. In the foreign country, trade negotiating authority is delegated to the executive, while in the home country Congress can retain the power to amend trade agreements. We show that representatives of constituencies with higher stakes in import-competing industries will tend to vote against FTA, while representatives of more export-oriented constituencies might vote in favor or against, depending on the degree of protectionism of the majority of Congress. Empirical analysis of the determinants of all FTA voting decisions taken by Congress provides strong support for the predictions of our model. We also show that lack of FTA tends to skew the outcomes of trade negotiations in favor of the home country. This might help to explain why other countries are reluctant to negotiate trade agreements with the United States in the absence of FTA.

JEL classifications: D72, F13
Keywords: Fast Track Authority, Trade Negotiations

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1 Introduction

Fast Track Authority (FTA) is the institutional procedure in the United States whereby Congress grants the President the power to negotiate international trade agreements. Under FTA, the President submits the negotiated trade deal to Congress, which has ninety legislative days to approve or reject it, with no room for amendments. While congressional and private sector leaders are consulted throughout the negotiations, the fact that the final agreement is presented to Congress as a package assures trading partners that any solution they reach with U.S. executive will not be renegotiated.

Fast track procedures played a crucial role during the Tokyo Round and the Uruguay Round of multilateral trade negotiations, as well as in the negotiations of all major free trade agreements involving the United States.\(^1\) The recent expiration of FTA on July 1, 2007 is likely to endanger the already troubled Doha Round of multilateral trade negotiations,\(^2\) as well as ongoing bilateral negotiations between the United States and various other countries. The objective of this paper is to examine the determinants of congressmen’s decision to grant or not fast track authority to the President and to understand the impact of this decision on the outcome of international trade negotiations.

For this purpose, we develop a simple model of trade relations between two large countries, home (representing the United States) and foreign, which are characterized by similar economic features, but different trade policy institutions. In the foreign country, the authority to negotiate trade agreements is delegated to the executive, while in the home country, Congress can retain the possibility to amend trade deals. In our setup, the executive represents the interests of the country as a whole, while congressmen represent the interests of their electoral constituencies. Crucially, we assume that legislators’ trade preferences differ as a result of the uneven distribution of production activities across constituencies. This implies that districts which are relatively more specialized in the production of import-competing (export) goods will be less (more) willing to trade off reductions in domestic import tariffs with reductions in foreign import taxes compared to the country as a whole.

Each legislator in the home Congress will vote for or against FTA so as to maximize his expected utility, anticipating the impact that FTA (or lack thereof) will have on the outcome of the negotiations with the foreign country. This decision is effectively equivalent to choosing between two different country representatives: the President (in the case of FTA) and the

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\(^1\) The only free trade agreement which the United States did not negotiate under fast track procedures was the U.S.-Jordan free trade agreement. A stated by Jagdish Bhagwati in a recent interview with the Council of Foreign Relations, “every time there’s been something big and complicated—certainly the big multilateral ones, and even the big bilateral ones like NAFTA—they had to go through fast track” (see www.cfr.org).

\(^2\) The director-general of the World Trade Organization, Pascal Lamy, warned that the Doha Round “will fail unless we get some sort of extension to the fast track” (Sunday Telegraph, December 3, 2006).
majority of Congress (in case of no FTA).

Our theoretical model predicts that representatives of constituencies with higher stakes in import-competing industries will tend to vote against FTA, while representatives of more export-oriented constituencies may vote in favor or against, depending on the degree of protectionism of the majority of Congress. The intuition behind this result is that export-oriented districts, which are eager to reach an agreement with the foreign country, may gain from being represented by more protectionist districts, which are able to achieve a more favorable deal in the negotiations. This is in line with results obtained in the literature on strategic delegation, which shows how principals may gain by delegating decision-making power to status-quo biased agents, to increase their “bargaining power” in negotiations with other parties (e.g. Schelling, 1956; Jones, 1989; Segendorf, 2003).

To test the predictions of our theoretical model concerning FTA voting decisions, we examine the determinants of all FTA votes which have taken place in the U.S. Congress between 1974 (when fast track was first introduced) and 2002 (when it was last granted). Our results provide strong empirical support for the voting predictions of our model. In particular, we show that a congressman is significantly less likely to vote in favor of granting or extending FTA the more import competing is his district compared to the entire country. Moreover, in line with the predictions of our theoretical model, the FTA voting decisions of less protectionist district representatives depend crucially on the characteristics of Congress majority. We also show that lack of FTA tends to impede trade liberalization and to skew trade policy outcomes in favor of the home country. This result can explain why foreign countries are reluctant to negotiate trade agreements with the United States in the absence of FTA.

Our analysis builds on the broad literature on the political economy of trade policy, and in particular on the various contributions which have examined the interaction between domestic politics and trade negotiations (e.g. Mayer, 1981; Grossman and Helpman, 1995; Broda et al., 2007). While these papers have considered several important aspects of the process of endogenous formation of trade policies, somewhat surprisingly, very little attention has been paid by the literature to the workings of FTA and and its impact on trade negotiations. The idea that negotiators may use various strategies to try to shift the terms of the agreements closer to their own preferred outcome was informally discussed by Putnam (1988), who was the first to describe international relations as “two-level games”, in which domestic and international politics are fundamentally intertwined.

Our paper is also related to the vast literature in political science that has examined the evolution of U.S. trade policy institutions (e.g. Lohmann and O’Halloran, 1994; Bailey et al., 1997; Hiscox, 1999). To the best of our knowledge, this is the first paper to focus on FTA, providing

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3Most of these studies have focused on the impact of the Reciprocal Trade Agreements Act (RTAA) of 1934.
a fully microfounded theoretical model to understand the determinants of this institution and its impact on U.S. trade relations.

Finally, our paper contributes to the empirical literature on the determinants of congressional trade policy decisions (e.g. Kahane, 1996; Box-Steffenmeier et al., 1997; Baldwin and Magee, 2000). In this literature, the paper which is closest to ours is Baldwin and Magee (2000), who examine the determinants of three votes taken by Congress in 1993-1994 (on NAFTA, the Uruguay Round Agreement, and the most-favored nation status to China). Similarly to our analysis, they find legislators’ voting behavior to be affected by the extent to which their constituencies depend on jobs in export sectors relative to jobs in import-competing sectors, as well as by other factors (e.g. the ideology of the legislators, their party affiliation, and the lobbying contributions they receive).

The remainder of the paper is organized as follows. In Section 2, we present a brief history of fast track authority. In Section 3, we develop a simple model of trade negotiations between two large countries (home and foreign). Section 4 introduces the trade policy preferences of Congress representatives in the home country, examines the determinants of FTA voting behavior and the implications for trade negotiations. Sections 5 describes the data used in our empirical analysis, while Section 6 presents our methodology and regression results. Finally, Section 7 discusses the implications of our analysis for institution design.

2 A Brief History of Fast Track Authority

The U.S. Constitution explicitly assigns authority over foreign trade to Congress. Article I, section 8, gives Congress the power to “regulate commerce with foreign nations ...” and to “...lay and collect taxes, duties, imposts, and excises...”. Under Article II, however, the President is granted exclusive authority to negotiate treaties and international agreements and exercises broad authority over the conduct of the nation’s foreign affairs. Hence, both legislative and executive authorities have a role to play in the development and execution of U.S. trade policy.

For roughly the first 150 years of the United States, Congress exercised its authority over foreign trade by setting tariff rates on all imported products. Tariffs were the main trade policy...
instrument and primary source of federal revenues. During this period, the President’s primary role in setting trade policy was in negotiating and implementing bilateral trade treaties with the advice and consent of Congress. In the 1930’s, two legislative events radically changed the shape and conduct of U.S. trade policy. The first was the infamous Smoot-Hawley Act, which raised import duties to record levels and was widely blamed at the time for sharply reducing trade, triggering retaliatory moves by many other countries, and exacerbating the Great Depression (see Irwin, 1997). The second important piece of legislation was the Reciprocal Trade Agreements Act (RTAA) of 1934, which gave the President the authority to undertake tariff-reduction agreements with foreign countries. The crucial feature of the RTAA was that the President could implement trade agreements by proclamation, i.e., with no need for congressional approval, although the RTAA itself required periodic renewal. The idea behind the RTAA was to undo the damage done by Smoot-Hawley, unwinding beggar-thy-neighbor trade policies through negotiated tariff reductions. Under the authority of the RTAA, the executive reached numerous bilateral trade agreements in the late 1930s and negotiated the General Agreement on Tariffs and Trade (GATT) in 1947.

Under the Trade Expansion Act of 1962, Congress granted again RTAA authority to the President for five years. This allowed the President to negotiate the Kennedy Round (1963-1967), in which GATT members reached an agreement on a number of tariff reductions. However, since this agreement also involved two areas related to non-tariff barriers (customs valuation and antidumping practices), some congressmen argued that the President had overstepped his authority. The outcome of the Kennedy Round made evident that non-tariff barriers would increasingly dominate the agenda of future trade negotiations. As a result, when Congress considered a new grant of authority for the Tokyo Round of GATT negotiations, it decided to maintain final control over non-tariff agreements.

The process ultimately agreed upon in the Trade Act of 1974 is what is known as “fast track”. Three key features characterize this institutional procedure. First, the act stipulates that agreements involving non-tariff barriers cannot enter into force by presidential proclamation, but need to be approved by Congress. Second, under fast track authority, Congress cannot amend a trade agreement once it has been submitted for approval. Finally, the Trade Act of 1974 requires Congress to consider trade agreement implementing bills within mandatory deadlines.

During the drafting of the Trade Act of 1974, it was recognized that trading partners would be unwilling to negotiate agreements that would be subject to unlimited congressional debate and amendments. As stated in the Senate Finance Committee report accompanying the act: “The Committee recognizes ... that such agreements negotiated by the Executive should be given an up-or-down vote by the Congress. Our negotiators cannot be expected to accomplish the negotiating goals ... if there are no reasonable assurances that the negotiated agreements would be voted up-or-down on their merits. Our trading partners have expressed an unwillingness to negotiate without some assurances that the Congress will consider the agreements within a definite time-frame.”
Additional provisions of the Trade Act of 1974 involve restrictions on the President’s powers under FTA. In particular, in his request for trade negotiating authority the executive must specify what types of agreements it will be used for and what his negotiating objectives will be. Furthermore, he has to consult with Congress during the course of the negotiations and during the drafting of the implementing legislation. Finally, Congress sets a deadline by which the negotiations have to be completed if fast-track procedures are to apply.\(^5\)

Table 1 reports the outcome of all the votes in which Congress decided to authorize or extend fast track authority. Notice that some of the listed bills focus solely on fast track trade negotiating authority, while others include other trade provisions.

Figure 1 above illustrates the periods in which FTA has been granted since the Trade Act of 1974. As it can be seen, every President has enjoyed FTA, with the exception of President Clinton, who failed to obtain it between 1994 and 2001. Notice also that FTA has been granted for periods of different length and has often been carried over from one President to the other.

From Table 2 below, we can see that all the most important multilateral and preferential trade agreements signed by the United States have been negotiated under fast track procedures. Presidential fast track trade negotiating authority, renamed “trade promotion authority” by the administration of George W. Bush, was last renewed with the Trade Act of 2002. This allowed the United Stated to implement several free trade agreements with countries such as Australia and Chile and to negotiate four additional trade deals with Peru, Panama, South Korea and Colombia, which still await congressional approval.

FTA expired on July 1, 2007 and has yet to be renewed. Without renewal of fast track, it

\(^5\)On the House and Senate floors, each chamber can debate the bill for no more than 20 hours. The entire Congressional consideration can take no longer than 90 legislative days.

