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The Politics of Free-Trade Agreements

By GENE M. GROSSMAN AND ELHANAN HELPMAN*

Suppose that an opportunity arises for two countries to negotiate a free-trade agreement (FTA). Will an FTA between these countries be politically viable? And if so, what form will it take? We address these questions using a political-economy framework that emphasizes the interaction between industry special-interest groups and an incumbent government. We describe the economic conditions necessary for an FTA to be an equilibrium outcome, both for the case when the agreement must cover all bilateral trade and for the case when a few politically sensitive sectors can be excluded from the agreement. (JEL F13, F15, D78)

Governments have been meeting frequently of late to discuss the possibility of their forming bilateral or regional trading arrangements. The United States has concluded bilateral agreements with Israel, Canada, and Mexico and will pursue talks with Chile and perhaps other Latin American nations. The European Union expanded its membership to include Greece, Portugal, and Spain and has discussed preferential arrangements with many Central and Eastern European countries. Some members of the Association for South East Asian Nations (ASEAN) have been calling for the formation of a Pacific free-trade area. And Argentina, Brazil, Paraguay, and Uruguay have banded together to form the Southern Common Market (MERCOSUR).

These trade negotiations have never been easy, nor have they always been successful. One need only reflect on the recent debates

in the United States concerning the NAFTA or those in Europe over accession to the EU to recognize the political hackles raised by prospective trade agreements. In this paper we attempt to analyze some of the political pressures that are brought to bear on a government as it contemplates whether to enter into a new trading arrangement. In particular, we address the following problem. Suppose that an opportunity arises for two countries to negotiate a free-trade agreement (FTA) among themselves. Will an FTA between these countries be politically viable? If so, what form will the agreement take?

These questions take us into the realm of international relations. Traditionally, studies of international relations in both political science and economics have adopted a "statist" mode of analysis (see the discussion of this point in Peter F. Cowhey [1990]). In this approach, states are seen as unified rational actors pursuing some well-defined objective. In economic analysis, for example, it is common to assume that the state seeks to maximize aggregate national welfare. Then the analysis focuses on the nature of the game between governments. We, like Robert Putnam (1988), would rather regard international relations as involving two distinct stages of strategic interaction. First, there is an initial stage during which political competition between the different interests in each country determines the government's policy preferences. Then there

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is a subsequent stage of give-and-take that determines international equilibrium. We would argue, moreover, that neither stage can be meaningfully analyzed without reference to the other. Inevitably, international interdependence sets the parameters for the domestic political contest, while **the domestic political environment constrains the actions that governments can take internationally.** Here and in a companion piece which examines multilateral negotiations over levels of nondiscriminatory tariffs (Grossman and Helpman, 1995), we implement this perspective, by incorporating the two stages of strategic interaction into a single, sequential game.

In treating the rivalry between competing interests in a single country we use the analytical framework that we developed in Grossman and Helpman (1994a). **This framework emphasizes the interaction between lobby groups representing industry special interests and an incumbent government. In our model, lobby groups offer policy-contingent campaign contributions to politicians, who make decisions that serve their own political objectives.** In this setting, a country's policy stance reflects the relative political power of its organized special interests and also the extent of the government's concern for the plight of the average voter.

The paper is organized as follows. Section I develops the analytical framework, describing both the economic and political interactions and the effects of an FTA on the welfare of the various agents. In Section II we focus on "the initial stage," asking when the government of one country might be willing to endorse an agreement calling for complete and immediate liberalization of all bilateral trade with some partner. This forms the basis for our discussion in Section III of the outcome of a bilateral negotiation between two countries. In Section IV we allow for the possibility that an FTA may exclude a few especially sensitive sectors, or that it may allow for some extended periods of adjustment. We show how a more liberal interpretation of GATT rules about the types of permissible FTA's may enhance political viability and examine the politics that determine which industries gain ex-

emptions under the agreement. The concluding section summarizes our findings.

I. Analytical Framework

We examine the trade policy of two small countries that interact with one another and the rest of the world. The countries produce and trade many goods, all of whose international prices are normalized to 1. Initially, each country imposes the same tariff on all imports of a good regardless of source, in keeping with the "most favored nation" (MFN) clause of the GATT Articles of Agreement. The two countries now have the opportunity to discuss an FTA. **Our aim is to identify the political and economic conditions in the two countries that would make it possible for their politically minded governments to conclude such an agreement.**

We suppose that there is a numeraire good 0 that is untaxed in each country and n other goods. Some of these goods are imported by one or both of the small countries in the initial equilibrium, while others may be exported. In recognition of GATT rules, we exclude the possibility that the countries subsidize their exports. We also ignore export taxes, which are unconstitutional in the United States and rarely used elsewhere. Thus, we assume that the initial domestic price in either country of any good that is exported by that country is 1. As for import goods, these may be subject to arbitrary import tariffs. We let τ_i^j represent 1 plus the initial tariff rate on good i in country j , for $j = A, B$. With our normalization of international prices, these are also the domestic prices in country j for the import goods.¹

Article XXIV of the GATT Articles of Agreement permits certain exceptions to the principle of MFN. Countries may enter bilateral or regional agreements if they eliminate "duties and other regulations of commerce" on "substantially all trade" among

¹We adopt the convention that $\tau_i^j = 1$ for the numeraire good 0 and for any goods that are exported by country j in the initial equilibrium.

themselves. The GATT rules allow for both *customs unions*, in which member countries impose a common external tariff on trade with the rest of the world, and *free-trade areas*, in which the countries maintain separate external tariffs and enforce them with rules of origin. In this paper we study only the latter type of agreement. GATT rules further stipulate that the external tariffs imposed after the conclusion of an FTA must be no higher than those that were in force beforehand. While the practical meaning of this requirement remains in doubt (see John McMillan, 1993), we appeal to it as loose justification for supposing that the initial tariffs τ_i^j continue to apply to imports from the rest of the world under any FTA that might be formed.²

The phrase “substantially all trade” in GATT Article XXIV has been interpreted to allow some latitude in the structuring of trade agreements. **Regional and bilateral trade agreements typically exclude a few politically sensitive sectors and specify prolonged phase-in periods for some others.** At first, we shall ignore this limited degree of flexibility and interpret the GATT rules as requiring that all goods be freely traded between the parties to any agreement. But later we will relax this assumption and suppose that the countries can exclude some sectors from the agreement. Then we will have the initial MFN tariffs remain in force on trade between A and B in the excluded goods.

