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Protectionist Demands in Globalization

by Arzu Ilhan and Özgür Kibris

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Working Paper 00-06

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Protectionist Demands in Globalization*

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May 25, 2000

Abstract

We analyze a small open economy. The citizens have single-peaked preferences on the tariff rate for an import good. They declare a publicly most preferred tariff rate to the government which has discretion in the choice of the implemented tariff rate. While the government has incentive not to deviate too much from the publicly chosen tariff rate, its final choice is determined by bargaining with a foreign lobbyer who has a much lower optimal tariff rate and offers monetary tranfers to the government in return of lowered tariffs. We show that the expectation of such a foreign influence affects the citizens' voting behavior. Namely, they tend to vote for a more protectionist tariff policy. Moreover, this behavior leads to an increase in transfers by the foreign lobbyer.

1 Introduction

The World Trade Organization Conference was held from November 30 through December 4 1999, in Seattle. The city spent much of the week under a curfew and a state of emergency. The conference drew tens of thousands of

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protesters, who accused the WTO of undemocratically undermining domestic laws protecting labor rights and the environment. "It is the feeling of the loss of control over your own life or your job that ignites so many people", one of the protesters was reported saying [4]. In February 2000, Thai farmers were protesting the U.N. Conference on Trade and Development in Bangkok. The protesters claimed their livelihoods were being destroyed by WTO agreements on open markets and reforms demanded by the World Bank and the International Monetary Fund [5]. Similar protests took place at the April 2000 meeting of the IMF and the World Bank in Washington, DC.

Rodrik [11] calls this social unrest "a backlash at globalization". He argues that if the governments do not take the necessary steps in terms of spreading the gains from globalization as widely as possible, this unrest may lead to the revival of economic nationalism and thus, protectionism since it is a rather easy sell when broad segments of a society are experiencing anxieties linked to globalization. Friedman [6] argues that the revival has already begun. He presents the cases of Islamists in Turkey (the Islamic party won the 1997 elections by getting 21% of the votes), Communists in Russia (communist candidate Gennady Zyuganov got 40% of the votes in the second round of the Russian presidential election in 1996), and Patrick Buchanan in US as examples of protectionist responses by the public. The latest example is the People's Freedom Party in Austria. Many commentators argue that it was Joerg Haider's arguments against the expansion of the European Union that increased his party's votes from 5% to 27% in the last elections and made it a member of the coalitional government.

The above examples suggest that in many countries, the majority of the public does not approve of the trade policies resulting from globalization and retaliate by voting for more protectionist parties. It seems that the public is more interested in the way income is distributed than in the size of aggregate income itself; also, the governments do not have (or do not use) the tools to redistribute the gains from lowered tariffs. A recent poll by Business Week[1] [3] found that while Americans agree in principle that globalization is good, they disagree with policies for carrying it out. Only 10% of respondents describe themselves as free traders whereas 51% say they are "fair traders", and 37% say they are protectionists. At the same time, 68% of Americans believe globalization drags down U.S. wages, and 79% do not want to give

[1]The poll was conducted by Harris Interactive between April 7-10, 2000. A total of 1024 interviews were conducted.

China normal trading privileges.

In this paper, we develop a political-economy model that intends to capture the above observations. We analyze a small open economy in which the citizens have single-peaked preferences on the tariff rate for an import good. The citizens use majority voting to determine a public policy declaration made to an incumbent government. The government then bargains with a foreign lobbyer on the implemented tariff rate as well as the amount of transfers that will be made by the lobbyer. We argue that when the citizens anticipate their democratically elected government to make policy decisions based not only on the citizens' preferences but also on preferences of outsiders, they respond by altering their voting behavior. Namely, they vote for more protectionist policies than they normally would. We also analyze the implications of this behavior on the amount of transfer the government receives from abroad.

Our framework is similar to that of Mayer [9] who presents and analyzes an open economy model in which he shows that the agents' preferences on the tariff rate for an import good are single-peaked. This result considerably simplifies our analysis of the voting behavior since, given that the choice space is one-dimensional and the agents have single-peaked preferences, the median of the agents' most preferred tariff rates is majority preferred to any other alternative [2]. Our work is also related to that of Grossman and Helpman [7] who analyze a game in which special interest groups make contributions to influence an incumbent government's choice of trade policy and the government acts to maximize contributions as well as the voters' well-being. In our model, a foreign lobbyer provides financial support to the government in return for less protectionist trade policies. We do not analyze the implications of domestic lobbying but rather assume that the citizens respond through voting behavior. Also, we model the negotiations between the government and the foreign lobbyer as a general bargaining process. Therefore, our results hold for a large class of bargaining processes ranging from the cooperative models of Nash [10] and Kalai-Smorodinsky [8] to the noncooperative model of Rubinstein [12].