\(^6\)See Destler (1997), Brainard and Shapiro (2001), and Smith (2007) for a more detailed description on fast track procedures.
Table 1: Votes authorizing or extending FTA

<table>
<thead>
<tr>
<th>Bill</th>
<th>Description</th>
<th>Vote in House</th>
<th>Vote in Senate</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.R. 10710</td>
<td>First approval of FTA</td>
<td>Dec. 11, 1973</td>
<td>Dec. 20, 1974</td>
</tr>
<tr>
<td>Trade Act of 1974</td>
<td>Other provisions: escape clause, antidumping, countervailing duties, trade adjustment assistance, GSP</td>
<td>(272-140)</td>
<td>(72-4)</td>
</tr>
<tr>
<td>Trade Agreements Act of 1979</td>
<td>Other provisions: implementation of Tokyo Round</td>
<td>(395-7)</td>
<td>(90-4)</td>
</tr>
<tr>
<td>Omnibus Trade and Competitiveness Act</td>
<td>Other provisions: strengthening of unilateral trade retaliation instruments, authority of USTR</td>
<td>(376-45)</td>
<td>(85-11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(192-231)</td>
<td>(36-59)</td>
</tr>
<tr>
<td>S.Res. 78</td>
<td>Disapproval of extension of FTA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H.R. 1876</td>
<td>Extension of FTA</td>
<td>June 22, 1993</td>
<td>June 30, 1993</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(295-126)</td>
<td>(76-16)</td>
</tr>
<tr>
<td>H.R. 2621</td>
<td>Extension of FTA</td>
<td>Sept. 25, 1998</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(180-243)</td>
<td></td>
</tr>
<tr>
<td>Trade Act of 2002</td>
<td>Other provisions: Andean Trade Preference Act, trade adjustment assistance, GSP</td>
<td>(215-212)</td>
<td>(64-34)</td>
</tr>
</tbody>
</table>

Sources: Destler (2005) and Smith (2007).
Notes: Only final votes in each branch of the Congress are reported; the first (second) number in parenthesis refers to votes in favor of the Bill (against it).
Table 2: Bills negotiated under FTA

<table>
<thead>
<tr>
<th>Bill</th>
<th>Status</th>
<th>Votes/Signature Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Agreement Act of 1979</td>
<td>Approved Tokyo Round Agreements</td>
<td>July 1979</td>
</tr>
<tr>
<td>U.S.-Israel Free Trade Area</td>
<td>Approved free trade area</td>
<td>May 1985</td>
</tr>
<tr>
<td>U.S.-Canada Free Trade Area</td>
<td>Approved free trade area</td>
<td>Aug./Sept. 1988</td>
</tr>
<tr>
<td>NAFTA</td>
<td>Approved free trade area between United States, Canada and Mexico</td>
<td>Nov. 1993</td>
</tr>
<tr>
<td>Uruguay Round</td>
<td>Approved Uruguay Round Agreements</td>
<td>Nov./Dec. 1994</td>
</tr>
<tr>
<td>U.S.-Chile Free Trade Area</td>
<td>Approved free trade area</td>
<td>July 2003</td>
</tr>
<tr>
<td>U.S.-Singapore Free Trade Area</td>
<td>Approved free trade area</td>
<td>July 2003</td>
</tr>
<tr>
<td>U.S.-Australia Free Trade Area</td>
<td>Approved free trade area</td>
<td>July 2004</td>
</tr>
<tr>
<td>U.S.-Morocco Free Trade Area</td>
<td>Approved free trade area</td>
<td>July 2004</td>
</tr>
<tr>
<td>U.S.-Dominican Republic-Central America Free Trade Area</td>
<td>Approved free trade area between United States, Dominican Republic, Costa Rica, El Salvador, Honduras, Guatemala, and Nicaragua</td>
<td>July 2005</td>
</tr>
<tr>
<td>U.S.-Bahrain Free Trade Area</td>
<td>Approved free trade area</td>
<td>Dec. 2005</td>
</tr>
<tr>
<td>U.S.-Oman Free Trade Area</td>
<td>Approved free trade area</td>
<td>July/Sept. 2006</td>
</tr>
<tr>
<td>U.S.-Peru Free Trade Area</td>
<td>Awaiting congressional approval</td>
<td>April 2006</td>
</tr>
<tr>
<td>U.S.-Colombia Free Trade Area</td>
<td>Awaiting congressional approval</td>
<td>November 2006</td>
</tr>
<tr>
<td>U.S.-Panama Free Trade Area</td>
<td>Awaiting congressional approval</td>
<td>June 2007</td>
</tr>
<tr>
<td>U.S.-South Korea Free Trade Area</td>
<td>Awaiting congressional approval</td>
<td>June 2007</td>
</tr>
</tbody>
</table>

has been argued that the current administration has “diminished leverage to pursue additional trade deals, and the prospects for completion of the Doha Round of global trade talks, as well as several proposed bilateral U.S. trade deals, remain bleak” (Wall Street Journal, June 29, 2007).

3 A Simple Model of Trade Negotiations

We describe a standard model of trade relations between two large countries, “home” and “foreign” (represented by a “*”). We focus on countries characterized by similar economic structures, in which trade is the result of differences in factor endowments. Each country is made up of different electoral districts, which may differ with respect to their stakes in import-competing and export industries.

In this section, we examine international negotiations between the executives of the two countries, who are assumed to represent the interests of all constituencies and to have full control over trade policy. The core of our analysis is presented in the following section, in which

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7It is still not clear how the expiration of fast track will affect the outstanding bilateral trade pacts with Peru, Panama, South Korea and Colombia. Some claim that, since these agreements have been negotiated before the expiration deadline, they should be considered by Congress under fast track procedures. Others argue instead that a renewal of FTA is necessary (see Smith, 2007).
we allow district representatives in the home country to choose whether or not to delegate trade negotiating authority to the President.

Each economy is characterized by three sectors, \( i = 0, 1, 2 \), where 0 denotes a numeraire good. The numeraire good is traded freely across countries and is produced using labor alone. We choose units so that the international and domestic price of good 0 are both equal to one. We assume that aggregate labor supply, \( L = L^* \), is large enough to sustain production of a positive amount of good 0. This implies that in a competitive equilibrium the wage rate equals unity in each country.

Goods 1 and 2 are manufactured using labor and a sector-specific input, which is available in fixed supply. Home is abundant in sector-specific input 2, while foreign is abundant in sector-specific input 1. As a result, home imports good 1, while foreign imports good 2. We will assume perfect symmetry in the factor endowments between the two countries.

The domestic and international price of a nonnumeraire good \( i \) are denoted by \( p_i \) and \( \pi_i \), respectively. With a wage rate equal to unity, the total rent \( R_i \) accruing to the specific factor in sector \( i \) depends only on the producer price of the good, and can thus be expressed as \( R_i(p_i) \). Industry supply is given by \( Q_i(p_i) = \partial R_i / \partial p_i \).

Trade policies in the two countries consist of ad valorem import tariffs or subsidies, denoted by \( \tau \) and \( \tau^* \), which drive a wedge between domestic and international prices. In the home country, the domestic price of good 1 is thus equal to \( p_1 = (1 + \tau)\pi_1 \), with \( \tau > 0 \) (\( \tau < 0 \)) representing an import tariff (subsidy); the domestic price of the export good is instead equal to \( p_2 = \pi_2 \). In the foreign country, domestic prices are given by \( p_1^* = \pi_1 \) and \( p_2^* = (1 + \tau^*)\pi_2 \).

The economy is populated by \( H \) individuals, \( h = 0, 1, \ldots, H \), who have identical quasi-linear and additively separable preferences. Individual \( h \)'s utility can be written as

\[
\begin{align*}
    u_h(c_0, c_1, c_2) &\equiv c_0 + u_1(c_1) + u_2(c_2),
\end{align*}
\]

where \( c_0 \) represents the consumption of the numeraire good, and \( c_1 \) and \( c_2 \) represent the consumption of nonnumeraire goods. The utility functions are assumed to be twice differentiable, increasing, and strictly concave.

Provided that income always exceeds the expenditure on the nonnumeraire good, the domestic demand for good \( i \) can be expressed as a function of price alone, \( D_i(p_i) \). Net imports of good 1 by the home country can then be written as \( M_1(p_1) = D_1(p_1) - Q_1(p_1) > 0 \), while foreign net

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8 Following Johnson (1953-4) and Mayer (1981), we restrict the set of policy tools available to import tariffs and subsidies. This allows us to describe the preferences of the two countries in the tariff space \((\tau, \tau^*)\) and to easily characterize trade negotiations between them. Levy (1999), in his model of lobbying and international cooperation, has convincingly argued that export subsidies and taxes are rarely used, the only exception being probably agriculture (see Hoeckman and Kostecki, 2001).
imports are given by $M_1^*(p_1^*) = D_1^*(p_1^*) - Q_1^*(p_1^*) < 0$. World product markets of goods 1 and 2 clear when

$$M_1((1 + \tau_1)\pi_1) + M_1^*(\pi_1) = 0, \quad (2)$$

$$M_2(\pi_2) + M_2^*((1 + \tau_2^*)\pi_2) = 0. \quad (3)$$

From (2) and (3) we can derive an expression for world equilibrium prices as a function of the policies in the two countries, i.e., $\pi_1(\tau), \pi_2(\tau^*)$. Tariff revenues in home are given by

$$T(t) = \tau_1\pi_1(\tau)M_1(\tau) \quad (4)$$

and are assumed to be redistributed uniformly to all individuals. The same is true for foreign.

Individuals derive income from various sources: all $H$ individuals own a unit of labor and earn wages as workers; they also receive the same transfer (possibly negative) from the government; in addition, some individuals own a share of the specific inputs used in the production of goods 1 and 2. Aggregate welfare is defined as the sum of the income of all citizens (total labor income, industry rents and government revenues), plus consumer surplus. Normalizing population size $H$ to unity, the welfare of the home country can then be written as

$$W(\tau, \tau^*) = 1 + R_1(\tau) + R_2(\tau^*) + T(\tau) + \Omega(\tau, \tau^*), \quad (5)$$

where $\Omega(\tau, \tau^*) \equiv u\left(D_1(\tau)\right) - p_1D_1(\tau) + u\left(D_2(\tau^*)\right) - p_2D_2(\tau^*)$ denotes total consumer surplus. The welfare of the foreign country can be defined symmetrically.

Dropping the sectoral subscript for notational simplification, the first-order condition for the maximization of (5) can be written as

$$-M\frac{d\pi}{d\tau} + \tau\pi\frac{dM}{d\tau} = 0. \quad (6)$$

Substituting the expression for $(d\pi/d\tau)$ into (6) yields the standard formula for the home country’s optimal import tariff:

$$\hat{\tau} = \frac{1}{\varepsilon^*}, \quad (7)$$

---

\textsuperscript{9}This is found by substituting $-D(dp/d\tau)$ and $Q(dp/d\tau)$ for the derivatives of consumer surplus and industry rents, respectively, and by substituting $(dp/d\tau) = (1 + \tau)(dp/d\tau) + \pi$.

\textsuperscript{10}The expression for $(d\pi/d\tau)$ is derived applying the implicit function theorem to the market-clearing condition (2):

$$\frac{d\pi}{d\tau} = -\frac{\pi\frac{dM}{dp}}{\frac{dM}{dp}(1 + \tau) + \frac{dM^*}{dp^*}}.$$
Figure 2: Home’s indifference map

where $\varepsilon^* \equiv (dM^*/dp^*)(p^*/M^*)$ is the elasticity of foreign export supply.

Figure 2 portrays the home country’s indifference map in the tariff plane $(\tau, \tau^*)$. Each indifference curve is described by the combinations of domestic ($\tau$) and foreign ($\tau^*$) tariffs among which the home country is indifferent. These tariff indifference curves are denoted by $W_U$, with welfare increasing as subscript $U$ rises in value. An expression for the slope of the tariff indifference curves is derived in the Appendix (see equation (21)). There we show analytically that, for non-negative values of $\tau$, the slope of the home country’s indifference curves is positive, zero or negative depending on the home country’s actual tariff rate being less than, equal to, or larger than its optimal tariff.

Similarly, we can characterize indifference curves of the foreign country (see Appendix for the derivation). Combining information on the preferences of the two countries, we can examine the scope for trade agreements between them. In this section, we will focus on the case in which the authority to negotiate trade agreements in both home and foreign is fully delegated to the President, who represents the interests of all the constituencies in his country.

