

When is it optimal to delegate: The theory of fast-track authority

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Abstract

In the United States, institutional procedures play an important role in trade policymaking. We study one such institutional procedure, fast-track authority, which is the authority granted by Congress to the President to negotiate international trade agreements on behalf of Congress. We analyze the conditions under which fast-track authority is granted to the President. We use a congressional model in which each district is represented by one legislator who is motivated to maximize that district's welfare, whereas the President has a national constituency and maximizes the welfare of the whole country. We show that as industries are distributed more evenly among districts, Congress has a higher tendency to grant fast-track authority to the President.

Keywords: Fast-track authority, Trade Policy, Congressional Voting.

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1 Introduction

In recent years, there is an increasing interest among trade economists in understanding the determinants of trade policies. Influential papers include Mayer's (1984) electoral model of trade policy formation, Findlay and Wellisz's (1982) model of tariff lobbying and Grossman and Helpman's (1994) influence-peddling model of tariff-setting. In all these models, unitary government is assumed. In reality, however, trade policy is the product of multiple decision makers. Accordingly, trade policy can be thought as being set by an organization, not by a single individual. Many details of trade policymaking cannot even be addressed without such considerations. As a result, institutional procedures play a vital role in trade policy determination. In this paper, we analyze one such procedure, namely fast-track authority (FTA) used in the United States.

FTA (also called as Trade Promotion Authority) is the authority granted by Congress to the President to negotiate international trade agreements on behalf of Congress. Under this authority, the President is authorized to negotiate trade agreements with foreign countries and if any trade agreement is signed, Congress is only permitted a yes or no vote without any amendment.

Since it was first granted in 1974, FTA has been an integral part of U.S. trade policy.¹ For example, in the Tokyo Round and the Uruguay Round of multilateral trade negotiations, FTA played an important role. Therefore, it is important to determine the conditions under which FTA is granted to the President.

To that purpose, we consider a congressional model of trade policy formation in which each district is represented by a legislator in Congress.² Each legislator is concerned with his district's welfare only, whereas the President cares about the whole country's welfare.³ Moreover, the economy consists of different sectors/industries each of which is concentrated in one or more districts. Hence, welfare of any district is closely related to the industry operating in that district.

In our model, trade policy implies any tariff or subsidy levied on any sector's output. Any particular policy consists of a price vector for each sector's output and thus directly

¹For the history of fast-track authority, see Conconi, Facchini and Zanardi (2008).

²Here, we consider a unicameral legislature.

³We use masculine pronouns for legislators and feminine pronouns for the President.

affects each district's welfare. It is possible to think of trade policy formation as a two stage process: In the first stage, Congress decides whether to grant FTA to the President and in the second stage, trade policy is determined either by the President (if FTA is granted in the first stage) or by Congress (if FTA is denied in the first stage). FTA will be granted to the President as long as the majority of legislators vote for it. When FTA is granted, Congress either approves or disapproves the chosen policy by the President without amending it. If Congress approves the President's policy, it goes into effect, otherwise no policy change occurs and status quo prevails. When FTA is not granted, a legislator is selected randomly to propose a program. If the proposal receives a majority, the program goes to the President and the President either approves or vetoes it. If the program is approved, it is implemented and the legislature adjourns. If the program is vetoed, 2/3 of Congress is now required to pass the same program into law. If 2/3 of Congress does not support the program, then a new legislator is selected to propose a new program. On the other hand, if the proposal does not receive a majority, there is no change in welfare level of any district (status quo prevails) and the process is repeated with another legislator to propose a new program. In their voting, legislators compare the current proposal net of status quo payoff with the alternative of continuing to the next stage.

The legislature game played when FTA is not granted is as in Baron and Ferejohn (1989) and Baron (1993). All information is common knowledge. By using this approach, we would like to study the effect of a country's internal political conflict on its trade policy determination. This exercise reveals a number of sharp predictions. First, FTA is never granted if an industry is operating in the majority of districts. Second, the more equally distributed are the industries among districts, the more likely it is that FTA is granted.⁴ Third, presidential veto can sometimes alleviate the negative distributional effects when FTA is not granted.

This paper is related to a number of strains of existing literature. There is a long history of political scholarship on the behavior of Congress (Krehbiel, 1991; Poole and Rosenthal, 1997; Lohmann and O'Halloran, 1994; Bailey, Goldstein and Weingast, 1997).