The paper is organized as follows. In Section 2, we present the model. In Subsections 2.1 and 2.2, we present the economic and the political frameworks, respectively. In Subsection 2.3, we define the government and the foreign lobbyer. In Section 3, we present the analysis. While Subsection 3.1 analyzes the bargaining process and derives the resulting outcomes, Subsection 3.2 analyzes voting behavior when bargaining is not anticipated. Our

main results are in subsection 3.3, which analyzes voting behavior when bargaining is anticipated. We conclude in Section 4.

2 Model

We analyze an economy in which the citizens have single-peaked preferences on the tariff rate for an import good. The citizens declare a policy choice, t_d to an incumbent government who has discretion in the choice of the implemented tariff rate. While the government has incentive not to deviate much from the publicly declared tariff rate, its final choice is determined by bargaining with a foreign lobbyer. The model is specified as follows.

2.1 Economy

We consider a small open economy. Capital and labor are used to produce two commodities, X_1 and X_2. The factors are perfectly mobile between the two industries, all markets are competitive, and the firms' production functions are homogeneous of degree one. Let $\pi \in \mathbb{R}_+$ be the world relative price of the first good in terms of the second good.

We assume that the country imports $M \in \mathbb{R}_+$ units of the first good. The government imposes a tariff rate of $t \in \mathbb{R}$ on the imports and receives a tariff revenue of $T = t\pi M$. Given the tariff, the domestic relative price of the first good is $p = (1+t)\pi$. Let $w, r \in \mathbb{R}_+$ denote the real wage rate and the real rental rate (in terms of the second good).

Let $I = \{1, ...I\}$ be the set of agents. Each $i \in I$ is endowed with $L^i = 1$ and $K^i \geq 0$ units of labor and capital, respectively. Let $L = \sum L^i$ and $K = \sum K^i$. Agent i's endowments and share of tariff revenues, T^i, determine his real income:

$$y^i = w + rK^i + T^i.$$

Let $Y = \sum y^i$. We assume that the redistribution of the tariff revenue is independent of the tariff rate and neutral to the income distribution. Specifically, given agent i's factors income share

$$\phi^i = \frac{w + rK^i}{wL + rK},$$

his tariff revenue is

$$T^i = \phi^i T.$$

Neutrality is obtained since

$$y^i = w + rK^i + \phi^i T = \phi^i Y.$$

Preferences of the agents are identical and homothetic, so that a redistribution of income will not affect the aggregate demand and the imports. The preferences of agent i are represented by the indirect utility function $U^i : \mathbb{R}^2_+ \to \mathbb{R}$ where $U^i(p, y^i)$ is the maximum utility attainable by agent i, given the prices p and income y^i. Note that both p and y^i depend on the tariff rate t. Therefore, let $V^i : \mathbb{R}_+ \to \mathbb{R}$, which is defined as

$$V^i(t) = U^i(p(t), y^i(t)),$$

be agent i's indirect utility function with respect to the tariff rate. Assume that V^i is strictly concave.

Under these assumptions, Mayer [9] shows that each agent i's optimal (*i.e.* most preferred) tariff rate t^i is determined by the equation

$$t^i = -\frac{Y}{\pi \frac{\partial M}{\partial t}} \frac{\frac{\partial \phi^i}{\partial t}}{\phi^i}.$$

Since $\frac{\partial M}{\partial t} < 0$,

$$sign(t^i) = sign(\frac{\partial \phi^i}{\partial t}).$$

That is, whether agent i prefers a tariff or a subsidy on the first good depends on the effect of an increase in the tariff rate on his income share. Let $k^i = \frac{K^i}{L^i}$ be agent i's endowment ratio and let $k = \frac{K}{L}$ be the economy's average endowment ratio. Moreover, let $\widehat{w} = \frac{\partial w/\partial t}{w}$, $\widehat{r} = \frac{\partial r/\partial t}{r}$, and $\widehat{p} = \frac{\partial p/\partial t}{p}$. Then,

$$\frac{\partial \phi^i}{\partial t} = \frac{rwL}{(wL + rK)^2(1+t)}(k - k^i)\frac{\widehat{w} - \widehat{r}}{\widehat{p}}.$$

Assume that the import competing industry is labor intensive. Then,

$$\frac{\widehat{w} - \widehat{r}}{\widehat{p}} > 0$$

and

$$sign(t^i) = sign(\frac{\partial \phi^i}{\partial t}) = sign(k - k^i).$$

In light of this relationship, the optimal tariff rate is positive (negative) for people who are relatively poorly (well) endowed with capital. Moreover, the greater the difference between individual and national endowment ratios, the greater the deviation of individually optimal tariff rate from free-trade policy. Finally, the optimal tariff rate is zero for each person whose endowment ratio equals the national average endowment ratio.