In Figure 3 below, we represent the scope for trade agreements between the executives of the two countries, taking the noncooperative Nash tariff equilibrium point, $N$, as the status quo point for the negotiations. Graphically, this is the intersection point between two indifference curves of the home and foreign executives, such that both indifference curves reach a maximum at that point.$^{11}$
We make the following standard assumptions about trade agreements:

**Assumption 1** *Negotiating parties can only agree to tariff combinations such that both parties are at least as well off as they would be in a tariff war.*

Graphically, this assumption implies that trade agreements must be in the lens comprised between the two indifference curves of the two Presidents going through the Nash equilibrium, \( W_N \) and \( W^*_N \). We also require trade deals to be efficient:

**Assumption 2** *Negotiating parties can only agree to tariff combinations such that no further welfare gains can be achieved by either party without the other one losing.*

This assumption implies that agreed tariff combinations must lie on the contract curve (\( CC \) in Figure 3), the locus of all tangency points between the indifference curves of the two countries. In the Appendix, we show that efficient trade deals between the home and foreign country are characterized by the following condition:

\[
(1 - \tau^*) (1 - \tau^* \epsilon) - 1 = 0. \tag{8}
\]

Equation 8 states that there exists an infinite number of tariff-subsidy combinations of the two countries which satisfy Assumption 2. If one country imposes a tariff, the other country must
offer a subsidy. Tariff in both countries cannot be the outcome of efficient trade negotiations between the two countries. Free trade is the symmetric efficient outcome.

Together, the two assumptions above imply that the two parties agree to combinations of import tariffs (subsidies) which lie on the segment $A-B$ of the contract curve in Figure 3. This segment identifies all possible trade agreements which satisfy the above two assumptions, i.e., they are in the set of Pareto-improving deals compared to the status quo and are efficient.

We can summarize the information in Figure 3 and derive trade negotiation outcomes by drawing the utility possibility frontier. This is done in Figure 4, where the origin is point $N$, which corresponds to the utility levels in a tariff war, $W_N$ and $W_N^*$ in Figure 3. The curve $AB$ in Figure 4 represents the utility possibility frontier, which traces the utilities of the two countries as we move along the corresponding curve $AB$ in Figure 3.

In order to derive the equilibrium outcome of the trade negotiations, we employ the generalized Nash bargaining solution.¹² This implies that the domestic and foreign tariffs $\tau$ and $\tau^*$ must be chosen so as to solve the following maximization problem:

$$\max_{W, W^*} (W - W_N)^\gamma (W^* - W_N^*)^{1-\gamma},$$

Figures 4: Bargaining between the two Presidents

¹²This can be justified using an axiomatic bargaining approach (see Nash, 1950). Also, Binmore et al. (1986) have shown that the Nash bargaining solution approximates the outcome of an alternating-offers bargaining model, in which there is an exogenous probability that negotiations will terminate.
where $\gamma \in (0,1)$ captures the relative bargaining strength of the home government.\footnote{Notice that the parameter $\gamma$ does not reflect the countries’ market power or the their costs in case of trade negotiation failure, which are already captured by the utility possibility frontier; as argued by Binmore et al. (1986), $\gamma$ could be interpreted instead as reflecting differences in discount rates.} If we consider the case of two symmetric countries, for which $\gamma = \frac{1}{2}$, the outcome of the negotiations will be point $O$ in Figure 4, which corresponds to the free trade point $O$ in Figure 3.\footnote{It should be stressed that free trade would arise as the outcome of the negotiations between two symmetric countries even if we used alternative bargaining solutions (e.g. under utilitarian or egalitarian bargaining).} If instead we increase the bargaining power of the home country, the solution will be a point like $E$ where, as expected, the stronger bargainer does relatively better than its trading partner. In the limit, when $\gamma = 1$ ($\gamma = 0$), the equilibrium utility levels are given by point $B$ ($A$), where the home (foreign) country gets the maximum level of utility and the foreign (home) country achieves the same level of utility as in the Nash equilibrium.

4 FTA and Trade Negotiations

In the analysis developed in the previous section, we have assumed that trade negotiations between home and foreign were carried out by the two executives, who represent the interests of the nation at large, i.e., one large district made up by all the electoral constituencies. In this section, we introduce a crucial asymmetry between the negotiating countries: for foreign, we retain the assumption that trade policy is set by the President; for home, we assume instead that the legislators in Congress must decide whether or not to delegate trade negotiating authority to the President by granting FTA. This allows us to focus on the impact of FTA on the outcome of trade negotiations. Later in Section 7, we discuss the implications of allowing Congress in both countries to retain amendment power.

The starting point of the political economy model described below is the uneven geographical distribution of industries across constituencies. This implies that the trade policy preferences of the members of Congress will reflect the interests of their electoral districts, which depend on the specific industries located there.\footnote{Evidence on the importance of geographical industry concentration in trade policy is pervasive. See, for example, Hansen (1990) and Busch and Reinhardt (1999). Willmann (2005) shows in a small-country trade model how asymmetries in the distribution of industries across constituencies may lead to a protectionist bias in national legislators.}

4.1 Congressional Preferences in the home Country

In the home country, there are $D$ districts, each populated by $h = H/D$ individuals and represented in Congress by one legislator. Note that, since we have normalized the country’s population size $H$ to unity, $h$ captures the share of the total population residing in each district. All
districts have identical preferences over the consumption of the nonnumeraire goods (equation (1) above) and receive the same transfer from the government. Importantly, districts differ with respect to their stakes in the production of import-competing and export goods, implying different trade policy preferences. In particular, we will distinguish three types of districts/congressmen:

- **Import districts** \( (M) \): a fraction \( \beta^M \) of the \( D \) districts is relatively specialized in the production of the import-competing good. Each of these districts is characterized by a share \( \alpha^M_1 \) (\( \alpha^M_2 \)) of rents in the production of import (export) goods, with \( \alpha^M_1 > \alpha^M_2 \). The utility function of a representative of one of these districts is thus given by

\[
W^M(\tau, \tau^*) = h + \alpha^M_1 R_1(\tau) + \alpha^M_2 R_2(\tau^*_k) + h [T(\tau) + \Omega(\tau, \tau^*)]. \tag{10}
\]

- **Export districts** \( (S) \): a fraction \( \beta^S \) of districts is relatively specialized in the production of export goods. Each of these districts is characterized by a share \( \alpha^S_1 \) (\( \alpha^S_2 \)) of the rents associated with import (export) production, with \( \alpha^S_1 < \alpha^S_2 \). The utility function of a representative of one of these districts is given by

\[
W^S(\tau, \tau^*) = h + \alpha^S_1 R_1(\tau) + \alpha^S_2 R_2(\tau^*_k) + h [T(\tau) + \Omega(\tau, \tau^*)]. \tag{11}
\]

- **Neutral districts** \( (C) \): the remaining fraction \( \beta^C = 1 - \beta^M - \beta^S \) of districts has equal stakes in the production of all goods, i.e., \( \alpha^C_1 = \alpha^C_2 = h \). The utility function of a representative of one of these districts can thus be written as

\[
W^C(\tau, \tau^*) = h + h R_1(\tau) + h R_2(\tau^*_k) + h [T(\tau) + \Omega(\tau, \tau^*)], \tag{12}
\]

implying that a \( C \) district is just a scaled-down representation of the country’s economy.

Equations (10)-(12) above imply that congressional districts have different preferences only due to the asymmetric distribution of industry rents across them.\(^{16}\) Notice that our formulation assumes homogeneous trade preferences among each type of districts \( (M, S \text{ or } C) \), implying no coordination failure in voting and no role for logrolling. It can be shown, however, that the results of our analysis would still hold if we allowed for asymmetries within each type of districts.\(^{17}\)

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\(^{16}\) Notice that this implies an interaction between the size of a group of districts in Congress and the policy preferences of this group. For example, if we increase the share of \( M \) districts in Congress by increasing \( \beta^M \), we must have that each of these districts enjoys a smaller proportion of the rents from the production of the import-competing good 1. To see this, notice that we must have \( \alpha^M_1 \beta^M + \alpha^S_1 \beta^S + h(1 - \beta^M - \beta^S) = 1/D \), implying \( \frac{\partial \alpha^M_1}{\partial \beta^M} < 0 \).

\(^{17}\) We could extend our trade model to a setting with \( N \) nonnumeraire goods, in which each \( M \) (\( S \)) district is relatively specialized in the production of one import-competing (export) good. In this setting, different \( M \) (\( S \))
More importantly, asymmetries with respect to the geographic location of production activities across various districts imply different preferences over trade policy: $M$, $S$ and $C$ districts will have different indifference curves, reflecting different tradeoffs between domestic and foreign protection.

In Figure 5 above we plot the indifference curves of the three types of districts going through a generic point $Z$ in the tariff space $(\tau, \tau^*)$. Notice that the indifference curves of the neutral $C$ districts have the same shape as those of the benevolent home executive (represented in Figure 2 above). Furthermore, the indifference curves of the representative of an import (export) district $M$ ($S$) are steeper (flatter) than the indifference curves of the President (and the $C$ districts). This reflects the fact that districts that are relatively specialized in the production of import-competing (export) goods are less (more) willing to trade off a reduction in domestic import tariffs with a reduction in foreign import taxes.

### 4.2 Timing

The main ingredient of the political economy model described above is the uneven geographical distribution of the endowments of the specific factors used in the production of import-competing and export goods, implying asymmetries in the trade policy stances of the legislators. In the home country, Congress will decide whether or not to delegate trade negotiating authority to the
President (granting FTA) or to retain amendment power (not granting FTA). Each legislator will vote to maximize his expected utility, anticipating the impact that FTA (or lack thereof) will have on the outcome of the negotiations with the foreign country.\footnote{Notice that asymmetries across foreign constituencies will play no role in the negotiations, since we assume that in the foreign Country trade negotiation authority is always fully delegated to the President, who represents the interests of all constituencies.} The game involves five stages and is illustrated in Figure 6 above.

In stage zero, Nature chooses the composition of home Congress, i.e. the share of elected members of each district type $i$ (captured by the parameters $\beta_i, i \in \{C, M, S\}$), as well as their trade policy preferences (captured by the parameters $\alpha^1_i$ and $\alpha^2_i, i \in \{C, M, S\}$). As shown below, asymmetries in the size and preferences of the three types of districts will play a crucial role in determining whether fast track authority will be granted or not to the executive.

In stage 1, a vote is called by simple majority whereby the home Congress decides whether or not to grant FTA to the President. If FTA is approved, Congress retains the power to accept or reject negotiated trade deals, but cannot amend them. Therefore this stage involves a decision by Congress between partial delegation of trade negotiation authority to the President and no delegation at all.

In stage 2, the home and foreign executives carry out the negotiations to reach an agreement involving a reduction in domestic and foreign tariffs compared to the status quo (point $N$ in Figure 2 above).

In stage 3, if FTA has been approved in stage 1, the home Congress reviews the agreement reached by the two Presidents in stage 2 and accepts or rejects the proposal by simple majority voting, without the possibility of modifying its content. If instead in stage 1 FTA has not been approved, Congress retains the possibility of amending any agreement reached by the two executives in stage 2 by simple majority voting.

Finally, in stage 4, the President signs or vetoes the agreement into law.\footnote{Article I, section 7 of the U.S. Constitution describes Presidential veto. It states that, if a bill or law is passed by both houses, it will be passed on to the President who will sign the law into effect or veto it. If he vetoes the law, it goes back to the house where it came from to be revised. If the law is again passed by both houses with a 2/3 vote, the law goes into effect. If the President makes no decision for ten days (excluding Sundays) the law goes into effect the same as if he had signed it into effect.}

Before discussing in detail the equilibrium outcome of the game, a few observations are in order. Firstly, if Congress does not grant FTA to the president in stage 1 of the game and thus any deal agreed by the two executives in stage 2 can be amended, the game’s outcome is the same as if the foreign President negotiated a trade deal directly with the majority of the home Congress.\footnote{Note that, in the absence of FTA, any deal negotiated between the Presidents in stage 2 and amended by the home Congress in stage 3 could be further amended by the foreign executive. Also note that, in equilibrium, we should not observe any amendments. This is because, even when the home President lacks FTA, the two executives will negotiate in stage 2 anticipating Congress’ behavior in the following stage.}
Secondly, the fact that the home President retains veto power in stage 4 implies that, in the absence of FTA, Congress cannot put forward trade deals which would make the home country worse off than the status quo. Graphically, this rules out trade agreements that lie above the indifference curve $W_N$ in Figure 3.\footnote{Notice that, in the absence of FTA, the President’s veto power imposes a different constraint on the negotiation outcomes than Assumption 1 above, since agreements reached between the majority of home Congress and the foreign President could imply a welfare loss from the point of view of the home country (see discussion below).}

In what follows, we derive predictions about congressmen’s voting behavior and the outcome of trade negotiations, under alternative scenarios corresponding to different compositions of Congress in stage zero of the game.