⁴The importance of geographical distribution in trade policy formation is also emphasized in McLaren and Karabay (2001).

However, our paper is different from these papers since we provide a fully microfounded model to analyze FTA. In this respect, our paper is closely related to Conconi, Facchini and Zanardi (2008). Unlike their paper, in our paper the internal political conflict among legislatures is the reason for the delegation of trade-policymaking authority.

The rest of the paper is organized as follows. In the next section, we describe the basic analytical framework. In section 3, we analyze a baseline scenario in which industries are evenly distributed across districts. In section 4, we generalize the baseline scenario by analyzing uneven distribution of industries across districts. Section 5 concludes the analysis.

2 Model

Consider a small open economy with $M + 1$ industries, each producing a homogenous good under competitive conditions. Good 0 serves as the numeraire and it is freely traded. Each of the remaining M industries produces a manufacturing good using a sector-specific capital. Each individual is endowed with one unit of labor and one unit of a sector-specific capital. In addition, total labor endowment, and thus the population, is normalized to 1.

We take a very simple approach in modelling production in order to focus more on the political process. As such, we assume that production of the numeraire good requires only labor, according to the production function $q_0 = L$. This implies that wage rate is equal to 1. Production technology for each manufacturing good takes the following form: $q_i = K_i$, $i = 1, 2, \dots, M$. We denote by p_i^* the exogenous world price of good i , while p_i represents its domestic price. Therefore, total rent accruing to the specific factor in industry i is $p_i q_i$.

The economy is populated by individuals with identical quasi-linear and additively separable preferences. Each individual maximizes utility given by:

$$u = c_0 + \sum_{i=1}^M u_i(c_i) \quad (1)$$

where c_0 represents the consumption of the numeraire good 0, and c_i is the consumption of good i , $i = 1, 2, \dots, M$. The sub-utility functions $u_i(\cdot)$ are differentiable, increasing,

and strictly concave. We assume that $u_i(c_i) = Rc_i - (c_i^2/2)$ where $R > 0$ is large enough. With these preferences, the demand for good i , implicitly defined by $u'_i(d(p_i)) = p_i$, is given by $d(p_i) = R - p_i$. The linearity of demand is not crucial for the main results of our paper but simplifies the analysis and permits a closed-form solution. The indirect utility for an agent with income y is $y + s(\mathbf{p})$, where $\mathbf{p} = (p_1, p_2, \dots, p_M)$ is the vector of domestic prices of the non-numeraire goods and $s(\mathbf{p}) = \sum_{i=1}^M [u_i(d(p_i)) - p_i d(p_i)]$.

There are N districts (where $N \geq M$) of equal size and each district has one industry in it. For reasons that will be clear later, we assume that N is odd and divisible by 3. Since all districts are identical in terms of labor and capital endowments, each produces an amount $q = 1/N$ of the good it specializes on (along with the numeraire good). The distribution of the districts with respect to the manufacturing good they produce may, however, be uneven. Let the number of districts producing good i be denoted with n_i , $i = 1, \dots, M$, such that $\sum_{i=1}^M n_i = N$. Each district is represented by a single legislator in Congress and each legislator is concerned with his district's welfare.

We assume that initially free trade prevails. Congress or the President can change this status quo by changing the domestic price of any good. We restrict the set of policy instruments available to politicians and only allow for trade taxes and subsidies. A domestic price in excess of the world price implies an import tariff for a good that is imported and an export subsidy for one that is exported. Domestic prices below world prices correspond to import subsidies and export taxes.

A district's welfare is the aggregate utility of all agents in that district, which is equal to the income of all agents in that district plus the district's share in total consumer surplus and total tariff revenue for each good. Hence, a district which produces good i has a welfare:

$$W_i(\mathbf{p}) = q + p_i q + q \sum_{i=1}^M \frac{(R - p_i)^2}{2} + q \sum_{i=1}^M [(p_i - p_i^*) (R - p_i - n_i q)], \quad (2)$$

where the first term is the wage income, the second term is the rent income, the third term is the consumer surplus captured by that district, and the last term is the share of tariff revenue.⁵

⁵We assume that tariff revenue is distributed equally as a lump-sum transfer to each individual.