2.2 Public preferences

Individual preferences on the tariff rate are aggregated to form public preferences. We assume that the majority rule is used for aggregation. Specifically, let $\mathcal{R}^{maj}$ be the majority preference relation. Then, for any couple of tariff rates t and t' in $\mathbb{R}$, $t\ \mathcal{R}^{maj}\ t'$ if and only if there is $L \subseteq I$ such that $|L| > \frac{|I|}{2}$ and for each $i \in L$, $V^i(t) \geq V^i(t')$.

Given that the choice space is one-dimensional and the agents have single-peaked preferences, the median of the agents' most preferred tariff rates is majority preferred to any other alternative [2]. We refer to this tariff rate t_m as the **publicly most preferred tariff rate**.

For most nonsocialist countries there is strong evidence that capital-labor endowment distributions are skewed to the right. We assume this feature on the capital-labor endowment distribution of our model. Therefore, the median endowment ratio is lower than the mean and as a result, t_m is greater than the most preferred tariff rate for the agent with the mean endowment ratio:

$$t_m > 0.$$

The citizens vote on which tariff rate to declare to the government. In this sense, we interpret voting as any form of communicating a person's response to a given policy proposal whether through the ballot, letters to political representatives, participation in political meetings, or public demonstrations. If the agents expect the government to distort the publicly declared tariff rate, their **preferences on the public declaration** does not necessarily coincide with their *preferences on the tariff rate*. Rather, each agent's *preferences on*

the public declaration is induced by his preferences on the tariff rate as well as the distortion he expects from the government.

For each $i \in I$, let W^i represent **agent i's preferences on the public declaration**. For now, assume that the preferences on the public declaration, when aggregated by the majority rule, form a social preference with a unique maximizer, t_d. We refer to t_d as the **public declaration**. In Subsections 3.2 and 3.3, we will derive each agent's *preferences on the public declaration* based on his preferences on the tariff rate and his anticipation of whether the government will bargain away the publicly declared tariff rate.

2.3 Government and the foreign lobbyer

There is an incumbent government that has discretion in choosing the implemented tariff rate. The public informs the government about its tariff choice, t_d. The government's choice of the implemented tariff rate is affected by two motives.

The first motive is *public support*. The further the implemented tariff rate from the public declaration t_d, the greater the social unrest and lower the probability of reelection. We assume that t_d is the only information that the government has regarding the public preferences. The second motive is *foreign support*. The government's decision is affected by a foreign lobbyer whose most preferred tariff rate, t_f is lower than that of the median voter:

$$t_f < t_m.$$

Since there is no sign limitation on t_f, it might refer to a lower tariff rate, to a subsidy, or to zero tariff/subsidy.

In return of a lower tariff rate, the foreign lobbyer grants favors to the government. We assume that these favors can be summarized in monetary terms. Therefore, we model it as a transfer from the foreign lobbyer to the government.

The government bargains with the foreign lobbyer on the implemented tariff rate as well as on the amount of transfer. To simplify the analysis, we assume that both the government's and the foreign lobbyer's payoffs are quasi-linear in the monetary transfer. Specifically, the government's payoff function is

$$G(t, B) = g(t - t_d) + B$$

where g is a strictly concave C^2 function which attains its maximum at zero. The function g summarizes the public support motive of the government. Without loss of generality, assume that $g(0) = 0$.[2] The second term, B is the monetary benefits the government receives.

The foreign lobbyer's payoff function is

$$F(t, B) = \begin{cases} f(t - t_f) - B, \text{ if } t \geq t_f \\ -B, \text{ otherwise.} \end{cases}$$

where f is a decreasing and strictly concave C^2 function which attains its maximum at zero. The function f summarizes the payoffs of the foreign lobbyer as a function of the government's policy choice. Without loss of generality, assume that $f(0) = 0$. It is intuitively plausible to assume that tariff rates lower than t_f do not make the lobbyer worse-off. However, lower rates do not make the lobbyer better-off, since this would mean that the most preferred tariff rate of the lobbyer is lower than t_f.[3] The second term, $-B$ summarizes the monetary benefits the foreign lobbyer grants to the government.