A. Objectives of Economic and Political Agents

The qualitative features of the two small economies are similar. We describe the structure of one of these countries but omit, for the time being, the country superscripts

which implicitly are attached to every function and variable.

The country has a voting population of size 1. Individuals within the country have identical preferences $u(c) = c_0 + \sum_{i=1}^n u_i(c_i)$, where c_i denotes consumption of good i and $u_i(\cdot)$ is an increasing and concave function. These preferences give rise to the per capita demands $D_i(q_i)$ for goods $i = 1, \dots, n$ and the demand $y - \sum_{i=1}^n q_i D_i(q_i)$ for good 0, where q_i is the domestic consumer price of good i and y is the individual's spending. The same demands apply in the aggregate, except that individual spending is replaced by aggregate spending in the demand for good 0.

The production of good 0 uses only labor, with one unit of labor required per unit of output. Each other good is manufactured with constant returns to scale by labor and a sector-specific factor. Since the domestic price of good 0 has been normalized to 1, the competitive wage must equal 1 in any equilibrium in which this good is produced. Then the specific factor used in industry i earns the reward $\Pi_i(p_i)$, where p_i is the domestic producer price. Aggregate supply of good i is $X_i(p_i) = \Pi_i(p_i) > 0$ for $i = 1, \dots, n$.

We assume that the ownership of the specific factors is highly concentrated in the population. In fact, we take an extreme case where these factor owners comprise a negligible fraction of the total number of voters. The owners of a particular factor have a common interest in seeing a high domestic price for the good they produce and so favor protection from foreign competition. We assume, perhaps because they are few in number, that they can overcome the “collective-action problem” described by Mancur Olson (1965) and that they work together for their common political goals. The owners of the factor used in sector i form a special-interest group which takes political action in order to maximize joint welfare.³

²We recognize that this assumption is not without fault. Martin Richardson (1993) has shown, for example, that countries may have reason to *lower* their external tariffs after completing a trade agreement. A more complete analysis—which would allow for an additional stage of tariff-setting after the FTA issue were resolved—would certainly be desirable but is beyond the scope of the present paper.

³In Grossman and Helpman (1994a, 1995) we allow for the possibility that some sectors may fail to organize for political action, although we take the set of organized lobbies as exogenous in our analysis. Here, for simplicity, we assume that all sectors are organized.

As in Grossman and Helpman (1994a, 1995), we suppose that the incumbent government is in a position to set trade policy, which means here that it can either work toward a free-trade agreement or terminate the discussions. The politicians may receive contributions from the various interest groups, hoping to influence their decision. The politicians value these contributions—because they can help them to get re-elected or for other reasons—but they may also care about the well-being of the average voter. Per capita welfare will enter the incumbent government's objective function if, for example, some voters are well informed about the effects of trade policy and base their votes partly on their standard of living. We assume that the government's objective has a simple linear form, $G \equiv \sum_i C_i + aW$, where C_i is the campaign contribution of the lobby representing industry i , W is aggregate (and per capita) welfare, and a is a parameter (possibly zero) reflecting the government's sensitivity to the average voter's well-being relative to its taste for campaign contributions.⁴

Each individual enjoys surplus of $S_i(q_i) \equiv u_i[D_i(q_i)] - q_i D_i(q_i)$ from consuming good i , $i = 1, \dots, n$. He or she also receives a lump-sum transfer from the government, representing a share of the total tariff revenue, which is rebated to the public on an equal, per capita basis. Aggregate welfare of voters is given by

$$(1) \quad W = L + \sum_{i=1}^n \Pi_i(p_i) + \sum_{i=1}^n (\tau_i - 1) M_i + \sum_{i=1}^n S_i(q_i)$$

⁴Alternatively, we could use the welfare of the median voter, rather than that of the mean voter, as an argument in the government's objective function. The difference is that the median individual owns none of any industry-specific factor. The analysis would proceed similarly, except that W would be defined in (1) to exclude aggregate profits. See Grossman and Helpman (1994a) for further discussion of the government's objective function.

where L is aggregate labor supply and the right-hand side of (1) therefore represents the sum of labor income, profits, tariff revenues, and total consumer surplus. In the initial situation with MFN tariffs, $p_i = q_i = \tau_i$ and $M_i = D_i - X_i$, so W is maximized when $\tau_i = 1$ for all i . As usual, the small country suffers an aggregate welfare loss whenever its politics generate a deviation from free trade.

The small number of owners of the input used in industry i capture a negligible fraction of the consumer surplus in the economy and receive only a negligible fraction of the rebated tariff revenue. Thus, the objective of these factor owners can be closely approximated by $\Pi_i(p_i) - C_i$, their profits net of political contributions. We will use Π_{iN} to represent gross industry profits in the event that no agreement is reached, in which case output continues to sell for $p_i = \tau_i$. Similarly, we let Π_{iF} denote industry profits under an FTA, which depend of course on the producer prices that would prevail in the event of an agreement. In a moment, we will consider what these prices must be. But first we describe the nature of the political game.

B. The Political Game

Interest groups move first in the political game. They offer financial support to incumbent politicians in their home country but link their contributions to the actions taken by the government with respect to the trade agreement.⁵ This follows Grossman and Helpman (1994a), where we applied Douglas B. Bernheim and Michael D. Whinston's (1986) notion of a menu auction

⁵We choose to ignore in the main text the possibility that interest groups may offer contributions to a foreign government. Although such contributions do sometimes occur, the scope for interest groups to influence foreign government's decisions generally is quite limited. This may be because politicians regard foreign gifts as tainted money and so place a lower value on them in their political objective function. In any event, we discuss the differences that arise when interest groups can give to either government in the Appendix.

to the problem of tariff formation. In our earlier paper, we allowed interest groups to design contribution schedules that made each campaign gift a function of the trade tax vector chosen by the government. Here the government has only two options: to pursue an agreement or not. It follows that a policy-contingent contribution schedule need only comprise two numbers, C_{iF} and C_{iN} , which are the gifts associated with the realization of an FTA and with a continuation of the status quo, respectively.