### 4.3 Congress composition and voting behavior

#### 4.3.1 Majority of $M$ districts

Consider first a situation in which the majority of Congress is made up by representatives of import districts (i.e., $\beta^M > \frac{1}{2}$). To analyze this scenario, we will use Figure 7 below, where we have replicated the set of feasible agreements that can be reached by the two executives, lying on the $AB$ segment of the $CC$ curve. We have also drawn the indifference curve of a $M$ district representative going through the status quo point, $W^M_N$. This allows us to construct the set of feasible agreements—satisfying assumptions 1 and 2 above—that can be reached in the absence of FTA, when Congress majority negotiates directly with the foreign executive. This set is identified by the segment $A'B'$ of the $C'C'$ curve.

A few remarks are in order. First, the set of feasible agreements between the Congress majority and the foreign executive is smaller than the corresponding set for the two executives. Moreover, the $C'C'$ curve lies above the $CC$ curve. This implies that, in the absence of FTA, free trade cannot be an efficient outcome. Also, unlike in the case of trade negotiations between the two benevolent executives, outcomes in which both countries set positive import tariffs are now possible.

We can show that the $M$ district representatives will never vote in favor of FTA. To this end,
we need to compare the welfare of these agents when they negotiate directly with the foreign President and when they instead delegate trade negotiation authority to the executive. Using the generalized Nash bargaining solution described by equation (9) above, we can establish the following: first, if the foreign enjoys all the bargaining power (i.e., $\gamma = 0$) the outcome $A'$ always yields a higher utility to the $M$ district than the outcome $A$; analogously, if home enjoys all the bargaining power (i.e., $\gamma = 1$) the $M$ districts are always better off at $B'$ than at $B$; the same applies for any given $\gamma \in (0, 1)$. The intuition behind this result is as follows: from the point of view of the $M$ districts, granting FTA implies delegating the trade negotiation authority to an agent, the President, who does not share their trade preferences; moreover, this agent is less protectionist than the $M$ districts, i.e., more willing to reduce domestic tariffs in exchange for a reduction in foreign tariffs; granting FTA would thus weaken home’s bargaining position vis-à-vis the foreign country.

To examine the voting behavior of the $C$ and $S$ representatives in this scenario, consider Figure 8. Let us start by focusing on the preferences of the $C$ district, which correspond to those of the home country. Comparing points $A$ and $A'$, we can see immediately that when foreign has all the bargaining power, $C$ prefers to vote against FTA. If instead home has all the bargaining power, $C$ prefers the outcome $B$ to the outcome $B'$ and would thus vote in favor of FTA. In the case of identical bargaining power, if $M$ preferences are as represented in Figure 8, $C$
Figure 8: Trade negotiation between foreign President and $M$ majority preferences prefers outcome $E$ to the free trade outcome $O$.\textsuperscript{22} This implies that the neutral representatives may prefer to vote against FTA and thus to delegate the trade negotiation authority to the protectionist majority of Congress rather than to the President. This is true even if the $C$ districts and the President share the same trade preferences. This result is in line with findings of the literature on strategic delegation, which shows how principals may gain by delegating policymaking to status-quo biased agents, to increase their bargaining power in negotiations with other parties (e.g. Schelling, 1956; Jones, 1989; Segendorf, 2003).

Turning now to the $S$ representatives, in the case illustrated in Figure 8, they will also prefer $A'$ to $A$ and $B$ to $B'$. Hence, the more export-oriented $S$ districts may also in some cases prefer to vote against FTA, strategically delegating trade negotiation authority to a protectionist majority in Congress. However, this is less likely than for the $C$ districts, since the trade preferences of the $S$ export districts differ more from those of the $M$ import districts, thus making delegation more costly. For example, in the case of identical bargaining power, if $M$ preferences are as represented in Figure 8, $S$ representatives prefer outcome $O$ to outcome $E$.\textsuperscript{23}

\textsuperscript{22}For generic $M$ preferences, this will be the case: $W_{A'} > W_A$, $W_{B'} < W_B$ and $W_{E'} \lessgtr W_E$, where $E$ and $E'$ are the outcomes of the negotiations for intermediate bargaining weights (i.e., $\gamma \in (0, 1)$).

\textsuperscript{23}For generic $M$ preferences, the following holds: $W_{A'}^{S} \lessgtr W_{A}^{S}$, $W_{B'}^{S} < W_{B}^{S}$ and $W_{E'}^{S} \lessgtr W_{E}^{S}$, where $E$ and $E'$ are the outcomes of the negotiations for $\gamma \in (0, 1)$. 

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4.3.2 Majority of $S$ districts

Next, consider a scenario in which the representatives of the $S$ export districts are the majority in Congress (i.e., $\beta^S > \frac{1}{2}$). To analyze this case, we will use Figure 9 above. Again, the set of feasible agreements that can be reached under FTA is represented by the $AB$ segment of the $CC$ curve. Feasible agreements that can be reached in the absence of FTA, when Congress majority negotiates directly with the foreign executive, are instead identified by the segment $A'B'$ of the $C'C'$ curve. Point $V$ represents the trade agreement that is efficient from the point of view of the $S$ majority and the foreign executive and gives the same level of utility to the home country than the status quo. Notice that the President’s veto power in the last stage of the game rules out agreements lying between $V$ and $A'$.

In contrast to the case of a majority of $M$ districts discussed above, in this scenario, the set of feasible agreements between the Congress majority and the foreign executive is larger than the corresponding set for the two executives. Moreover, the $C'C'$ curve now lies below the $CC$ curve. Notice that, like in the $M$ majority case, in the absence of FTA, free trade is not a possible negotiation outcome.

We can show that in this scenario $M$ and $C$ representatives will always vote in favor of FTA. This is because, when negotiating with foreign, they will always prefer to be represented by the President than by the $S$ majority, since the executive is less eager to reach an agreement.
and is thus able to achieve a more favorable deal. It can be easily shown that, for any given \( \gamma \), an outcome on the \( AB \) curve is always preferred to the corresponding outcome on the \( A'B' \) curve.\(^{24}\) This shows that it cannot be beneficial for a home legislator to delegate trade negotiation authority to an agent who is keener to reach an agreement with the foreign country.

Next, we turn to the voting behavior of \( S \) representatives. In line with our previous discussion about strategic delegation, we can show that, although these representatives have a majority in Congress, they might still prefer to vote in favor of FTA and delegate trade negotiation authority to the executive.\(^ {25}\)

### 4.3.3 Majority of \( C \) districts

Consider now the scenario in which the majority of Congress is made up of representatives of the neutral \( C \) districts (i.e. \( \beta^C > \frac{1}{2} \)). Since the preferences of these districts coincide with those of the entire country and thus of the President, negotiations between the majority of home Congress and the foreign executive can be described using Figure 3 above. This implies that fast track procedures will not affect the outcome of the negotiations.

In this case, there would be no reason to grant fast track authority to prevent amendments of trade agreements by the majority of Congress. However, if legislators are impatient, they might still prefer to vote in favor of FTA, so as to speed up the implementation of trade agreements (see our discussion in Section 2 concerning the mandatory deadlines and limitations on congressional debate imposed by fast track procedures). We should thus expect \( C \) and \( S \) representatives to always vote in favor of FTA, while \( M \) representatives may vote in favor or against it. To verify this, notice from Figure 3 that any outcome on the \( AB \) segment of the \( CC \) contract curve is always weakly (strongly) preferred by the \( C \) (\( S \)) district representatives to the status quo \( N \).\(^ {26}\) Representatives of the \( M \) districts, on the other hand, may or may not be better off in a trade agreement compared to the status quo of Nash tariffs.

\(^{24}\)Only in the limit case in which \( \gamma = 0 \), \( C \) districts would be indifferent between granting FTA or not. In this case, because of the President’s veto power, both negotiation procedures would yield a level of utility \( W_N \) for the \( C \) districts.

\(^{25}\)This is the case when the two countries have similar bargaining strength. Note that in the extreme case in which foreign has all the bargaining power (\( \gamma = 0 \)), \( S \) representatives would be in favor of FTA if the President had no veto power (\( W_S^A < W_A^A \)) but are against FTA when the President has veto power (\( W_S^S > W_A^S \)). In the opposite extreme (\( \gamma = 1 \)), \( S \) representatives always oppose FTA (\( W_{E'}^S > W_{E'}^A \)). For intermediate values of \( \gamma \), we have \( W_E^S \geq W_{E'}^S \), where \( E \) and \( E' \) are the negotiation outcomes achieved with or without FTA.

\(^{26}\)As discussed above, these congressmen may actually prefer to be represented in the negotiations by a more protectionist majority. However, this is not an option when \( \beta^C > \frac{1}{2} \).
4.3.4 No majority

Finally, let us examine the scenario in which none of the district types enjoys a majority in Congress, i.e., \( \beta^i < \frac{1}{2} \) for all \( i \in \{C, M, S\} \). This implies that in the absence of FTA, amendments in stage 3 of the game can only be passed by a coalition of district representatives.

We assume that if a coalition is formed between two groups in Congress, its preferences are given by a weighted sum of the preferences of their members, where the weights are given by the districts’ share in Congress.

In line with our analysis of the previous scenario, we can show that it will never be in the interest of the \( C \) or \( M \) congressmen to form a coalition with the \( S \) representatives. The intuition behind this result is that, relative to a scenario in which trade negotiation authority is delegated to the President, forming this coalition would always weaken home’s bargaining position vis-à-vis the foreign country. Given this, the only possible coalition in the amendment phase is between the \( C \) and \( M \) districts. While for the \( M \) representatives being in such coalition will always be preferable than supporting FTA, the same is not always true for \( C \). Below we show that the voting behavior of the \( C \) representative depends crucially on how protectionist the resulting coalition would be.

The trade preferences of the coalition of \( C \) and \( M \) districts are captured by

\[
W_{C,M} = \beta^C W^C + \beta^M W^M.
\]

Negotiations between the coalition and the foreign executive in case of no FTA can be captured by Figure 7 above, where now \( W_{N}^M \) should be interpreted as representing \( W_{N}^{C,M} \). Notice that, the steeper is \( W_{N}^{C,M} \), the more likely it is that the \( C \) districts will vote for FTA rather than joining the coalition. The intuition is that when the coalition becomes too protectionist, delegation to a more status-quo biased agent becomes too costly.

Notice that the degree of protectionism of the coalition of \( C \) and \( M \) districts is captured by the slope of \( W_{N}^{C,M} \), which is given by

\[
\left( \frac{d\tau^*}{d\tau} \right)_{C,M} = - \left[ \left( \beta^M \alpha_1^M + \beta^C h \right) \frac{\partial R_1}{\partial \tau} + \left( \beta^M + \beta^C \right) h \left( \frac{\partial T}{\partial \tau} + \frac{\partial \Omega}{\partial \tau} \right) \right].
\]

Comparing (14) with equations (20) and (25) in the Appendix, we can easily show that the coalition’s indifference curves are flatter than the indifference curves of the \( M \) representatives, but steeper than those of the \( C \) representatives. It is also straightforward to verify that an increase in \( \beta^C \) will make the indifference curves of the coalition flatter; in turn, this will make \( C \) representatives more likely to vote against FTA.