3 Results

The political process can be summarized by the following dynamic structure. First, the public informs the government of its policy choice, t_d. Then, the government bargains with the foreign lobbyer on the implemented tariff rate as well as the monetary benefits. In this section, we first analyze the bargaining process. Then we analyze the formation of the public choice under two different assumptions. First, we assume that bargaining between the government and the foreign lobbyer is not anticipated by the public. Then, we analyze what happens when the public anticipates bargaining to happen. In this paper, we will not analyze the in-between case; namely, the public being uncertain about the government's attitude.

[2] A specific functional form such as $G(t, B) = -(t^m - t)^\gamma + B$, where $\gamma > 1$ would be an example. Also note that the functional form can be altered to $G(t, B) = g(t - t^m) + \alpha B$.

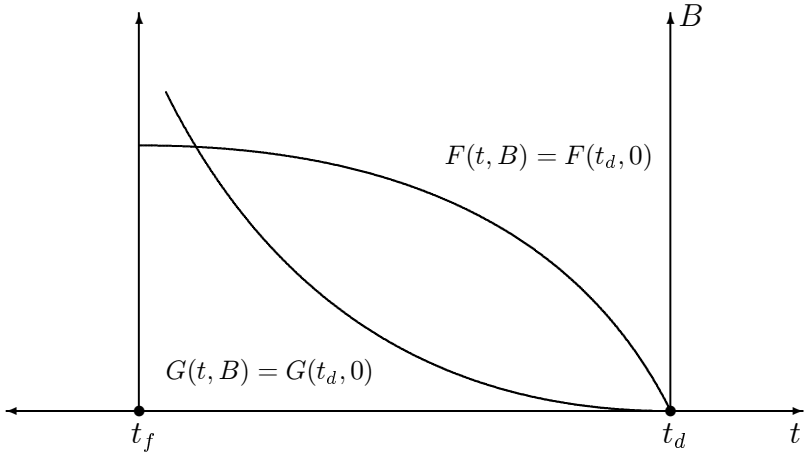
[3] A specific functional form such as $-(t - t^f)^\varphi - B$ would be an example for the first part of F.

3.1 Bargaining

In this section we define the bargaining outcome. We assume that the bargaining process is such that the outcome is Pareto optimal and individually rational. Under this rather weak assumption, one can pinpoint the outcome without any further specification. Therefore, the analysis applies to any bargaining process whose outcomes satisfy these properties, including Rubinstein's alternating offers game [12].

First note that if the publicly declared tariff rate is not higher than the most preferred tariff rate of the foreign lobbyer (*i.e.* $t_d \leq t_f$), the unique Pareto optimal tariff rate is t_d. By individual rationality, there is zero transfer from the foreign lobbyer to the government. The rest of the section is under the assumption that $t_f < t_d$.

Let (t^*, B^*) be the tariff-benefit profile resulting from the bargaining process. Note that, in case of disagreement, the government implements t_d and the foreign lobbyer does not make any transfers to the government. In this case the government receives the payoff $G(t_d, 0) = 0$ and the foreign lobbyer receives the payoff $F(t_d, 0) = f(t_d - t_f)$. By individual rationality, $G(t^*, B^*) \geq G(t_d, 0)$ and $F(t^*, B^*) \geq F(t_d, 0)$ hold. Therefore, the bargaining outcome lies in the lens shaped region with the boundaries $G(t, B) = G(t_d, 0)$ and $F(t, B) = F(t_d, 0)$.



From Pareto optimality, it follows that the resulting tariff rate, t^* will

satisfy the tangency condition

$$\frac{\frac{\partial G(t,B)}{\partial t}}{\frac{\partial G(t,B)}{\partial B}} = \frac{\frac{\partial F(t,B)}{\partial t}}{\frac{\partial F(t,B)}{\partial B}}.$$