In fact, it is never optimal for a lobby to promise positive gifts for both policy outcomes, because then it could cut back equally on both of its offers without affecting the government's decision. And a lobby surely does not wish to give the government added incentive to choose the outcome that is contrary to its interests. Thus, each lobby need only quote a single number, representing its donation in the event that its preferred outcome is chosen. We limit each lobby to offer no more than what it stands to gain in profits if the government were to follow its bidding.⁶

The lobbies set their contributions non-cooperatively (although we will at times allow them to communicate first). Then, faced with the set of offers, the government takes a position on the trade accord. The government endorses the FTA if and only if $\sum_i C_{iF} + aW_F \geq \sum_i C_{iN} + aW_N$ (where W_R is aggregate welfare under regime R , $R = F, N$). Otherwise, it rejects the agreement.

C. Economic Equilibrium Under an FTA

Before we proceed to characterize the outcome of this political game, we discuss what effects the FTA would have on the voters and special-interest groups in each

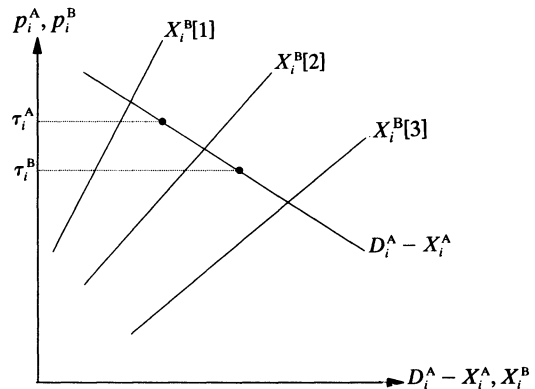


FIGURE 1. INDUSTRY EFFECTS OF AN FTA

country. Our economic analysis builds on Martin Richardson (1992).

We focus on one particular product i . If both countries happen to export this good in the initial equilibrium, then each has a domestic price equal to 1, and the FTA will have no effect on outputs, profits, or consumption levels. The more interesting cases arise when at least one of the countries initially imports the good subject to a positive MFN tariff. Without loss of generality we consider an industry in which $\tau_i^A > \tau_i^B \geq 1$.

Figure 1 depicts the demand for imports by country A and three possible locations of the total supply curve for country B. Suppose that B's endowment of the specific factor is relatively small, as with $X_i^B[1]$, so that the total amount of that country's supply at price τ_i^A does not suffice to satisfy A's import demand at that price. Then A must continue to import from the rest of the world under an FTA, and its domestic price must remain at τ_i^A . The producers in B prefer to sell in A's market at the high price τ_i^A rather than to sell at the lower price τ_i^B (which may equal 1, if this is initially an export good) prevailing at home. These producers divert all of their output to country A after the conclusion of the FTA, and consumers in B satisfy all of their demands by importing from the rest of the world. The FTA has no effect on producer or consumer prices in country A, or on consumer prices in country B. It serves only to raise the

⁶For each lobby, the strategy of bidding zero for all outcomes weakly dominates any strategy with a bid in excess of what the lobby stands to gain under its preferred regime. Our assumption serves to rule out weakly dominated strategies.

TABLE 1—OUTCOMES UNDER AN FTA ($\tau_i^A > \tau_i^B$)

Outcome	Enhanced protection	Intermediate case	Reduced protection
A imports from rest of world?	yes	no	no
B consumes own output?	no	no	yes
Producer price in A	τ_i^A	$> \tau_i^B$	τ_i^B
Consumer price in A		$< \tau_i^A$	
Producer price in B			
Consumer price in B	τ_i^B	τ_i^B	τ_i^B

prices paid to producers in the low-tariff country, who in effect would capture the protection of the high-tariff country (see Anne O. Krueger [1993] on a related point). We will refer to this as the case of *enhanced protection*.

At the opposite extreme, the endowment of the specific factor in B may be so large that this country's output would satisfy A's import demand at the lower price τ_i^B . In this case, represented by $X_i^B[3]$ in the figure, the domestic price in country A falls to τ_i^B . Now B is the source for all of A's imports, and producers in country B also sell in their home market. Consumers in B pay τ_i^B for the good just as they did before the agreement, and producers there continue to receive this sum. But producers in A receive less than before. This is a case of *reduced protection*.

Finally, the curve $X_i^B[2]$ represents an intermediate case in which B's supply curve intersects A's import demand at a price between τ_i^A and τ_i^B . In this case, when producers in B divert their output to the higher-priced market, this output is just sufficient to meet import demand at a price where there is no residual demand for imports from the rest of the world. Producers in B receive the equilibrium price in A's market, which is higher than τ_i^B but lower than τ_i^A . Consumers in B import from the rest of the world, paying the same price τ_i^B as they did before the agreement.

The main point here is that, depending on the size of B's potential output, the marginal good produced there may be sold in A's protected market, in B's less protected market, or possibly even on the world market. The price that B's producers re-

ceive and that all agents face in country A varies accordingly. Table 1 summarizes these findings.

D. Effects of an FTA on Economic Interests

We are now ready to describe how an FTA affects the profits of specific factor owners and the welfare of the average voter in each country. We continue to focus on a single industry in which $\tau_i^A > \tau_i^B \geq 1$. Of course the effect of an agreement on aggregate welfare reflects the sum of its effects in the various industries, including those in which $\tau_i^B > \tau_i^A \geq 1$.