As far as \( S \) representatives are concerned, they will tend to vote in favor of FTA, preferring
the negotiation outcomes that would emerge when home is represented by the President to those that would arise when home is represented by the coalition of \( C \) and \( M \) districts. However, if this coalition is not too protectionist, the opposite might be true, particularly if the foreign country enjoys a larger bargaining power (i.e., \( \gamma \to 1 \)). This is in line with our discussion of the voting behavior of \( S \) representatives in the case of \( M \) majority.

### 4.4 FTA Voting Decisions and International Trade Agreements

In what follows, we summarize our discussion in Section 4.3 in five main results. The first two propositions concern the impact of fast track procedures on the outcome of trade negotiations between home and foreign.

**Proposition 1** Free trade can only be achieved under FTA.

To verify this, notice that under fast track authority, when negotiations take place between the home and foreign executives, the set of efficient trade agreements is identified by the \( CC \) contract curve in Figure 3 above, which goes through the free trade point 0. In the absence of FTA, the contract curve will be either above the \( CC \) curve (\( C'C' \) in Figure 7) or below (\( C''C'' \) in Figure 9), depending on the type of Congress composition, and will thus not pass through point 0.\(^{27}\)

**Proposition 2** If \( \beta^S < \frac{1}{2} \), foreign prefers to negotiate with home under FTA.

In the absence of FTA, it is as if the foreign executive negotiates directly with the majority in the home Congress. Except for the case in which the export-oriented \( S \) representatives hold a majority of seats in Congress (\( \beta^S > \frac{1}{2} \)), this leads to worse negotiation outcomes from the point of view of the foreign country than those that could be achieved under FTA. The intuition behind this result is that lack of FTA strengthens home’s bargaining positions in the negotiations with foreign.\(^{28}\) This result can explain why foreign countries are often reluctant to negotiate trade agreements with the United States in the absence of FTA.\(^{29}\)

The remaining three results relate to the FTA voting behavior of home’s congressmen.

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\(^{27}\)As discussed above, in the absence of FTA, free trade can only be achieved if \( C \) representatives hold a majority of seats in Congress. In this case, the contract curve identifying efficient agreements between the foreign executive and the majority of home Congress would coincide with the \( CC \) curve in Figure 3.

\(^{28}\)Notice that this is true for scenarios in which \( M \) districts hold a majority of seats in Congress and for scenarios in which none of the district types enjoys a majority in Congress. For the case of \( C \) majority, FTA should not affect negotiation outcomes; however, foreign should still prefer to negotiate under FTA on the ground that it allows a faster implementation of trade agreements.

\(^{29}\)For example, during the negotiations of the Uruguay Round, U.S. trade officials were subject to strong pressures from other GATT members to come to the negotiating table with fast track authority. Similarly, Proposition 2 can explain why Chile only negotiated a free trade agreement with the U.S. in 2003, after the latest renewal of FTA, rather than during the period between 1994 and 2002, when fast track authority lapsed.
Proposition 3 home legislators will never delegate trade negotiating authority to the party that is keener to reach an agreement with foreign.

When voting for or against fast track procedures, home legislators must implicitly decide who should represent the country in the negotiations with foreign. The choice is either between oneself and the President (in the case of legislators who control the majority in Congress); or between a majority in Congress and the President (in the case of legislators who do not hold a majority). Our analysis above shows that, when taking this decision, legislators will never choose the agent who has the weaker bargaining position vis-à-vis the foreign country. For example, the $M$ representatives will vote against FTA if they hold a majority in Congress—since in this case the President is the weaker country representative—but will vote in favor of FTA if the $S$ districts hold a majority—since in this case the President is the tougher bargainer. Similarly, $C$ representatives might decide to vote against FTA if the majority of Congress is more protectionist than the President, but would always vote in favor of FTA otherwise.

In our discussion of the four possible scenarios of Congress composition, we established that, except for the case in which $S$ districts are a majority in Congress, $M$ representatives will never vote in favor of FTA, $S$ representatives will be unlikely to vote against, while $C$ representatives might vote in favor or against. The likelihood that legislator $i$ will vote in favor of FTA should thus increase in the extent to which his constituency is relatively specialized in the production of the export good, as captured by the ratio $\alpha_i^2/\alpha_i^1$. This implies the following:

Proposition 4 If $\beta^S < \frac{1}{2}$, the likelihood that a home legislator votes in favor of FTA increases with the degree to which his district is export-oriented compared to the country as a whole.

Our analysis in Section 4.3.4 also suggests that, if none of the district types has the majority in Congress, the neutral $C$ districts will only vote against FTA in stage 2 of the game if they can reach more favorable negotiation outcomes by forming a coalition with the $M$ representatives in stage 4 of the game; in turn, this can only happen if such coalition is not too protectionist, which is more likely to be the case the larger is $\beta^C$ (or the smaller is $\beta^M$). We can thus state the following result:

Proposition 5 If $\beta^i < \frac{1}{2}$ for all $i \in \{C, M, S\}$, the likelihood of $C$ representatives voting in favor of FTA decreases with $\beta^C$.

4.5 Empirical Predictions

In the empirical analysis that follows we will test the last two theoretical results concerning FTA voting behavior (Propositions 4 and 5 above), which we can restate in terms of empirical predictions:
• The likelihood of a U.S. congressman voting in favor of FTA should increase with the degree to which his district is relatively export-oriented compared to the U.S. as a whole;

• When no group of district representatives has the majority in Congress, $M$ representatives will vote against FTA, while $S$ representatives will tend to vote in favor; the likelihood of $C$ representatives voting in favor of FTA should decrease with their relative share in Congress.

It should be stressed that the FTA votes we observe are likely to be the outcome of scenarios in which a majority of Congress was in favor of FTA. Indeed, with the exception of the vote which took place in 1998, all votes ended up with Congress granting the President fast track authority. Notice, however, that this issue does not pose a problem for our empirical analysis, which concerns FTA voting behavior of individual U.S. congressmen, rather than the outcomes of FTA votes.

5 Data

In the empirical analysis presented below, we will examine the determinants of FTA voting decisions by U.S. congressmen. The objective of our empirical analysis is to verify whether the legislators’ voting behavior reflects the trade policy interests of their constituencies, as predicted by our theoretical model. To do so, we will try to isolate congressmen’s trade policy interests from other factors which might be thought to affect their FTA voting decisions, such as their ideological preferences or the branch of Congress they belong to.

Table 1 in Section 2 above provides details of all the votes granting or extending FTA that occurred in Congress, from the first one in 1973 till the last one in 2002. There have been seven rounds of votes, including the House and Senate resolutions of disapproval that were rejected in 1991. In total, 13 votes over the period 1973-2002 can be used for our empirical analysis. As it can be seen from Table 1 above, for each vote in the House and Senate there are less than 435 and 100 votes, respectively, since some congressmen may not be present or may decide to abstain. Moreover, a seat in Congress may be vacant at any point in time because of special circumstances (e.g., resignation).

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30 In some situations, the President may decide not to request a vote on FTA, anticipating that the outcome will be negative. For example, this is what happened in November 1997, when President Clinton agreed to hold off on the floor vote in the House, after House Speaker Gingrich had reportedly said that the vote was 5-25 votes short of passage (see Shoch, 2002).

31 When multiple votes occurred for each decision, only the final vote (i.e., Conference Report) is reported.

32 As a result of these resolutions, FTA was extended for trade agreements signed between May 31, 1991 and May 31, 1993. Compared to the other votes, the results in 1991 have the opposite interpretation (i.e., a vote in favor of disapproval is a vote against FTA).

33 The Senate did not vote on the extension in 1998 since the House had already rejected it.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Source</th>
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<tbody>
<tr>
<td>$Vote_t^i$</td>
<td>Vote cast by congressman $i$ in year $t$</td>
<td>Up to 1996: ICPSR Study number 4</td>
</tr>
<tr>
<td></td>
<td>Dummy variable equal to 1 if ‘yea’ and 0 if ‘nay’</td>
<td>From 1997: <a href="http://www.voteview.com">http://www.voteview.com</a></td>
</tr>
<tr>
<td>$\lambda_t^i$</td>
<td>Employees in year $t$ of district $i$ in export industries divided by employees of district $i$ in import industries</td>
<td>County Business Patterns</td>
</tr>
<tr>
<td>$\lambda_t^{US}$</td>
<td>U.S. employees in year $t$ in export industries divided by U.S. employees in import industries</td>
<td>As for $\lambda_t^i$</td>
</tr>
<tr>
<td>$\Lambda_t^i$</td>
<td>Ratio $\lambda_t^i/\lambda_t^{US}$</td>
<td>As for $\lambda_t^i$</td>
</tr>
<tr>
<td>Democrat</td>
<td>Dummy variable equal to 1 if a congressman is a Democrat</td>
<td>As for Vote</td>
</tr>
<tr>
<td>Conservative rating</td>
<td>Rating (0-100) of Congressmen by American Conservative Union</td>
<td>As for Vote</td>
</tr>
<tr>
<td>Senate</td>
<td>Dummy equal to 1 for Senators</td>
<td><a href="http://www.acuratings.org/">http://www.acuratings.org/</a></td>
</tr>
<tr>
<td>Party as President</td>
<td>Dummy equal 1 if Congressman and president belong to same party</td>
<td>As for vote</td>
</tr>
<tr>
<td>$S$, $M$, $C$ districts</td>
<td>Dummy equal to 1 if district is of type $S$, $M$, or $C$</td>
<td>As for $\lambda_t^i$</td>
</tr>
<tr>
<td>Congressional Districts</td>
<td>Aggregate of counties included in each district</td>
<td>1973-1982: ICSPR dataset 8258; 1983-2012: provided by Christopher Magee</td>
</tr>
<tr>
<td>Import/export industries</td>
<td>Industries in which the U.S. is a net importer/exporter (annual basis)</td>
<td>Feenstra (1996, 1997), Feenstra et al. (2002), and U.S. International Trade Commission</td>
</tr>
</tbody>
</table>
For each vote, the identity of congressmen, their party affiliation, their State or District (for House members) and their vote has been collected from roll call voting records. Table 3 provides details on the definitions and sources for all the variables used in our regressions (or used in the construction of the regressors).

Following our theoretical model, the main determinant of a congressman’s vote refers to his district trade position with respect to the whole of the United States. This requires the construction of district-specific and time-varying variables. Such variables are relatively easy to construct for the Senate, since each State always elects two Senators in state-wide elections. The case of House representatives is more complicated, since ready-made series are not available for the variables of interest. In particular, we encountered two main problems to obtain our proxy for a district’s trade preferences.

The first problem is that district-specific information must be obtained by aggregating county-level data. To complicate matters further, a county may be split and various bits assigned to different districts. Second, the geographic definition of Congressional Districts changes every ten years following the Decennial Census (i.e., the so-called “redistricting”). The 435 districts are assigned across the United States depending on the population, with each State having at least one district irrespective of population. Given that our sample spans thirty years (i.e., 1973-2002), we need to track changes over three censuses.

To deal with the first issue, county and state level data have been extracted from the County Business Patterns (CBP) series. The is an annual series of reports by the Bureau of the Census providing detailed information on U.S. business and industries. The CBP report annual data on employment by 2-digit SIC manufacturing industries up to 1997 and by 3-digit NAICS manufacturing industries from 1998; together, manufacturing industries represent the lion’s share of total imports and exports of the United States (i.e., at least 70 percent in each year from 1970 until today). Notice that employment data in the CPB are withheld when their disclosure would allow researchers to identify firms. In such cases, a flag gives the interval where the actual data belongs to. These flags have been used to input values (i.e., the mid point of each interval) for the missing observations. Unfortunately, the CBP do not provide any flag for the data withheld in 1973. Treating these observations as missing results in a substantial underestimate of the employment in each county and, consequently, congressional district, which is why we have decided to omit the House vote of 1973 from our main estimations.

34 For example, in the 1990’s, Los Angeles county (California) was split among 17 congressional districts and Cook county (Illinois) was split among 12 congressional districts.