Moreover, there is also the President, and unlike the legislators, she has a national constituency and cares about the welfare of the whole country. In this model, the President is assumed to be the benevolent total social welfare maximizer and her welfare is expressed as:

$$W(\mathbf{p}) = \sum_{i=1}^M n_i W_i(\mathbf{p}). \quad (3)$$

The timing of the trade policy formation game in our model is given in Figure 1. First, Congress decides whether to grant FTA to the President. FTA will be granted as long as the majority of legislators vote for it. If it is granted, then the President proposes a program and legislators vote yes or no without amending it. A program $\mathbf{p} = (p_1, p_2, \dots, p_M)$ is a vector of prices for each manufacturing good produced. If accepted by Congress, then it is implemented and legislative process ends. If Congress rejects the program proposed by the President, then all districts receive their status quo payoffs. If FTA is not granted, on the other hand, a legislator is selected randomly to propose a program and then the legislature votes on the proposal. If the proposal does not receive a majority, the process is repeated with another legislator selected to propose a program. If the proposal receives a majority, it is brought before the President for approval. If the President accepts the program, then it is implemented and the legislature adjourns. If she vetoes it, then the same legislator may bring the same proposal to a vote in Congress. If 2/3 of the legislature vote for the proposal, then it is implemented and the legislature adjourns. If it does not, the process is repeated with another legislator selected to propose a program. Voting continues until a program is implemented.

[INSERT FIGURE 1 APPROXIMATELY HERE]

This is a game of complete information. So, all information is common knowledge at all stages of the game. The equilibrium concept we use is subgame perfect Nash equilibrium. Hence, equilibrium strategies must constitute a Nash equilibrium in every proper subgame.

For analytical convenience, we assume that there are three industries. We will first analyze the situation when the industries are evenly represented in Congress. This happens

when each good is produced in exactly $N/3$ districts. We will later allow for different numbers of districts producing each good, thus capturing uneven representation of industries in Congress.

3 Even representation of industries

In this section, we analyze the equilibrium policy when the industries are evenly represented in the Congress. This happens when each manufacturing good is produced in exactly $N/3$ districts. So, no industry alone has the majority in Congress, but two industries together may pass a proposal even in the case of a veto.

Let us start with the President's problem. If Congress grants FTA in the first stage, the President chooses \mathbf{p} so as to maximize the total welfare. It is easy to check that she chooses free trade prices as the unique outcome, i.e., $p_i = p_i^*$, $i = 1, 2, 3$. Note that her choice coincides with the status quo outcome by our choice of the status quo.

In contrast, each legislator is interested in maximizing his own district's welfare. However, a legislator may not be able to achieve the first-best outcome for his district because of the institutional design specified when an FTA is not granted.⁶ To be more precise, a legislator who is recognized to make a proposal has to compromise a certain amount of his payoff and choose a favorable price for at least one of the other two industries in order to get a supermajority (i.e., $2/3$) of the votes.

As common in multi-person bargaining problems, there are many subgame perfect equilibria of our bargaining game. We focus on stationary equilibria whereby the continuation values for each structurally equivalent subgame are the same. In a stationary equilibrium, a legislator who is recognized to make a proposal in any two different sessions always makes the same proposal in both sessions. Hence, stationary equilibria are not history-dependent. This reduces the number of equilibria to one.⁷

Suppose there is a subgame perfect stationary equilibrium. In a stationary equilibrium, we can express the net continuation value (gross continuation payoff minus the

⁶As mentioned before, any legislator is concerned only with his district's welfare. Therefore, a legislator's first best differs from the first best of the President who is concerned with the welfare of the whole country.

⁷See Baron and Ferejohn (1989) for a detailed explanation.

status quo payoff) of the equilibrium play of the game for a district producing good i as v_i . When a legislator is recognized to make a proposal, he has an incentive to propose a program that will be accepted, since if rejected, he faces the risk that his district will be worse off in the program adopted in the future. In equilibrium, in accordance with the “Riker’s size principle”, any proposal will be accepted with the minimal number of industries that constitute a quorum of districts. This is so since the cost of increasing the number of industries in the coalition outweighs the benefits. Hence, under the scenario where industries are evenly distributed, the recognized legislator will make a proposal that will be accepted by exactly 2/3 of the districts, such that one half of these districts have the same industry operating as in the recognized legislator’s district and the other half have another industry operating. In order to get the acceptance of the latter, the proposal should provide them a net payoff not less than their discounted net continuation values.