Consider first an industry that experiences *enhanced protection*. Producers in country B benefit from their preferential access to A's highly protected market. Their gain amounts to $\Delta \Pi_i^B = \Pi_i^B(\tau_i^A) - \Pi_i^B(\tau_i^B)$. Producers in A are unaffected, since the domestic price there does not change. As for welfare, the only effect in A is the loss of tariff revenue. This country, which collects duties on all of its imports in this industry under the MFN tariff, does not collect any on its imports of $X_i^B(\tau_i^A)$ from its partner under the FTA. The welfare change in A amounts to

$$\Delta W_i^A = -(\tau_i^A - 1)X_i^B(\tau_i^A).$$

This welfare loss corresponds, of course, to the adverse effects of *trade diversion*, which are familiar from the literature on customs unions.

In country B the contribution of the industry under consideration to aggregate welfare rises. There are two components of this gain. First, as we have noted, profits in

the industry increase. Second, the country imports from the rest of the world to replace sales formerly made by domestic producers. Assuming that $\tau_i^B > 1$, the country collects added tariff revenue on these new imports. The change in welfare equals $\Delta W_i^B = \Delta \Pi_i^B + (\tau_i^B - 1)X_i^B(\tau_i^B)$. We note that A's welfare loss exceeds B's welfare gain, reflecting the global efficiency cost associated with trade diversion.

For an industry that experiences *reduced protection*, the price obtained by producers in the low-tariff country does not change. These exporters gain nothing from the agreement, while the producers in country A suffer from the increased import competition. The expression for the profit change is $\Delta \Pi_i^A = \Pi_i^A(\tau_i^B) - \Pi_i^A(\tau_i^A) < 0$. Tariff proceeds in the industry fall to zero in country A, as all imports now originate in the partner country. But voters gain qua consumers from the fall in the domestic price of the good. The contribution of the industry to the change in aggregate welfare is $\Delta W_i^A = \Delta \Pi_i^A - (\tau_i^A - 1)M_i^A(\tau_i^A) + S_i^A(\tau_i^B) - S_i^A(\tau_i^A)$, which may be positive or negative, depending on the relative sizes of the gains from trade creation and the losses from trade diversion. Country B captures only the extra tariff revenue in this case [$\Delta W_i^B = (\tau_i^B - 1)M_i^A(\tau_i^B)$], but joint welfare gains for the two countries are assured.

The intermediate case combines elements of the other two. Producers gain in country B and lose in country A. Aggregate welfare rises in B and may rise or fall in A. The effect on joint welfare of the two countries is ambiguous. As there is nothing new in this case, we will not consider it any further.

To summarize, an FTA can have any of several combinations of impacts on the economic actors with interests in a particular industry. Producers in the country that exports to its partner under an FTA sometimes gain and never lose. These producers are one potential source of political support for an agreement. On the other hand, the producers in the country that imports from its partner under the agreement never gain and sometimes lose. Here we find potential resistance. The stake of the general public in an FTA is less clear-cut. If most goods will be exported to the partner country,

then aggregate welfare must rise, as consumer surplus never falls in the exporting country, and tariff revenues generally increase. If most goods will be imported, the aggregate welfare effect depends on the relative strength of the forces of trade creation and trade diversion, as is well known from the theory of discriminatory tariffs.

II. Unilateral Stances

We are ready to begin our search for equilibrium outcomes. We focus first on the political interactions in a single country. These determine the nation's *unilateral stance*, that is, the position that the government would adopt if it believed its decision would determine the fate of the agreement. We aim to describe the policy positions that can be supported as optimal government responses to equilibrium behavior by the country's interest groups. To this end, we propose the following definition.

Definition 1: A choice of regime $R \in \{N, F\}$ is a *unilateral stance* if there exists a set of political contributions $\{C_{iN}, C_{iF}\}$, one for each lobby i , such that:

- (a) $C_{iK} \geq 0$ for $K = N, F$ and for all i ;
- (b) $C_{iK} \leq \max(0, \Pi_{iK} - \Pi_{iJ})$ for $J = N, F$; $K = N, F$; $J \neq K$;
- (c) $\sum_i C_{iR} + aW_R \geq \sum_i C_{iK} + aW_K$ for $K = N, F$;
- (d) for every lobby i there exist no contributions $\hat{C}_{iN} \geq 0$ and $\hat{C}_{iF} \geq 0$ and no regime $\hat{R}_i \in \{N, F\}$ such that:

$$\begin{aligned} \text{(i)} \quad & \hat{C}_{i\hat{R}_i} + \sum_{j \neq i} C_{j\hat{R}_i} + aW_{\hat{R}_i} \\ & \geq \hat{C}_{iK} + \sum_{j \neq i} C_{jK} + aW_K \\ & \text{for } K = N, F \end{aligned}$$

and

$$\text{(ii)} \quad \Pi_{i\hat{R}_i} - \hat{C}_{i\hat{R}_i} > \Pi_{iR} - C_{iR}.$$

The definition stipulates that the political contributions supporting a unilateral stance must be nonnegative and no greater than what a lobby stands to gain under its preferred regime. The contributions induce the government to take the position R rather than the alternative, in the light of its own political objectives. And there are no alternative offers available to any lobby that, given the contribution schedules of the other lobbies and the anticipated optimization by the politicians, would leave the lobby with greater net welfare.

We will find that there are two generic types of unilateral stances that may exist for a given set of parameter values. We refer to a stance as *unpressured* if the government takes the chosen position despite there being no offers of contributions that encourage it to do so. By contrast, a *pressured* stance is one that the government takes partly in response to offers of interest-group support. We now derive the following result.

RESULT 1: *There exists an unpressured stance in support of regime R if and only if*

$$(2) \quad a(W_R - W_{\bar{R}}) \geq \max \left[0, \max_i (\Pi_{i\bar{R}} - \Pi_{iR}) \right]$$

where \bar{R} is the alternative to regime R .

The result says that, in an unpressured stance, the government prefers the regime R to the alternative on grounds of public welfare. Moreover, there is no single lobby favoring the alternative policy that stands to lose so much under R that it would unilaterally sway the government from its concern for the plight of the average voter.