35 For example, Alaska has always had only one Congressional District; between the first FTA vote in 1974 and the last one in 2002, California went from 43 to 52 districts, while New York went from 39 to 31. Minor changes may occur between two consecutive censuses because of court actions. The regression results reported in Section 6 ignore these changes.

36 For example, between 0 and 19 employees, between 20 and 99 employees and so on.
### Table 4: List of SIC industries

<table>
<thead>
<tr>
<th>SIC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Food and Kindred Products</td>
</tr>
<tr>
<td>21</td>
<td>Tobacco Products</td>
</tr>
<tr>
<td>22</td>
<td>Textile Mill Products</td>
</tr>
<tr>
<td>23</td>
<td>Apparel and Other Finished Products Made From Fabrics and Similar Materials</td>
</tr>
<tr>
<td>24</td>
<td>Lumber and Wood Products, Except Furniture</td>
</tr>
<tr>
<td>25</td>
<td>Furniture and Fixtures</td>
</tr>
<tr>
<td>26</td>
<td>Paper and Allied Products</td>
</tr>
<tr>
<td>27</td>
<td>Printing, Publishing, and Allied Industries</td>
</tr>
<tr>
<td>28</td>
<td>Chemicals and Allied Products</td>
</tr>
<tr>
<td>29</td>
<td>Petroleum Refining and Related Industries</td>
</tr>
<tr>
<td>30</td>
<td>Rubber and Miscellaneous Plastics Products</td>
</tr>
<tr>
<td>31</td>
<td>Leather and Leather Products</td>
</tr>
<tr>
<td>32</td>
<td>Stone, Clay, Glass, and Concrete Products</td>
</tr>
<tr>
<td>33</td>
<td>Primary Metal Industries</td>
</tr>
<tr>
<td>34</td>
<td>Fabricated Metal Products, Except Machinery and Transportation Equipment</td>
</tr>
<tr>
<td>35</td>
<td>Industrial and Commercial Machinery And Computer Equipment</td>
</tr>
<tr>
<td>36</td>
<td>Electronic and Other Electrical Equipment and Components, Except Computer</td>
</tr>
<tr>
<td></td>
<td>Equipment</td>
</tr>
<tr>
<td>37</td>
<td>Transportation Equipment</td>
</tr>
<tr>
<td>38</td>
<td>Measuring, Analyzing, And Controlling Instruments; Photographic, Medical and</td>
</tr>
<tr>
<td></td>
<td>Optical Goods; Watches And Clocks</td>
</tr>
<tr>
<td>39</td>
<td>Miscellaneous Manufacturing Industries</td>
</tr>
</tbody>
</table>

Tables 4 and 5 report the list of manufacturing industries included in our analysis. For each year, each industry has been classified as being import-competiting (export), if the U.S. as a whole was a net importer (exporter) for that industry in that year. For each county, we computed the number of employees in import (export) oriented sectors. Then, we constructed the corresponding figures for each Congressional district, by aggregating data for the counties included in that district. For those counties split across more than one district, we followed Baldwin and Magee (2000), among others, imputing employees proportionally to the share of population of a county assigned to that district.\(^{37}\) Similar procedures to define import and export-oriented industries have been applied to state data to obtain analogous series for the Senate.

Having constructed the series of employees in import and export industries in each constituency (Congressional District or State), we can then construct the main regressors of interest for our analysis. For each district \(i\) at time \(t\), we construct the ratio of employees in export

---

\(^{37}\)We are grateful to Christopher Magee who provided us with the files for mapping counties into districts from 1983 until 2002, and to James Snyder who pointed out where to find a similar information for the period 1973-1982.
<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>311</td>
<td>Food Manufacturing</td>
</tr>
<tr>
<td>312</td>
<td>Beverage and Tobacco Product Manufacturing</td>
</tr>
<tr>
<td>313</td>
<td>Textile Mills</td>
</tr>
<tr>
<td>314</td>
<td>Textile Product Mills</td>
</tr>
<tr>
<td>315</td>
<td>Apparel Manufacturing</td>
</tr>
<tr>
<td>316</td>
<td>Leather and Allied Product Manufacturing</td>
</tr>
<tr>
<td>321</td>
<td>Wood Product Manufacturing</td>
</tr>
<tr>
<td>322</td>
<td>Paper Manufacturing</td>
</tr>
<tr>
<td>323</td>
<td>Printing and Related Support Activities</td>
</tr>
<tr>
<td>324</td>
<td>Petroleum and Coal Products Manufacturing</td>
</tr>
<tr>
<td>325</td>
<td>Chemical Manufacturing</td>
</tr>
<tr>
<td>326</td>
<td>Plastics and Rubber Products Manufacturing</td>
</tr>
<tr>
<td>327</td>
<td>Nonmetallic Mineral Product Manufacturing</td>
</tr>
<tr>
<td>331</td>
<td>Primary Metal Manufacturing</td>
</tr>
<tr>
<td>332</td>
<td>Fabricated Metal Product Manufacturing</td>
</tr>
<tr>
<td>333</td>
<td>Machinery Manufacturing</td>
</tr>
<tr>
<td>334</td>
<td>Computer and Electronic Product Manufacturing</td>
</tr>
<tr>
<td>335</td>
<td>Electrical Equipment, Appliance, and Component Manufacturing</td>
</tr>
<tr>
<td>336</td>
<td>Transportation Equipment Manufacturing</td>
</tr>
<tr>
<td>337</td>
<td>Furniture and Related Product Manufacturing</td>
</tr>
<tr>
<td>339</td>
<td>Miscellaneous Manufacturing</td>
</tr>
</tbody>
</table>
industries (indexed by \( x \)) to import-competing industries (indexed by \( m \)), as well as this ratio relative to the United States as a whole (indexed by \( US \)):

\[
\lambda_i^t = \frac{\sum_x L_{x,t}^i}{\sum_m L_{m,t}^i}, 
\]

\[
\lambda_{US}^t = \frac{\sum_x L_{x,t}^{US}}{\sum_m L_{m,t}^{US}},
\]

\[
\Lambda_i^t = \frac{\lambda_i^t}{\lambda_{US}^t}.
\]

Instead of continuous variables, following our theoretical model, it is also possible to classify congressmen as representatives of \( S \), \( M \), or \( C \) districts. Notice that a \( \Lambda_i^t \) equal to unity would provide the exact definition of a \( C \) district; however, this methodology has no empirical content, since we do not observe such value in the data. Instead, we can classify the identity of district \( i \) at time \( t \) as follows:

\[
I_i^t = \begin{cases} 
S & \text{if } \Lambda_i^t \in (1 + g, \infty] \\
C & \text{if } \Lambda_i^t \in [1 - g, 1 + g] \\
M & \text{if } \Lambda_i^t \in [0, 1 - g)
\end{cases}
\]

We can experiment with different cut-off values \( g \), allowing the standard deviation of \( \Lambda_i^t \) to vary, so as to capture different types of Congress composition.

Figure 10 in the Appendix shows the frequency of \( S \), \( M \), and \( C \) districts for three different cut-off values of \( g \).\(^{38}\) Independently of the chosen standard deviation, it is evident that the share of \( S \) districts is always smaller than the sum of the \( M \) and \( C \) districts. Therefore, the data reject the scenario in which \( S \) districts hold the majority in Congress, which would give rise to voting predictions different from those of Proposition 4.

Descriptive statistics for the main variables of interest are reported in Table 6. On average, districts are import oriented, since \( \lambda_i^t \) is smaller than 1. However, our theoretical model focuses on the trade exposure of each district relative to the U.S. at large, i.e, \( \Lambda_i^t \). Notice that its average is slightly higher than 1 because some districts are outliers with respect to their high shares of employees in export industries.\(^{39}\) Based on \( g = \frac{1}{14} \), implying a scenario where \( C \) districts never have a majority, Table 6 also reports the empirical counterpart of \( \beta^C \) and of the share of \( C \)

\(^{38}\)Larger percentages of the standard deviation of \( \Lambda_i^t \) seem unwarranted, since the minimum value of \( \Lambda_i^t \) is zero and its standard deviation, as reported in Table 6, is 0.829.

\(^{39}\)The median value of \( \Lambda_i^t \) is 0.99.
Table 6: Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Mean</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vote$_i$</td>
<td>3,068</td>
<td>0.697</td>
<td>0.460</td>
</tr>
<tr>
<td>λ$_i$</td>
<td>3,068</td>
<td>0.693</td>
<td>0.684</td>
</tr>
<tr>
<td>Λ$_i$</td>
<td>3,068</td>
<td>1.194</td>
<td>0.829</td>
</tr>
<tr>
<td>β$^C$</td>
<td>939</td>
<td>0.313</td>
<td>0.043</td>
</tr>
<tr>
<td>β$^C$/(β$^C$+β$^M$)</td>
<td>939</td>
<td>0.487</td>
<td>0.060</td>
</tr>
<tr>
<td>Democrat</td>
<td>3,068</td>
<td>0.559</td>
<td>0.497</td>
</tr>
<tr>
<td>Conservative rating</td>
<td>3,065</td>
<td>46.704</td>
<td>37.447</td>
</tr>
<tr>
<td>Senate</td>
<td>3,068</td>
<td>0.207</td>
<td>0.405</td>
</tr>
<tr>
<td>Party as President</td>
<td>3,068</td>
<td>0.495</td>
<td>0.500</td>
</tr>
</tbody>
</table>

Notes: the last two variables are computed for $g = \frac{1}{4}$.

districts in the coalition of $C$ and $M$ districts. These are the regressors that we will use to test Proposition 5. Finally, Table 6 reports summary statistics for other variables that we will use as controls. Although they are not part of the theoretical model, they have been used in other studies on the determinants of congressional votes on trade policy. The Democrat dummy and the conservative rating index control for the overall ideology of congressmen. The two are highly correlated (i.e., -0.80) since the ratings provided by the American Conservative Union (ACU) rank congressmen on a scale from 0 to 100 with higher scores assigned to conservative politicians. The advantage of this regressor, though, is that it provides more variation than the dichotomous party affiliation dummy. The remaining variables are a dummy for congressmen belonging to the same party as the President, and a Senate dummy to uncover possible differences between the two branches of the Congress.

6 Empirical Methodology and Results

Our dependent variable is the vote of each congressman when granting or extending FTA. Being a dichotomous variable, our empirical model is given by

$$P(vote_i^v = 1) = \Phi(\alpha + \beta_1 X_i^v + \beta_2 Z)$$  (19)

where $vote_i^v$ takes on a value of one if congressman $i$ voted in favor of FTA and zero otherwise, and $\Phi(\cdot)$ is the cumulative normal distribution (i.e, probit model). $X_i^v$ is a matrix of district specific variables, $Z$ is a matrix of other control variables, which may or may not be time-invariant and district specific, and $\alpha$, $\beta_1$, and $\beta_2$ are the vectors of parameters to be estimated. Depending

---

40Although Figure 10 shows that for $g = \frac{1}{3}$ on average $C$ districts do not hold a majority, their share is higher than 0.50 in some years. For this reason, we focus here on the case of $g = \frac{1}{4}$. 

31
on the specification, the main variable of interest (i.e., the district’s trade exposure) may be continuous \( \Lambda_i^t \) or captured by the dummy variables defined in (18), with possibly different cut-off values \( g \). In order to facilitate the interpretation of the estimated coefficients, in the tables we report marginal effects (calculated at the mean of each regressor).

Moving to the results, we first test Proposition 4, employing the continuous variable \( \Lambda_i^t \) to capture the trade policy preferences of the legislators’ constituencies. The results for this specification are presented in Table 7 below.

In column (1), the simplest possible specification is reported, where the only regressors are \( \Lambda_i^t \) and a set of year effects.\(^{41}\) The prediction of the theoretical model is clearly confirmed in the data, as the estimated coefficient of \( \Lambda_i^t \) is positive and significant at 1 percent level. In other words, a congressman is more likely to vote in favor of granting or extending FTA the more export oriented his district is compared to the whole of the U.S.. The set of year dummies is jointly significant and their coefficients indicate a decreasing likelihood over time of voting in favor of FTA.\(^{42}\) This suggests an erosion of the American consensus in favor of trade liberalization.