In an equilibrium, the net continuation values of all districts must be equalized. The intuition is simple. Suppose the districts producing good i have lower net continuation values than those producing the other two goods. In this case, the legislators representing the latter districts would always choose to reward industry i in their proposals. The districts producing good i would understand this preference and would increase the payoff they request in order to vote for a proposal. Thus, all districts must have equal net continuation values, i.e., $v_i = v$ for all $i = 1, 2, 3$. Any recognized legislator would then randomize between the two other industries regarding whom to reward.

Suppose a legislator representing a district which produces good i is recognized to make a proposal. If he chooses to reward the districts which produce good j , his maximization problem becomes

$$\max_{\mathbf{p}} W_i(\mathbf{p}) \text{ s.t. } W_j(\mathbf{p}) - W_j(\mathbf{p}^s) \geq \delta v. \quad (4)$$

where δ is the common discount factor and \mathbf{p}^s is the status quo price vector. By our earlier assumption, $\mathbf{p}^s = (p_1^*, p_2^*, p_3^*)$. The recognized legislator will choose \mathbf{p} such that the constraint is satisfied with equality. Let the recognized legislator choose $p_i - p_i^* = x$ for the good his own district produces, $p_j - p_j^* = y$ for the districts producing good j

(whose votes the recognized legislator aims to obtain), and $p_k - p_k^* = z$ for the remaining districts. Then, we can express the welfare of the districts producing good i as a function of (x, y, z) :⁸

$$W_i(x, y, z) = \frac{1}{N} \left[1 + (p_i^* + x) + \frac{(R - (p_i^* + x))^2}{2} + \frac{(R - (p_j^* + y))^2}{2} + \frac{(R - (p_k^* + z))^2}{2} \right. \\ \left. + (R - (p_i^* + x) - \frac{1}{3})x + (R - (p_j^* + y) - \frac{1}{3})y + (R - (p_k^* + z) - \frac{1}{3})z \right].$$

After simplification, this becomes:

$$W_i(x, y, z) = \frac{1}{N} \left[1 + p_i^* + \frac{(R - p_i^*)^2}{2} + \frac{(R - p_j^*)^2}{2} + \frac{(R - p_k^*)^2}{2} \right. \\ \left. + x + \frac{x^2 + y^2 + z^2}{2} - (x + \frac{1}{3})x - (y + \frac{1}{3})y - (z + \frac{1}{3})z \right], \\ W_i(x, y, z) = W_i(\mathbf{p}^s) + \frac{1}{N} \left[x - (\frac{x}{2} + \frac{1}{3})x - (\frac{y}{2} + \frac{1}{3})y - (\frac{z}{2} + \frac{1}{3})z \right]. \quad (5)$$

Hence, any recognized legislator actually chooses the markups with respect to world prices. This representation of the payoffs substantially simplifies the analysis. We can similarly express the net payoff offered to the districts producing good j as:

$$W_j(x, y, z) - W_j(\mathbf{p}^s) = \frac{1}{N} \left[y - (\frac{x}{2} + \frac{1}{3})x - (\frac{y}{2} + \frac{1}{3})y - (\frac{z}{2} + \frac{1}{3})z \right].$$

Thus, the Lagrangian for the maximization problem defined in (4) can be expressed as:

$$L_i(x, y, z) = W_i(\mathbf{p}^s) + \frac{1}{N} \left[x - (\frac{x}{2} + \frac{1}{3})x - (\frac{y}{2} + \frac{1}{3})y - (\frac{z}{2} + \frac{1}{3})z \right] \\ + \lambda_i \left[\frac{1}{N} \left[y - (\frac{x}{2} + \frac{1}{3})x - (\frac{y}{2} + \frac{1}{3})y - (\frac{z}{2} + \frac{1}{3})z \right] - \delta v \right]. \quad (6)$$

where λ is the Lagrange multiplier which is interpreted as the cost to the proposing legislator of obtaining the additional votes needed to pass the proposal. Since all legislators face the same maximization problem, the Lagrange multipliers must be the same for all $i = 1, 2, 3$, and it must be that each legislator chooses the same (x, y, z) in a stationary equilibrium.