The proof is straightforward. First, suppose that all contribution offers are zero (i.e., $C_{iR} = C_{i\bar{R}} = 0$ for all i). Then the government chooses the socially preferred position and, if (2) is satisfied, no single lobby finds it profitable given the zero offers of the others to induce the government to change its stance. This establishes that (2) is sufficient for an unpressured stance in favor

of R . As for necessity, it is obvious that we must have $W_R - W_{\bar{R}} \geq 0$ if the government is to choose R in the absence of any contributions in support of that position. And if $a(W_R - W_{\bar{R}}) < \Pi_{i\bar{R}} - \Pi_{iR}$ for any i , then lobby i could profitably deviate by bidding something more than $a(W_R - W_{\bar{R}})$ but less than $\Pi_{i\bar{R}} - \Pi_{iR}$, thereby inducing the government to choose \bar{R} .

Next we examine stances that feature campaign giving by the prospective beneficiaries of the chosen regime. When $C_{iR} > 0$ for at least one lobby i , the government must be left indifferent between the two policy choices (i.e., $\sum_i C_{iR} + aW_R = \sum_i C_{i\bar{R}} + aW_{\bar{R}}$). Otherwise, one of the lobbies offering a positive contribution in support of R could reduce its offer without affecting the final outcome, thereby increasing its net income. Once we know that the government is left indifferent, we also know that every lobby on the losing side (i.e., those preferring \bar{R} to R) bids for \bar{R} the full amount of what it stands to lose under R ; otherwise one such lobby would find it profitable to raise its offer for \bar{R} slightly, thereby tipping the balance to that policy. Of course, no lobby on the winning side offers more than the extra profits it earns under R , and each lobby contributes nothing if the government's choice is counter to its interests. Together, these considerations establish our second result.

RESULT 2: *If there exists a pressured stance in support of regime R , then*

$$(3) \quad \sum_i \Pi_{iR} + aW_R \geq \sum_i \Pi_{i\bar{R}} + aW_{\bar{R}}.$$

Condition (3) states that the regime supported in a pressured stance maximizes the sum of aggregate profits and a times average welfare. It follows that, if such a stance exists, the policy outcome it selects is (generically) unique. Existence requires

$$aW_R < aW_{\bar{R}} + \sum_{i \in S_{\bar{R}}} (\Pi_{i\bar{R}} - \Pi_{iR})$$

where $S_{\bar{R}}$ is the set of lobbies that prefer

regime \tilde{R} , and R is the regime that satisfies (3). In other words, a pressured stance exists whenever positive contributions by the supporters of regime R are needed to induce the government to choose this stance when each opponent of R bids its maximum willingness to pay for the alternative. When this inequality fails, the proponents of R can refrain from offering any contributions with the assurance that the government will nonetheless choose their preferred stance.

It is possible that both a pressured and an unpressured stance will exist for some parameter values. In that event, the two stances may select the same policy outcome. But this need not be the case. Whereas the unpressured stance always endorses the socially preferred regime, the pressured stance may select the regime that harms the average voter. This happens any time the aggregate profit gain from R relative to \tilde{R} exceeds a times the social welfare loss.

In cases where pressured and unpressured stances both exist and support different policy positions, there may be compelling reasons to focus primarily on the pressured stance. In these circumstances, the unpressured stance does not survive as an equilibrium when we allow a limited degree of coordination among the lobbies. In particular, consider the notion of a *coalition-proof equilibrium*, as discussed by Douglas B. Bernheim et al. (1987). This refinement of Nash equilibrium rejects any outcome for which there exists a set of actions by some coalition of players such that (i) each member of the coalition attains a payoff as high or higher than in the Nash equilibrium, given the actions of nonmembers of the coalition; and (ii) the proposed action of each coalition member is a best response to the proposed or given actions of the others. The refinement applies best to situations where players can communicate but cannot make binding agreements. The communication could be used to spell out the entire list of proposed plays by coalition members, so that each would realize that it could gain by following the proposal and that it and the others have no incentive to cheat, assuming that all members do as proposed.

The unpressured stance will fail to be coalition-proof whenever it selects a regime different from the pressured stance. To see why, suppose that (2) is satisfied for R and (3) is satisfied for \tilde{R} . In the unpressured stance, all supporters of R contribute nothing. An industry that is harmed by R could propose a coalition comprising all such industries. It could propose that the members jointly contribute enough so that the total contributions just overcome the government's sensitivity to voter opposition, with no member being asked to contribute more than what it has to gain. Then, given the zero contributions of the nonmembers of this coalition, the government would be induced to choose \tilde{R} . Each member of the coalition would benefit from this deviation, and each would see itself as pivotal and so would have no incentive to cheat. Since we have assumed that (3) is satisfied for \tilde{R} , the collective gains of the coalition members are large enough to allow such a proposal to be designed. Evidently, the unpressured stance rests in these circumstances on the inability of opponents of the chosen regime to coordinate their political activity.

Bernheim and Whinston (1986) have shown that all coalition-proof equilibria in menu auctions select an action from among the set of actions that maximizes the joint welfare of the principals and the agent, and also that any element in this set can be supported as a coalition-proof equilibrium. Here, the government acts as agent for the many interest groups, and condition (3) expresses the requirement for joint welfare maximization. Since the regime that maximizes joint welfare always exists, we have proved the following.

RESULT 3: *A coalition-proof stance always exists. This stance supports regime R if and only if condition (3) is satisfied.*

Results 2 and 3 imply immediately that *all pressured stances are coalition-proof*.

This completes our discussion of the equilibrium interactions in a single polity. To summarize, there always exists at least one unilateral stance. This stance may be pressured or unpressured. When a pressured

stance exists, it always supports the (generically) unique regime that maximizes the joint welfare of lobbies and politicians. When an unpressured stance exists, it supports the regime that benefits the average voter. When both exist, they may or may not endorse the same outcome. If they do not, then only the pressured stance will be coalition-proof. In these situations, it will be possible for a coalition of lobbies to upset the unpressured stance by minimal coordination of their political activities.