The remaining columns of Table 7 provide variations on the first regression. In the second specification, state effects are included (and they are jointly significant), without any qualitative change in the results. Clearly, this set of dummies controls for state-wide time-invariant determinants and it results in an increased fit of the model.\(^{43}\) Still, the qualitative result on \( \Lambda_i^t \) is unchanged although the point estimate of its marginal effect is higher. Keeping the state effects and adding a Senate dummy variable in column (3) has no effect on the main variable of interest. However, Senators are in general more likely to vote in favor of FTA (6 percent on average). This is not surprising since Table 2 shows that the votes in the Senate are always decided by a larger margin than in the House.

As an extra control, in column (4) we include a dummy variable for Democrat congressmen. Also in this case, the added regressor is significant and negative but the other coefficients are left unchanged. As an alternative, in column (5) the conservating rating from the ACU is used.\(^{44}\) It is highly significant and positive as more conservative congressmen are more likely to vote in favor of FTA.\(^{45}\) Both results point to the Republicans being more liberal on trade, a claim

\(^{41}\)The estimates of various fixed effects are not reported to save on space. All the results and tests not reported in the text are available upon requests.

\(^{42}\)Such trend might be due to various factors, including a strong increase in trade volumes, which increases the adjustment costs associated with trade liberalization, and the concerns over non-trade issues such as labor and environmental standards (see Elliot, 2000). Notice that \( \Lambda_i^t \) would also be significant at 1 percent and with an almost identical marginal effect if the year dummies were not included, although the Pseudo R\(^2\) would be lower.

\(^{43}\)The inclusion of state effects forces us to drop the 17 observations for congressmen from Wyoming since they all and always voted in favor of FTA.

\(^{44}\)These two variables can not be included simulataneosly since they are highly correlated, i.e., -0.80.

\(^{45}\)Since such ratings are not available for three congressmen and the fit of the model is slighly lower, in the following, we will use the Democrat dummy.
Table 7: Empirical results with continuous variable: marginal effects

<table>
<thead>
<tr>
<th>Regressor</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Λ_{it}</td>
<td>0.032***</td>
<td>0.059***</td>
<td>0.059***</td>
<td>0.053***</td>
<td>0.057***</td>
<td>0.053***</td>
<td>0.055***</td>
<td>0.075***</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.013)</td>
<td>(0.013)</td>
<td>(0.013)</td>
<td>(0.013)</td>
<td>(0.013)</td>
<td>(0.016)</td>
<td>(0.026)</td>
</tr>
<tr>
<td>Senate</td>
<td>0.063***</td>
<td>0.073***</td>
<td>0.073***</td>
<td>0.073***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.023)</td>
<td>(0.024)</td>
<td>(0.024)</td>
<td>(0.024)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democrat</td>
<td>-0.286***</td>
<td>-0.288***</td>
<td>-0.328***</td>
<td>-0.148***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
<td>(0.017)</td>
<td>(0.039)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conservative rating</td>
<td>0.004***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0002)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Party as President</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.019)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year effects</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
</tr>
<tr>
<td>State effects</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
</tr>
<tr>
<td>Observations</td>
<td>3,068</td>
<td>3,051</td>
<td>3,051</td>
<td>3,051</td>
<td>3,048</td>
<td>3,051</td>
<td>2,506</td>
<td>476</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-1,550.18</td>
<td>-1,442.63</td>
<td>-1,419.35</td>
<td>-1,269.48</td>
<td>-1,294.37</td>
<td>-1,269.24</td>
<td>-1,049.34</td>
<td>-174.50</td>
</tr>
<tr>
<td>Pseudo R^2</td>
<td>0.18</td>
<td>0.24</td>
<td>0.24</td>
<td>0.32</td>
<td>0.31</td>
<td>0.32</td>
<td>0.34</td>
<td>0.31</td>
</tr>
<tr>
<td>χ^2</td>
<td>478.35***</td>
<td>570.05***</td>
<td>566.90***</td>
<td>546.11***</td>
<td>541.67***</td>
<td>540.46***</td>
<td>454.25***</td>
<td>147.63***</td>
</tr>
<tr>
<td>Predicted Prob.</td>
<td>0.75</td>
<td>0.77</td>
<td>0.77</td>
<td>0.78</td>
<td>0.78</td>
<td>0.78</td>
<td>0.76</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Notes: Dependent variable: \( vote_{it} = 1 \) if a Congressman votes in favor of FTA, \( vote_{it} = 0 \) otherwise. Robust standard errors in parenthesis; *** denotes significance at 1% level; ** 5% level; * 10% level. Marginal effects for dummy variables calculated as discrete changes from 0 to 1.
that may seem odd since Democrats have long been perceived as the traditional champions of free trade. However, their position has changed over time (see Hiscox, 1999). Indeed, around 1970 the parties realigned their trade policy stances as a result of more protectionist unions supporting the Democrats, while Republicans gained ground among export-oriented businesses (see Destler, 1980). For example, in Karol (2000)’s analysis of various trade votes in the 1950s and 1990s, the Democrat dummy variable is consistently positive and significant in the 1950s, but becomes negative and significant for the votes in the 1990s.

The results are also very similar if we include a dummy equal to 1 for congressmen from the same party as the President instead of the Democrat dummy. Such a dummy presents a positive and significant coefficient, which is consistent with the fact that Republicans are more likely to vote in favor of FTA and most FTA votes occurred under a Republican President. However, only the Democrat dummy is significant (and still negative) if both dummy variables are included together (column 6). In other words, the ideology of the President does not seem to matter once we control for the congressmen’s party affiliation.

Finally, in the last two columns of Table 7 we split the Congress into the House and the Senate. These specifications are more flexible than simply including a Senate dummy, since all the coefficients, and not only the constant, are allowed to take different values between the two branches of Congress. The marginal effects of $\Lambda_{it}$ and the Democrat dummy for the Senate show different magnitudes, albeit always significant. In particular, senators are more sensitive to the trade exposure of their constituency and Democrat senators are more liberal than House Democrats. In unreported results we also tried substituting the year fixed effects with U.S. wide macroeconomic variables, such as GDP growth and unemployment rates. While the coefficients of these regressors were significant and positive, the qualitative results remained unchanged.

In order to test Proposition 5 above, instead of using a continuous variable, the specifications reported in Table 8 use the classifications of districts into $S$, $M$, or $C$ types as defined in equation (18). Taking the $C$ districts as the base (omitted) category, the two specifications with different cut-off values of $g$ show that congressmen from $S$ and $M$ districts always exhibit a statistically different propensity when voting on FTA bills. Consistently with our theoretical model, representatives from $S$ districts are thus always more likely to vote in favor of granting or extending FTA than representatives from $M$ districts. This result holds across the different cut-off value chosen for $g$. However, the choice of $g$ bears an effect on the behavior of congressmen from $C$ districts: for $g = \frac{1}{4}$ std. dev.—a scenario in which $C$ districts have a smaller share in

---

46 As a matter of fact, only three rounds of the votes listed in Table 1 occurred under a Democrat President (i.e., the Trade Agreement of Act of 1979 under President Carter; the extension of FTA in 1993 for completing the Uruguay Round and the failed extension in 1998 under President Clinton).

47 Some more observations are lost because of no variation in the dependent variable within the House and/or the Senate for some States.
Table 8: Using dummy variables: marginal effects

<table>
<thead>
<tr>
<th>Regressor</th>
<th>$g = \frac{1}{3}$ std. dev.</th>
<th>$g = \frac{1}{4}$ std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>S district</td>
<td>0.046**</td>
<td>0.025</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.021)</td>
</tr>
<tr>
<td>M district</td>
<td>-0.047**</td>
<td>-0.046**</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.022)</td>
</tr>
<tr>
<td>Senate</td>
<td>0.070***</td>
<td>0.068***</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Democrat</td>
<td>-0.288***</td>
<td>-0.287***</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Year effects</td>
<td>included</td>
<td>included</td>
</tr>
<tr>
<td>State effects</td>
<td>included</td>
<td>included</td>
</tr>
<tr>
<td>Observations</td>
<td>3,051</td>
<td>3,051</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-1,270.38</td>
<td>-1,272.53</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.32</td>
<td>0.32</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>551.83***</td>
<td>552.49***</td>
</tr>
<tr>
<td>Predicted Prob.</td>
<td>0.78</td>
<td>0.78</td>
</tr>
</tbody>
</table>

Notes: Dependent variable: $vote_c^i = 1$ if a Congressman votes in favor of FTA, $vote_c^i = 0$ otherwise. Robust standard errors in parenthesis; *** denotes significance at 1% level; ** 5% level; * 10% level. Marginal effects for dummy variables calculated as discrete changes from 0 to 1.

Congress—there is no statistically significant difference between S and C districts; for $g = \frac{1}{3}$ std. dev.—a scenario in which C districts have a larger share in Congress—congressmen from the three types of districts significantly differ from each other. As for the estimates for the Senate and Democrat dummies, they are identical to their counterpart in Table 7.

Finally, we focus on the behavior of congressmen from C districts. Since Proposition 5 refers to scenarios in which no group of districts has a majority in Congress, we focus on the cut-off values of $g = \frac{1}{4}$ in Figure 10. In fact, it is only with this cut-off value that C districts never have a majority, as pointed out in the previous section.

Table 9 contains six different specifications where only the votes of representatives from C districts are included as the dependent variable.\textsuperscript{48} In the first three columns, the main regressor of interest is the share of C districts, i.e., $\beta^C$. In the remaining three columns, instead, the share of C districts in the coalition of C and M districts is included, i.e., $\beta^C/(\beta^C + \beta^M)$. Focusing on the first two rows of Table 9, we see that the empirical results are consistent with Proposition 5, since C congressmen are more likely to vote against FTA the higher their share in Congress or in their coalition with the M districts. The point estimates in the last three columns are lower since $\beta^C/(\beta^C + \beta^M)$ is always higher than $\beta^C$ and the two variables are highly correlated (i.e., 0.90).

\textsuperscript{48}Year fixed effects are not included in these specifications since they are perfectly collinear with the two main regressors of interest.
Table 9: Empirical results for C districts: marginal effects

<table>
<thead>
<tr>
<th>Regressor</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta^C$</td>
<td>-4.936***</td>
<td>-4.904***</td>
<td>-4.872***</td>
<td>-2.659***</td>
<td>-2.676***</td>
<td>-2.612***</td>
</tr>
<tr>
<td></td>
<td>(0.503)</td>
<td>(0.504)</td>
<td>(0.503)</td>
<td>(0.334)</td>
<td>(0.338)</td>
<td>(0.336)</td>
</tr>
<tr>
<td>$\beta^C / (\beta^C + \beta^M)$</td>
<td></td>
<td></td>
<td></td>
<td>-2.612***</td>
<td>-2.676***</td>
<td>-2.612***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.334)</td>
<td>(0.338)</td>
<td>(0.336)</td>
</tr>
<tr>
<td>Senate</td>
<td>0.152***</td>
<td>0.153***</td>
<td>0.152***</td>
<td>0.162***</td>
<td>0.164***</td>
<td>0.160***</td>
</tr>
<tr>
<td></td>
<td>(0.041)</td>
<td>(0.041)</td>
<td>(0.042)</td>
<td>(0.040)</td>
<td>(0.040)</td>
<td>(0.041)</td>
</tr>
<tr>
<td>Democrat</td>
<td>-0.329***</td>
<td>-0.323***</td>
<td>-0.314***</td>
<td>-0.314***</td>
<td>-0.309***</td>
<td>-0.309***</td>
</tr>
<tr>
<td></td>
<td>(0.031)</td>
<td>(0.031)</td>
<td>(0.031)</td>
<td>(0.031)</td>
<td>(0.031)</td>
<td>(0.031)</td>
</tr>
<tr>
<td>Conservative rating</td>
<td>0.005***</td>
<td>0.005***</td>
<td>0.005***</td>
<td>0.005***</td>
<td>0.005***</td>
<td>0.005***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Party as President</td>
<td>0.068**</td>
<td>0.068**</td>
<td>0.068**</td>
<td>0.068**</td>
<td>0.068**</td>
<td>0.068**</td>
</tr>
<tr>
<td></td>
<td>(0.034)</td>
<td>(0.034)</td>
<td>(0.034)</td>
<td>(0.034)</td>
<td>(0.034)</td>
<td>(0.034)</td>
</tr>
<tr>
<td>State effects</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
</tr>
<tr>
<td>Observations</td>
<td>849</td>
<td>848</td>
<td>849</td>
<td>849</td>
<td>848</td>
<td>849</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-385.13</td>
<td>-386.17</td>
<td>-383.33</td>
<td>-411.65</td>
<td>-411.06</td>
<td>-408.86</td>
</tr>
<tr>
<td>Pseudo R$^2$</td>
<td>0.29</td>
<td>0.29</td>
<td>0.29</td>
<td>0.24</td>
<td>0.24</td>
<td>0.25</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>181.40***</td>
<td>177.39***</td>
<td>179.58***</td>
<td>169.03***</td>
<td>164.84***</td>
<td>168.05***</td>
</tr>
<tr>
<td>Predicted Prob.</td>
<td>0.73</td>
<td>0.72</td>
<td>0.72</td>
<td>0.71</td>
<td>0.71</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Notes: Dependent variable: $vote_i^t = 1$ if a Congressman votes in favor of FTA, $vote_i^t = 0$ otherwise. Only congressmen from C districts (defined with $g = 1$) are included. Robust standard errors in parenthesis; *** denotes significance at 1% level; ** 5% level; * 10% level. Marginal effects for dummy variables calculated as discrete changes from 0 to 1.