The first-order conditions, after simplification, are:

$$x = \frac{1}{1 + \lambda} - \frac{1}{3}, \quad (7)$$

⁸Note that $q = \frac{1}{N}$.

$$y = \frac{\lambda}{1 + \lambda} - \frac{1}{3}, \quad (8)$$

$$z = -\frac{1}{3}. \quad (9)$$

When a legislator is offered a markup y for the good his district produces, he considers voting against it if the net continuation value of the equilibrium play of the bargaining game is larger than the current offer. If he votes against it, a district producing the same good gets to be the proposer with a probability $1/3$ in the next round. In this case, his district is offered a markup x . With a probability $2/3$, a district producing one of the other two goods is selected to propose. In half of these cases, his district is proposed a markup y , and in the remaining half, a markup z . Thus, we can express the net continuation value as:

$$\begin{aligned} v = & \frac{1}{3N} [x - (\frac{x}{2} + \frac{1}{3})x - (\frac{y}{2} + \frac{1}{3})y - (\frac{z}{2} + \frac{1}{3})z] \\ & + \frac{1}{3N} [y - (\frac{x}{2} + \frac{1}{3})x - (\frac{y}{2} + \frac{1}{3})y - (\frac{z}{2} + \frac{1}{3})z] \\ & + \frac{1}{3N} [z - (\frac{x}{2} + \frac{1}{3})x - (\frac{y}{2} + \frac{1}{3})y - (\frac{z}{2} + \frac{1}{3})z], \end{aligned}$$

which, after simplification, becomes:

$$v = \frac{x + y + z}{3N} - \frac{1}{N} [(\frac{x}{2} + \frac{1}{3})x + (\frac{y}{2} + \frac{1}{3})y + (\frac{z}{2} + \frac{1}{3})z]. \quad (10)$$

The constraint in the maximization problem must bind when evaluated at the optimal values of the markups. Otherwise, it would be possible for the proposer to reduce the markup y and still obtain the majority. Thus, we must have

$$W_j(\mathbf{p}) - W_j(\mathbf{p}^s) = \delta v.$$

We are mostly interested in the case when δ is sufficiently close to 1. This is simply because bargaining is rather a quick process compared to the process the goods are produced and consumed. Evaluated at the limit $\delta \rightarrow 1$, the above condition becomes

$$y = \frac{x + y + z}{3} \Leftrightarrow \frac{2\lambda}{1 + \lambda} = \frac{1}{1 + \lambda},$$

which implies that $\lambda = 1/2$. Hence, the equilibrium markups are $\hat{x} = 1/3$, $\hat{y} = 0$ and $\hat{z} = -1/3$. Now, we need to calculate the expected net continuation value of a district

in the first stage of the game, i.e., before FTA voting. If it is positive (negative), then all legislators vote against (for) FTA. Evaluated at the equilibrium markups $(\hat{x}, \hat{y}, \hat{z})$, the net continuation value in (10) equals $-1/9N$, so all legislators vote for FTA.

Proposition 1 *When the industries are evenly represented in the legislature and $\delta \rightarrow 1$, all legislators vote for FTA in the first-stage of the game and the President chooses the world prices in the unique subgame perfect (stationary) equilibrium.*

As shown here, majority (districts producing good i and j) can exclude a minority (districts producing good k) and distribute the benefits among themselves. Moreover, since the recognized legislator has the agenda power (has the advantage of proposing), districts producing good i capture the entire share of the excluded districts. The districts who are offered a markup 0 vote in favor of a proposal because of the fear of possibly being excluded from the majority in the following round of the bargaining game. However, since it is uncertain who is going to receive the recognition to make the first proposal, ex-ante welfare is equalized across all districts.

We have analyzed the bargaining outcome when $\delta \rightarrow 1$. When δ is lower than 1, the proposer offers lower markups for both of the other two goods, thus choosing a higher markup for the good his district produces. As a result, the ex-post outcome is closer to the proposer's first-best outcome. Although the proposer's district (and all other districts producing the same good) enjoy a higher ex-post net welfare, this is outweighed by the amount of net welfare loss to the districts producing the other two goods. In particular, unlike before, ex-ante welfare of each legislator will be less than his continuation value, v_i . Therefore, the result in Proposition 1 remains the same for any value of the discount factor.

4 Uneven representation of industries

In this section, we analyze the equilibrium policy when the industries are unevenly represented in the Congress. This happens when at least one industry is represented by more than $N/3$ districts and at least one industry by less than $N/3$ districts. We will focus on three distinct cases which cover all possible combinations.