III. Equilibrium Agreements

We turn now to the international negotiation. Our prohibition on exclusions leaves the two governments with little to negotiate about. In principle, they could discuss compensation payments that would be made from one treasury to the other under the terms of a potential agreement. Such compensation schemes do play a part in some regional trade agreements, such as the European Common Market. But transfers still seem the exception rather than the rule (for example, they are not included in the terms of the North American Free Trade Agreement), and even where they are used, they often are limited in scope. While we could include (limited or full) opportunities for compensation in our analysis of FTA's, we choose to focus on the case where such opportunities are unavailable in order to avoid a cumbersome taxonomy.

In the absence of transfers, an FTA requires the unilateral support of both governments. If the lobbies in each country anticipate that the other government will pursue the agreement, they will expect that their own country's political deliberations will determine its fate. Then they will act exactly as described in our analysis of unilateral stances in Section II.⁷ In a

subgame-perfect Nash equilibrium, all expectations about the behavior of the other government are fulfilled. This justifies the following definition.

Definition 2: An FTA is an *equilibrium agreement* if and only if $R = F$ is a unilateral stance in both countries.

Our objective in this section is to characterize the economic and political conditions in the two countries under which an FTA can arise as an equilibrium outcome.

A central theme will emerge from our analysis. We will argue that the political viability of an FTA requires sufficient "balance" in the potential trade between the parties to the agreement. To motivate this idea, it helps to begin with an extreme case. Suppose that all goods exported by country A in the status quo ante are also exports of country B and that country A has the higher MFN tariff in all of its import-competing sectors. Then country A would not export to country B at all in the event of an agreement. This means that none of the lobbies in A would support the agreement. If most industries would experience enhanced protection, then welfare in A would be likely to fall, in which case there could be no unilateral stance in A in support of the FTA. On the other hand, if most industries would experience reduced protection, then the potential opposition to the agreement from the special interests would be great. The only chance for an FTA in this case of extreme imbalance in potential trade would be if the agreement happened to be welfare-improving and the opposing interests failed to coordinate their lobbying activities or if they were unable to muster enough opposition to block the accord. And even this last scenario would be unlikely, if the initial MFN tariffs also were the outgrowth of a political process.⁸

⁷If the Nash equilibrium entails a continuation of the status quo, then lobbies in at least one country must expect that the other government will oppose the FTA at the international talks. These lobbies will contribute nothing to block the agreement, because they will believe it to be doomed in any case. This

means that a pressured stance against an FTA will be observed in an international equilibrium in at most one country.

⁸We will see that, if the MFN tariffs are the result of a political process similar to the one assumed to

In order to be more precise about what we mean by balance and also to see how industry conditions influence the political outcome, we turn to a special (but less extreme) case with particular functional forms. We suppose now that the households in both countries share identical utility functions wherein all of the nonnumeraire goods enter symmetrically and each $u_i(\cdot)$ is quadratic. Then aggregate demand for any good i in country j has the linear form

$$(4) \quad D_i^j(q_i^j) = D - bq_i^j$$

for $i = 1, 2, \dots, n$ and $j = A, B$.

Also, aggregate world supply of every good is the same, and the supply in each country is inelastic. We assume that $X_i^A = \theta X$ and $X_i^B = (1 - \theta)X$ in a fraction s of the industries, while $X_i^A = (1 - \theta)X$ and $X_i^B = \theta X$ in the remaining fraction $1 - s$ of the industries. In other words, all industries are mirror images, with country A having the larger supply in some industries and country B the larger supply in the others. Here s measures the extent of imbalance in the number of potential export industries and θ measures the imbalance in output in any one sector. Without further loss of generality we take $\theta > 1/2$ and $s \geq 1/2$.

The viability of an FTA also depends, of course, on the structure of the initial MFN tariffs. So far we have taken these as arbitrary. But it is reasonable to suppose that they too are an equilibrium outcome of a political process. For the purposes of our illustrative example, we will now assume that the MFN tariffs initially protecting the import-competing industries in each country are those that would result from a contribution game similar to the one described here. Assuming that both sets of politicians place

the same weight a on aggregate welfare in their objective functions, application of Proposition 1 in Grossman and Helpman (1994a) gives

$$(5) \quad \tau_i^j = 1 + \frac{X_i^j}{ab} \quad \text{for } j = A, B$$

for all sectors i that have positive imports in the initial equilibrium.

In this example, different types of outcomes emerge depending on the configuration of parameter values. We will examine three different sets of parameter restrictions. While these possibilities do not exhaust the entire parameter space, they do illustrate all of the different considerations that may come into play.

RESTRICTION 1:

$$\frac{D - b}{X} > 1 + \frac{\theta}{a}.$$

With this restriction on the parameters, all of the nonnumeraire goods are imported in both countries in the initial equilibrium, when the MFN tariffs given in (5) apply. Country A has the higher import tariff in the fraction s of industries where its supply is θX , while country B has the higher tariff in the remaining fraction $1 - s$ of industries. This is because the political processes are similar in the two countries, and the special interests in each country are willing to contribute more in their initial bids for MFN protection when they have more output at stake.

Under an FTA, each country would import from its partners all of those goods on which its MFN tariff is higher. This means that A would import a fraction s of the nonnumeraire goods from B, and B would import the remaining fraction $1 - s$ of these goods from A. Moreover, under Restriction 1, the output in the low-tariff country would not suffice to satisfy import demand in the high-tariff country at the latter country's pre-agreement domestic price. Therefore, recalling Table 1, all industries would experience enhanced protection under the proposed FTA. It is straightforward to calcu-

precede the negotiation of the FTA, then the joint welfare of the government and the lobby must fall in any import-competing industry where a tariff rate is lowered. This means that no pressured stance could support an FTA if all industries were import-competing and all experienced reduced protection under an FTA.

late the contribution of sector i to the change in aggregate welfare in each country using the formulas from Subsection I-D. We find

$$(6) \quad \Delta W_i^j = \begin{cases} -\frac{\theta(1-\theta)X^2}{ab} & \text{if } X_i^j = \theta X \\ \frac{\theta(1-\theta)X^2}{ab} & \text{if } X_i^j = (1-\theta)X \end{cases}$$

for $j = A, B$. Notice that what one country gains in aggregate welfare, the other loses.⁹

We can also calculate the profit changes that would result from the FTA. With all industries experiencing enhanced protection, the various import-competing interests in the high-tariff sectors would not suffer any profit losses. Meanwhile, the factor owners in industries that would export under the agreement would all gain. We have

$$(7) \quad \Delta \Pi_i^j = \begin{cases} 0 & \text{if } X_i^j = \theta X \\ \frac{(2\theta-1)(1-\theta)X^2}{ab} & \text{if } X_i^j = (1-\theta)X \end{cases}$$

for $j = A, B$.