As for the other regressors, their qualitative results are in general comparable with the previous tables. Senators are more likely to vote in favor of FTA, while Democrat congressmen are less favorable, also when ideology is measured with the continuous conservative rating. The only noticeable difference with respect to Table 7 is that the dummy for the congressmen from the same party as the President is now significant and positive when included along with the Democrat dummy. The inclusion of the state fixed effects results in the exclusion of 90 observations because of the lack of variations within some states over time. However, the results would be very similar if the state effects were not included.

In general, our empirical analysis provides support for the theoretical predictions of our model concerning legislators’ FTA voting behavior (Propositions 4 and 5 above). Other control variables, even when significant, do not change this conclusion.

7 Institution Design

In the theoretical analysis presented in Sections 3-4, we have focused on trade negotiations between two countries, in the presence of a crucial asymmetry between them: in the home
country, Congress could decide whether or not to delegate trade negotiating authority to the President (granting FTA) or to retain amendment power (not granting FTA). This modeling choice was motivated by real institutional arrangements, since the United States is the only country in the world in which Congress can decide whether or not to retain the power to amend trade agreements. We showed that this institutional asymmetry could generate an advantage for the home country, skewing negotiated tariff outcomes in its favor. This is because, by being represented by a protectionist Congress majority, the home country can be a “tougher bargainer” in trade negotiations.49

More generally, there exist three possible ways in which a country can negotiate international trade deals. Based on the extent to which Congress is involved in the negotiations, we can distinguish between three institutional arrangements:

- **Full delegation**: a scenario in which the President retains complete decision-making power over trade policy and trade agreements are not subject to congressional approval;

- **Partial delegation**: a scenario in which Congress retains the power to reject trade agreements negotiated by the executive;

- **No delegation**: a scenario in which Congress retains the power to shape trade deals through amendments.

The current U.S. institutional setting rules out the first possibility,50 and involves the recurrent choice between the last two arrangements, i.e., partial delegation (FTA) and no delegation.

While our analysis has focused on the determinants of FTA congressmen’s voting decisions in the United States, our model can help us to shed light on broader institutional design questions that can arise in the context of international negotiations. In particular, we can think of at least three directions in which our work can be extended.

First of all, retaining the asymmetric setting in which foreign is represented by a benevolent social planner, we could analyze the welfare implications of the three possible institutional arrangements from the point of view of world welfare. In particular, would it be preferable to impose unconditional FTA, whereby the President would be granted FTA once and for all and Congress would only keep the power to reject or accept negotiated trade deals? Or would instead full delegation to the executive be more desirable?

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49 In line with this view, during the period in the 1990’s in which President Clinton lacked FTA, it was argued that U.S. “trading partners are negotiating with the US Congress through the administration ( . . . ) In effect, the administration appears to be intent on taking advantage of the anxiety of other trading partners, by asking them to pay a price now before going to the Congress” (see www.sunsonline.org).

50 Even under the previous RTAA regime, even though the executive did not need congressional approval for the implementation of a negotiated tariff agreement, it still needed to receive Congress authorization to start trade negotiations.
A second extension would involve making the model symmetric, i.e., allowing the foreign Congress to have a similar institutional arrangement as in the home country. In this case, we could show that both countries might be tempted to leave trade negotiations in the hands of protectionist legislators, so as to attempt to skew trade agreements in their favor. However, if both countries do so, they will end up worse off than if the were able to commit to delegate trade negotiations to their executives.\textsuperscript{51}

A third direction for future research could involve the extension of our model to a multi-country setting. Our two-country setup shows that home (the U.S.) can gain by not granting FTA to the President. This conclusion may be reversed if there are more negotiating partners. This is because, in the absence of FTA, U.S. trading partners may decide to negotiate with other countries instead. As Baghwati has indeed pointed out, “If we don’t have fast track, we are going to lose out in the race for bilaterals. When the Europeans try for bilaterals, we’ve sort of stopped them in their tracks by joining in and pushing for these things ourselves. Now, we could get handicapped, because we’re the only country in the world that requires fast track. But I’m optimistic, for a perverse reason, which is that in our own self interest we will have to pass some form of fast track. Otherwise we’ll be big sore losers in the world trade system.”

References


\textsuperscript{51}See Jones (1999) for a similar prisoners’ dilemma type of scenario in two-player delegation games.


**Appendix**

**Indifference Curves for the home Country**

In this section, we characterize the shape of the indifference curves of the various agents in our home economy. We start by considering the preferences of the President and then turn to the preferences of the representatives of the $M$, $S$ and $C$ districts.

As in Mayer (1981), we draw the indifference curves in the $(\tau, \tau^*)$ space. Totally differentiating equation (5) and setting $dW = 0$ the slope of the executive’s indifference curve is given by

$$
\frac{d\tau^*}{d\tau} = -\frac{\frac{\partial R_1}{\partial \tau} + \frac{\partial T}{\partial \tau} + \frac{\partial \Omega}{\partial \tau}}{\frac{\partial R_2}{\partial \tau^*} + \frac{\partial T}{\partial \tau^*}}
$$

(20)
and substituting we obtain
\[ \frac{d\tau^*}{d\tau} = \frac{M_1 \frac{d\pi_1}{d\tau} (1 - \tau \epsilon^*)}{M_2 \frac{d\pi_2}{d\tau^*}}, \tag{21} \]
where \( \epsilon^* = \frac{dM_1}{dp_1} \frac{p_1^i}{M_2^i} > 0. \)

Notice that, since the home country imports good 1 and exports good 2, we must have \( M_1 > 0 \) and \( M_1 < 0. \) Also, as long as goods 1 and 2 are normal, an increase in their price will decrease overall consumption, implying
\[ \frac{d\pi_1}{d\tau} = -\frac{\pi_1}{\frac{dM_1}{dp_1} (1 + \tau)} < 0, \tag{22} \]
\[ \frac{d\pi_2}{d\tau^*} = -\frac{\pi_2}{\frac{dM_2}{dp_2} (1 + \tau^*)} < 0. \tag{23} \]
This implies that the denominator of the term on the right hand side of equation (21) is positive. Turning now to the numerator, its sign depends on the the sign of \((1 - \tau \epsilon^*).\) It follows immediately that
\[ \frac{d\tau^*}{d\tau} \geq (\prec)0 \Leftrightarrow \tau \leq (\succ), \frac{1}{\epsilon^*} \tag{24} \]
where \( \hat{\tau} = \frac{1}{\epsilon^*} \) is the home country’s optimal tariff as derived in (7). Therefore, for non-negative values of \( \tau, \) the slope of the home country’s indifference curves is positive, zero or negative depending on the home country’s actual tariff rate being less than, equal to, or larger than its optimal tariff.

We turn now to the indifference curves of the representatives of the various districts, which determine FTA voting decisions in Congress. From equation (12) we know that the shape of the indifference curves of the representative of district \( C \) is identical to the one of the president. Consider instead the representative of the import competing \( M \) district. Totally differentiating equation (10), and setting \( dW^M = 0, \) we obtain that
\[ \left( \frac{d\tau^*}{d\tau} \right)^M = -\frac{\left[ \alpha_1^M \frac{\partial R_1}{\partial \tau} + h \left( \frac{\partial T}{\partial \tau} + \frac{\partial \Omega}{\partial \tau} \right) \right]}{\left[ \alpha_2^M \frac{\partial R_2}{\partial \tau^*} + h \frac{\partial \Omega}{\partial \tau^*} \right]}. \tag{25} \]
Notice that, compared to the right hand side of equation (20), the numerator is bigger and the denominator is smaller in absolute value, since \( \alpha_1^M > h > \alpha_2^M. \) Thus, as shown in Figure 5, the indifference curves of the representatives of \( M \) import districts are steeper than those of the \( C \) representative and/or of the home country as a whole. From this, it immediately follows that \( M \) representative’s most preferred domestic tariff \( \hat{\tau}^M \) is larger than the tariff most preferred by the executive, i.e.,
\[ \hat{\tau}^M > \hat{\tau}^C. \tag{26} \]
Consider now the representative of the $S$ district. Totally differentiating equation 11 and setting $dW^S = 0$, we obtain

$$
\left( \frac{d\tau^*}{d\tau} \right)^S = -\frac{\left[ \alpha_1 S \frac{\partial R_1}{\partial \tau} + h \left( \frac{\partial T}{\partial \tau} + \frac{\partial \Omega}{\partial \tau} \right) \right]}{\left[ \alpha_2 S \frac{\partial R_2}{\partial \tau^*} + h \frac{\partial \Omega}{\partial \tau^*} \right]}
$$

(27)

Notice that, compared to the right hand side of equation 20, the numerator is smaller and the denominator is bigger in absolute value as $\alpha_2 > h > \alpha_1^S$. Thus, for each $\tau$, the indifference curve of the representative of the $S$ district is flatter than the indifference curve of the president and/or representative $C$. As a result, representative $S$ most preferred tariff $\hat{\tau}^S$ is smaller than the tariff most preferred by the executive. Thus, we have established the following ranking of optimal domestic tariffs for the legislators in the home country:

$$
\hat{\tau}^M > \hat{\tau} = \hat{\tau}^C = \frac{1}{\epsilon^*} > \hat{\tau}^S.
$$

(28)

**Characterization of the Contract Curve ($CC$ locus)**

We can now proceed to characterize the set of efficient agreements between the home and the foreign country. We start by considering the set of efficient agreements that could be signed by the presidents of the two trading partners. This set is represented by the combinations of tariff levels $(\tau, \tau^*)$ for the two countries such that the indifference curves of the two executives are tangent to each other. The slope of foreign’s executive indifference curve is given by

$$
\left( \frac{d\tau^*}{d\tau} \right)^* = \frac{M_1 \frac{dx_1}{d\tau}}{M_2 \frac{dx_2}{d\tau^*} (1 - \tau^* \epsilon)}.
$$

(29)

To characterize the contract curve between the two welfare-maximizing executives, we simply impose tangency of their indifference curve by setting

$$
\left( \frac{d\tau^*}{d\tau} \right)^* = \frac{d\tau^*}{d\tau}
$$

(30)

and recalling that $M_1 = -M_1^*$ and that $M_2^* = -M_2$, the set of efficient agreements between the two presidents must then satisfy the condition

$$
(1 - \tau \epsilon^*)(1 - \tau^* \epsilon) - 1 = 0
$$

(31)

This condition implies that the set of efficient agreements goes through the origin, i.e., through the free trade point.
Figure 10: Congress composition by district type