CASE 1: $\frac{N}{3} < n_i < \frac{N+1}{2}$, $n_j < \frac{N}{3}$, $n_k < \frac{N}{3}$, $i \neq j \neq k$

In this case, no industry has a majority representation in Congress. Furthermore, the number of districts which produce good j and good k is each less than $N/3$ implying that their total count is not sufficient for $2/3$ of the votes in the legislature.⁹ Therefore, when a legislator representing a district which produces good j or good k is selected to make a proposal, he has to get the support of the districts producing good i . The legislators representing good i recognize this preference and would ask for a higher net payoff for their votes. Since the other legislators need the support of the legislators representing good i , they have to offer them the highest they can. When a legislator representing a district which produces good i is selected to make a proposal, on the other hand, he has the flexibility of offering a lower price for goods j or k . Hence, in any subgame perfect (stationary) equilibrium of the subgame starting at the second stage, the districts producing goods j and k end up with a negative net welfare. Therefore, they vote for FTA in the first stage.

Proposition 2 *When $\frac{N}{3} < n_i < \frac{N+1}{2}$, $n_j < \frac{N}{3}$, $n_k < \frac{N}{3}$, $i \neq j \neq k$, the legislators representing districts which produce good j or good k vote for FTA in the first-stage of the game and the President chooses the world prices in the unique subgame perfect (stationary) equilibrium.*

In this scenario, the districts which produce goods j and k have no bargaining power. Therefore, the districts which produce good i are able to extract the whole surplus regardless of the value of the discount factor. Rationally anticipating this beforehand, legislators representing districts which produce goods j and k vote for FTA in the first stage of the game.

CASE 2: $n_i \geq \frac{N+1}{2}$, $n_j < \frac{N}{3}$, $n_k < \frac{N}{3}$, $i \neq j \neq k$

This case is very similar to case 1. The districts which produce goods j and k have no bargaining power. Therefore, the legislators representing districts which produce good i are able to extract the whole surplus. However, now, the total number of districts

⁹Notice that since any legislator's proposal would be different than the President's optimal, the President will veto any program proposed. Therefore, unless $2/3$ of Congress approves the proposal, the proposal cannot pass the presidential veto.

which produce goods j and k is not sufficient for a majority, either (since $n_i \geq \frac{N+1}{2}$). In case FTA is not granted, the legislators representing the districts which produce good i maximize their own welfare in the subgame starting at stage two.¹⁰

As discussed earlier, we can rewrite this maximization problem in terms of the markups that a recognized legislator chooses for the three goods. In the current case, a legislator representing a district which produces good i chooses a markup x for good i , and a markup z for goods j and k . Arranging (5) for $y = z$, we can rewrite the maximization problem as

$$\max_{\mathbf{x}, \mathbf{z}} W_i(\mathbf{p}^s) + \frac{1}{N} \left[x - \left(\frac{x}{2} + \frac{1}{3} \right) x - \left(z + \frac{2}{3} \right) z \right].$$

The first-order conditions imply $\hat{x} = 2/3$ and $\hat{z} = -1/3$. A district which produces good i attains a net welfare

$$W_i(\hat{x}, \hat{z}) - W_i(\mathbf{p}^s) = \frac{1}{N} \left[\hat{x} - \left(\frac{\hat{x}}{2} + \frac{1}{3} \right) \hat{x} - \left(\hat{z} + \frac{2}{3} \right) \hat{z} \right] = \frac{1}{3N}.$$

Since this expression is positive, districts which produce good i are better off compared to the status quo. Therefore, their legislators vote against FTA in the first stage and eventually enjoy a net welfare of $\frac{1}{3N}$.

Proposition 3 *When $n_i \geq \frac{N+1}{2}$, $n_j < \frac{N}{3}$, $n_k < \frac{N}{3}$, $i \neq j \neq k$, the legislators representing districts which produce good i vote against FTA in the first-stage of the game. In the unique subgame perfect (stationary) equilibrium of the bargaining game, districts which produce good i attain a net welfare of $\frac{1}{3N}$ while districts which produce good k attain a net welfare of $-\frac{2}{3N}$.*

When the discount factor equals 1, the legislators representing districts which produce goods j and k can indefinitely delay the bargaining process under the equilibrium described in Proposition 3 since they are indifferent between accepting the proposal today or later. In this case, the majority can implement (almost) the same outcome by offering a marginally higher price for either good j or good k .