We are now ready to examine the unilateral stances. From (6) we see that an unpressured stance can favor an FTA in country A only if $s = 1/2$ (i.e., if the number of potential export industries is exactly the same in each country). If $s = 1/2$, the FTA is welfare-neutral, and the government in A could (marginally) support an agreement without any lobbying on its behalf. But if $s > 1/2$, the welfare loss from the fraction s of high-tariff industries in country A would exceed the welfare gain from the fraction $1-s$ of low-tariff industries. Some political activity on the part of the benefi-

ciaries would be necessary for the FTA to materialize.

What about the pressured stances? Using (6) and (7) we find that condition (3) indicates pressured support for an agreement in country B for all $s \geq 1/2$ and that the government of country A will be induced to favor the accord if and only if

$$(8) \quad s \leq \frac{1}{2} + \frac{\theta - \frac{1}{2}}{2\theta - 1 + 2a\theta} < 1.$$

The inequality in (8) will be satisfied for s sufficiently close to $1/2$. Then the potential profit gains to the owners of the fraction $1-s$ of the specific factors will be sufficiently large in the aggregate to outweigh the cost to the average voter. On the other hand, if s is close to 1, then the contributions by supporters of the agreement will not be sufficient to sway the government in the light of the prospective harm to the average voter. For a given value of s , a pressured stance in A is more likely to support the FTA the smaller is the weight a that the government attaches to aggregate welfare, since welfare in A surely falls under the agreement. Finally, the political viability of a potential agreement increases with the extent of supply imbalance in a representative industry, because the potential profit gains for exporters grow more rapidly with θ than do the social welfare losses in the import sectors.

RESTRICTION 2:

$$1 + \frac{1-\theta}{a} > \frac{D-b}{X} > \theta + \frac{\theta}{a}.$$

When this restriction holds, all nonnumeraire goods again are imported by both countries in the preagreement equilibrium. But now, using the tariff formula (5), we find that the supply of output in the low-tariff country in each industry is enough to satisfy all demand by the other country at the low-tariff country's price. This means that all industries would experience reduced protection under the agreement.

Again we can calculate the contribution of each sector to the change in aggregate

⁹Joint social welfare in the two countries does not change, because outputs are fixed in each country and consumer prices do not change, so neither do demands. With a fixed allocation of resources in each country, only the distribution of the industry surplus can be affected by the FTA.

welfare in each country. We find that, for the high-tariff sectors, where there are the offsetting effects of trade creation and trade diversion, the answer depends on the parameter values.¹⁰ Meanwhile, the contribution of the low-tariff sectors in each country to social welfare increases under an FTA, as these all become export sectors.

Summing over all industries, we find that an FTA may increase or decrease aggregate welfare in country A. If the potential export industries are evenly divided ($s = 1/2$), aggregate welfare must rise. Then an unpressured stance favors an FTA in both countries as long as no single import-competing industry has sufficient reason to block it. For this, it is sufficient that the total number of specific factors exceeds four. On the other hand, if $s = 1$, aggregate welfare rises in country A only if the beneficial effect of trade creation in the import-competing sectors is sufficiently large. Thus, even if the special interests that will be hurt by an FTA fail to coalesce into a (noncooperative) coalition, the fate of the agreement remains in doubt.

What if the special-interests groups do become active in the political battle over the FTA? In this case of reduced protection, it is the most politically powerful producers in each country (i.e., those that succeeded in securing high barriers in the initial political equilibrium) that would be harmed by an agreement. Moreover, the potential exporters stand nothing to gain. When we calculate the profit losses for the import-competing industries, we find that for $s = 1/2$ the aggregate profit loss in the $n/2$ high-tariff industries exceeds a times the total welfare gain. Therefore, the pressured stance in each country rejects the FTA. As s increases, industry opposition to the FTA grows in country A, while the potential social benefit from the agreement may rise or fall. But even if it rises, the profit losses grow faster with s than a times the welfare gain. It follows that the pres-

sured stance in A rejects the FTA not only when the industries are evenly divided between the countries, but for all values of $s \in [1/2, 1]$. The international outcome must be a continuation of the status quo if the special interests in A induce a coalition-proof stance.

RESTRICTION 3:

$$\theta > \frac{D-b}{X} > (1-\theta) \left(1 + \frac{1}{a}\right).$$

In this case the producers in each country with output θX export their product in the initial equilibrium. Since we rule out export subsidies, they receive only the international price for their goods. Meanwhile, the producers with output $(1-\theta)X$ cannot satisfy domestic demand at the tariff-inclusive domestic price, when the tariff is given by (5). These sectors are protected in the initial equilibrium. It can be shown that all industries experience reduced protection under the FTA, so that international prices would prevail in all sectors under a trade agreement.

The export sectors again gain nothing from an FTA. But this time, these sectors also contribute nothing to the change in aggregate welfare, as no tariff revenue is collected on the imports that replace diverted sales. The factor owners in import-competing sectors sacrifice profits under an agreement, while the contribution of these sectors to aggregate welfare expands. We must as usual evaluate the sum of $\Delta \Pi_i^j$ and $a \Delta W_i^j$, but now the sum need only be taken over the import-competing industries in country j . In each such industry, tariff revenue falls due to trade diversion, and a politically motivated tariff is removed. Since the MFN tariffs in (5) were themselves set to maximize a political objective function, their elimination must reduce the joint welfare of the lobby and the government. It follows that the pressured stance rejects the agreement in both countries.