Simplifying this equation leads to the condition

$$Z(t^*; t_d, t_f) = g'(t^* - t_d) + f'(t^* - t_f) = 0.$$

Note that

$$Z(t_f; t_d, t_f) = g'(t_f - t_d) > 0$$

and

$$Z(t_d; t_d, t_f) = f'(t_d - t_f) < 0.$$

Moreover since both g' and f' are continuously decreasing on the interval $[t_f, t_d]$, so is the function Z. Therefore, there is a unique t^* such that

$$t_f < t^* < t_d \text{ and } Z(t^*; t_d, t_f) = 0.$$

Given t^*, individual rationality implies that the maximum benefit transfer, $B^{\max}$ is the one at which the foreign lobbyer receives its disagreement payoff:

$$F(t^*, B^{\max}) = F(t_d, 0) = f(t_d - t_f)$$

which implies

$$B^{\max} = f(t^* - t_f) - f(t_d - t_f).$$

Similarly, the minimum individually rational transfer, $B^{\min}$ is the one at which the government receives its disagreement payoff:

$$G(t^*, B^{\min}) = G(t_d, 0) = 0$$

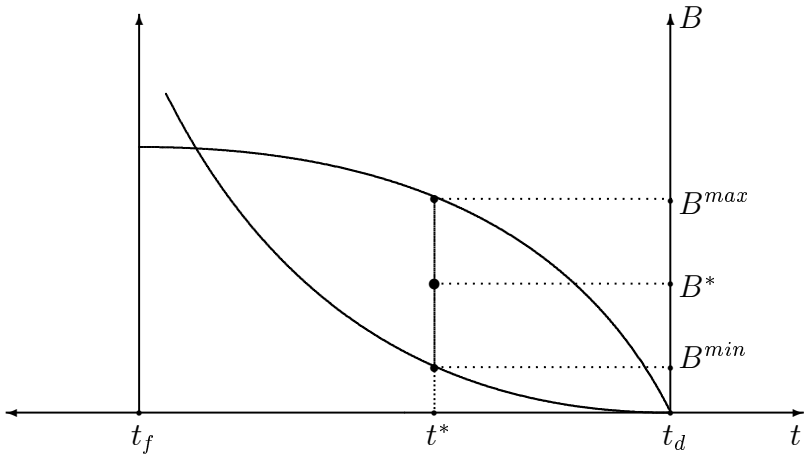
which implies

$$B^{\min} = -g(t^* - t_d).$$

Note that $B^{\max} > B^{\min} > 0$. The resulting transfer B^* is a weighted average of $B^{\max}$ and $B^{\min}$ where the weights depend on the relative bargaining powers of the government and the foreign lobbyer. Note that the relative bargaining powers do not affect the choice of the implemented tariff rate t^* and therefore, are not crucial for the analysis. Thus, assume that the bargaining process is symmetric. Many well-known bargaining rules such as that of Nash [10] and Kalai-Smorodinsky [8] satisfy this property.

Since the Pareto surface in the utility space is linear, any symmetric bargaining process leads to the transfer

$$B^* = \frac{B^{\max} + B^{\min}}{2} = \frac{f(t^* - t_f) - f(t_d - t_f) - g(t^* - t_d)}{2} > 0.$$



Next, we analyze the effect of the bargaining process on the agents' voting behavior.

3.2 Voting when bargaining is not anticipated

Suppose the public does not anticipate that the publicly declared tariff rate is going to be bargained away by the government. That is, each agent expects the government to implement the tariff rate declared by the public. Then, each agent's preferences on the tariff rate coincides with his preferences on the public declaration, $V^i = W^i$. As a result, the public declaration coincides with the publicly most preferred tariff rate, $t_d = t_m$.

If $t_m \leq t_f$, the bargaining process leads to the implemented tariff rate $t^* = t_m$ and to the transfer $B^* = 0$. If $t_f < t_m$, the implemented tariff rate t^* satisfies

$$Z(t^*; t_d, t_f) = 0$$

and is such that $t_f < t^* < t_m$. The resulting transfer amount is

$$B^* = \frac{f(t^* - t_f) - f(t_m - t_f) - g(t^* - t_m)}{2}.$$

3.3 Voting when bargaining is anticipated

In this section, we analyze how the information that the government bargains away the majority chosen t_d affects the agents' voting behavior. We assume that the public does not benefit from the transfer the government receives from the foreign lobbyer (or does not associate the benefits with the trade policy). However, assuming otherwise does not affect the results significantly.[4]

For any public declaration $t_d > t_f$, the bargaining process between the government and the foreign lobbyer leads to an implemented tariff rate t^* satisfying

$$Z(t^*; t_d, t_f) = 0.$$

Note that Z is a C^1 function. Moreover,

$$\frac{\partial Z(t^*; t_d, t_f)}{\partial t} = g''(t^* - t_d) + f''(t^* - t_f) \neq 0.$$

Therefore, there is a differentiable function z such that for each t_d

$$Z(z(t_d); t_d, t_f) = 0.$$

Moreover, since f and g are strictly concave,

$$z'(t_d) = -\frac{-g''(t - t_d)}{g''(t - t_d) + f''(t - t_f)} > 0.$$

[4]The transfers from the foreign lobbier give the citizens additional motive to declare a tariff rate higher than t_m, since as we will later see, the transfers increase in the public declaration, t_d.