CASE 3: $n_i > \frac{N}{3}$, $\frac{N}{3} < n_j < \frac{N+1}{2}$, $n_k < \frac{N}{3}$, $i \neq j \neq k$

¹⁰Even if a legislator representing another industry is selected to make a proposal, districts producing good i have the majority to reject this proposal. Therefore, their payoff in any subgame perfect equilibrium must be maximal.

In this case, when a legislator representing a district which produces good i (good j) is selected to make a proposal, he has to get the support of the districts producing good j (good i). Districts which produce good k have no bargaining power. Therefore, this case is outcome-equivalent to a 2-player alternating-offers bargaining game a la Rubinstein. With a fixed pie to split, this game results in the players equally splitting the pie when the common discount factor $\delta \rightarrow 1$. In our context, this corresponds to the legislators representing districts which produce goods 1 and 2 maximizing their joint welfare. Hence, the unconstrained maximization problem is

$$\max_{\mathbf{p}} W_i(\mathbf{p}) + W_j(\mathbf{p}).$$

A legislator representing a district which produces good i or good j chooses a markup x for goods i and j , and a markup z for good k . Arranging (5) for $y = x$, we can rewrite the maximization problem as

$$\max_{\mathbf{x}, \mathbf{z}} W_i(\mathbf{p}^s) + W_j(\mathbf{p}^s) + \frac{2}{N} [x - (x + \frac{2}{3})x - (\frac{z}{2} + \frac{1}{3})z].$$

The first-order conditions imply $\hat{x} = 1/6$ and $\hat{z} = -1/3$. A district which produces good m , $m = i, j$, attains a net welfare

$$W_m(\hat{x}, \hat{z}) - W_m(\mathbf{p}^s) = \frac{1}{N} [\hat{x} - (\hat{x} + \frac{2}{3})\hat{x} - (\frac{\hat{z}}{2} + \frac{1}{3})\hat{z}] = \frac{1}{12N}.$$

Since this expression is positive, districts which produce goods i and j are better off compared to the status quo. Therefore, their legislators vote against FTA in the first stage and enjoy a net welfare of $\frac{1}{12N}$.

Proposition 4 *When $n_i > \frac{N}{3}$, $\frac{N}{3} < n_j < \frac{N+1}{2}$, $n_k < \frac{N}{3}$, and $\delta \rightarrow 1$, the legislators representing districts which produce good i or good j vote against FTA in the first-stage of the game. In the unique subgame perfect (stationary) equilibrium of the bargaining game, districts which produce good i or good j attain a net welfare of $\frac{1}{12N}$ while districts which produce good k attain a welfare of $-\frac{5}{12N}$.*

When the discount factor is lower than 1, the first proposer obtains a first-mover advantage and is able to earn a higher net welfare. However, for no value of δ , the proposer can offer a markup for the other good that would lead to a (ex-post) negative net

welfare for the districts which produce it. This is simply because a legislator representing one of those districts may vote against the proposal hoping to be the proposer in the next round in which case he would ensure a strictly positive net welfare for his district. So, ex-ante expected welfare of districts which produce good i or good j must be strictly positive. This means that their legislators vote against FTA in the first round for any value of δ .

5 Conclusion

In this paper, we analyze one important institutional procedure: Fast-track authority. We consider a congressional model in which districts are represented by legislators. Each district hosts an industry and therefore each district's welfare is closely related to the industry operating in it. We model congressional game as in Baron (1993) and Baron and Ferejohn (1989). Our analysis shows the following. First, FTA is never granted if an industry is operating in the majority of districts. This is true since if an industry operates in a majority of districts, it can benefit at the expense of other districts under no FTA. Second, the more equally distributed are the industries across districts, the more likely it is that FTA is granted. This is true since ex ante expected welfare of each district is lower when Congress does not grant FTA to the President. Third, the presidential veto can sometimes alleviate the negative distributional effects when FTA is not granted. This is true since presidential veto can limit majority exploitation.

Notice that even though we use small open economy model in which prices are taken as given, our model is valid in a large country case as well. We choose this particular modeling in order to simplify the analysis.

Finally, it is possible to extend our framework to include another large country as in Conconi et al. (2008). This will allow us to compare our results with theirs.

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Figure 1. Legislative process