For each agent i, the indirect utility function on the public declaration is induced by V^i and z. Specifically, agent i's utility function on the public declaration, W^i is as follows: for each $t \in \mathbb{R}$

$$W^i(t) = \begin{cases} V^i(t) \text{ if } t \leq t_f, \\ V^i(z(t)) \text{ if } t > t_f. \end{cases}$$

The first part follows since for any public declaration $t_d \leq t_f$, the bargaining outcome t^* is equal to t_d. Since V^i is single-peaked and z is increasing, W^i is also single-peaked. Moreover, since $\lim_{t \to t_f} z(t) = t_f$, W^i is also continuous.[5] For each $i \in I$, let

$$\widetilde{t}^i = \begin{cases} t^i \text{ if } t^i \leq t_f, \\ z^{-1}(t^i) \text{ if } t^i > t_f. \end{cases}$$

The indirect utility function W^i is maximized at $\widetilde{t}^i$ since

$$W^i(\widetilde{t}^i) = V^i(z(\widetilde{t}^i)) = V^i(t^i) = \max\{V^i(t) \ \mid \ t \in \mathbb{R}\}.$$

Since z is an increasing function, the ordering of the agents with respect to their peaks at W^i and V^i are identical. Therefore, the agent with the median capital-labor endowment ratio remains the median voter and his most preferred public declaration, $\widetilde{t}_m$ beats any other alternative under majority voting. Given the public declaration $\widetilde{t}_m$, the bargaining process leads to the tariff rate

$$\overline{t} = z(\widetilde{t}_m) = t_m$$

and to the transfer rate

$$\begin{aligned} \overline{B} &= \frac{f(\overline{t} - t_f) - f(\widetilde{t}_m - t_f) - g(\overline{t} - \widetilde{t}_m)}{2} \\ &= \frac{f(t_m - t_f) - f(\widetilde{t}_m - t_f) - g(t_m - \widetilde{t}_m)}{2}. \end{aligned}$$

Since z is increasing, $t^* < \overline{t}$. That is, the anticipation that the publicly declared tariff rate will be distorted through the bargaining process increases the declared tariff rate. The bargaining outcome changes in a way that the

[5] Since, z is not necessarily concave, neither is W^i.

resulting tariff rate is equal to the median voter's most preferred tariff rate. Moreover, since $z'(t) < 1$ and $|f'(z(t) - t_f)| < |f'(t - t_f)|$,

$$\frac{\partial B}{\partial t} = \frac{f'(z(t) - t_f)\ z'(t) - f'(t - t_f) - g'(z(t) - t)\ (z'(t) - 1)}{2} > 0$$

and therefore, $B^* < \overline{B}$. That is, the increase in the declared tariff rate causes the monetary transfer from the foreign lobbyer to the government to increase.

4 Conclusion

Our results suggest that increasing public support for more protectionist trade policies can be interpreted as a rational response of the citizens to foreign intervention in determination of these policies. In our model, the foreign intervention is modeled as a general bargaining process which is only required to produce Pareto optimal and individually rational outcomes. In this sense, the analysis applies to any specific bargaining process which satisfies these properties. The analysis can be further extended as follows.

In our model, the citizens inform the government of their policy choice via direct voting. However, since the median-voter results extend to the case of electoral competition between two political parties, our result also trivially generalize to a case where the agents vote between two political parties and the winner party later determines the tariff rate through bargaining with a foreign lobbyer.

In our model, the government does not redistribute the transfer from the lobbyer. However, since an increase in the declared tariff rate causes the resulting monetary transfer to increase, the redistribution of the transfer only gives more incentives to the citizens to distort their voting behavior.

Finally, unlike Grossman and Helpman [7] we do not analyze the implications of domestic lobbying on the outcome. Therefore, an alternative approach (as mentioned by Baldwin [1]) is to analyze bargaining between the government, the foreign interests, and the domestic interests simultaneously.

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