Let us summarize what we have learned from this example and comment on how the lessons might extend to more general set-

¹⁰ The details of this and succeeding calculations may be found in Grossman and Helpman (1994b).

tings. First, we find that the political viability of an FTA requires s to be close to $1/2$. This is the sense in which potential trade between the countries must be balanced: there must be a sufficient number of potential exporters in each country who will lobby for the agreement, or a sufficient number of sectors with assured welfare gains, to offset the potential losses from trade diversion. This result does not rely on the particulars of our example. Any time an FTA would have most trade flows in one direction, political viability in the importing country will be very much in doubt. Viability then requires a predominance of industries facing reduced protection and also that trade creation would outweigh trade diversion in many of these, so that aggregate gains would be generated by the agreement. Moreover, since reduced protection implies losses for import-competing industries, it requires a coordination failure among the lobbies who would wish to block the accord. Trade imbalances may explain, for example, why the United States has had more difficulty in concluding trade agreements with several Asian trade partners than it has with partners in North America.

Second, the example suggests that political viability may require a sufficient number of industries that would experience enhanced protection as compared with the number facing reduced protection. In the example, an FTA can emerge as a coalition-proof equilibrium for some parameters satisfying Restriction 1, but not for any that satisfy Restrictions 2 or 3. In the first of these cases, enhanced protection is in store for all, and the would-be exporters represent a potential source of support for an agreement. In the second and third cases, the import-competing industries face the prospect of reduced protection and are willing to contribute to block it. Recall that enhanced protection generally means joint welfare losses as a consequence of trade diversion (although such losses do not arise in the example with completely inelastic supplies), while reduced protection generally means joint welfare gains stemming from trade creation. The example thus suggests a more far-reaching conclusion: the

conditions needed for the political viability of an FTA may contradict those that ensure its social desirability.¹¹

The example delivers this message too starkly. Even in our model, there can be efficiency-enhancing agreements that pass political muster if demand curves are nonlinear. And our model neglects some additional sources of joint welfare gain that need not imply an absence of extra profits for exporters. We have assumed, for example, that all markets are globally integrated and that international prices set the terms of trade prior to any agreement. If, instead, we allowed some goods to have high transport costs (or high trade barriers in the rest of the world), the markets in A and B might initially be segmented from those abroad. Then exporters in one country could gain from bilateral tariff reductions even as prices fell for consumers in the other (see Paul Wonnacott and Ronald Wonnacott, 1981). Similarly, if products were differentiated by country of origin, the importing country could realize welfare gains while the exporters saw their profits rise. Still, there is an important lesson here that is general. Whenever a trade agreement gives rise to trade diversion, there will be narrow interests that enjoy private gains, while costs will be shared by all taxpayers. To the extent that industry interests are better represented in the political process than are taxpayer's interests, trade diversion will enhance political viability while contributing to an inefficient allocation of resources in the two partner countries.

IV. Industry Exclusions

Governments that are considering a free-trade agreement have some ability to make a pact palatable to opposing interests. They can do so by providing long periods of adjustment to some sectors and by excluding others from the agreement entirely. How-

¹¹Albert O. Hirschman (1981) made a similar point in his prescient discussion of the dynamics of the European Community.

ever, the national governments are bound to clash on the issue of exceptions, because each seeks to preserve protection for some of its politically powerful industries, while each tries to gain market access for all of its potential exporters. An equilibrium agreement is one that reflects the political pressures on each government and also the give-and-take of the bargaining process.

In this section, we show how industry exclusions might make an otherwise impossible FTA politically viable. We also examine the determinants of the number and identity of excluded sectors. We use "exclusions" here to represent not only the granting of permanent exemptions from an agreement, but also as a metaphor for long phase-in periods. The number of such exclusions should not be so large as to violate the GATT stipulation that an FTA must liberalize "substantially all trade."

A. *Unilateral Stances*

We begin as before by focusing on the political interactions in a single country. We investigate what type of agreement (if any) a government would choose in response to domestic political pressures, assuming that it could dictate terms to its FTA partner. Of course, an equilibrium agreement need not look anything like the *unilateral stance*; but it helps to understand the political process in one country before turning to the two-country bargaining problem.

The lobbies' contribution schedules now must reflect the various positions that their government might take. A government can choose to reject an agreement entirely, it can pursue an agreement calling for the exclusion of certain sectors, or it can seek an agreement with completely free bilateral trade. In principle, the lobbies might link their contributions to the identities of all entries on the list of excluded sectors. However, in our model, the owners of a specific factor care only about the fate of their own industry. An industry facing the prospect of increased competition from partner imports will prefer that its protection be preserved for as long as possible, while an industry that hopes to find a new or expanded export

market will not want to see its products among those excluded from the agreement. We can assume without loss of generality that the special interests distinguish their contribution offers only among outcomes that affect their profits. Each lobby i specifies exactly three numbers, denoted C_{iN} , C_{iE} , and C_{iI} , that represent its campaign gift in the event that the government rejects the FTA, in the event that it concludes an FTA but with industry i excluded from the agreement, and in the event that it concludes an FTA with industry i included in the agreement, respectively.¹² Excluded sectors retain their MFN tariffs once an FTA is enacted.

We define a unilateral stance in much the same way as we did in Section III. In particular, the unilateral stance supports some regime; either the government rejects the agreement entirely ($R = N$) or it opts for an agreement ($R = F$) with a particular set (perhaps empty) of excluded sectors. In an equilibrium stance, the government achieves greater political welfare G than it could under any alternative regime satisfying GATT rules on exclusions. Furthermore, no lobby is able to redesign its offer triplet, given the offers of the other lobbies and the anticipated optimization by the politicians, in such a way as to increase its profits net of contributions.

As McMillan (1993) has argued, GATT rules on the admissibility of free-trade agreements are anything but clear. The requirement that an agreement must liberalize "substantially all trade" can be interpreted to place a limit on the number of industries that can be excluded from an agreement, on the fraction of bilateral trade

¹² In a world with differentiated products and two-way trade, we would need to allow for the possibility that an agreement removes one country's barrier to imports of good i , but not the other's. Here, trade in any one good is unidirectional, with imports going from the low-tariff country to the high-tariff country. In this context, an industry exclusion means that the high-tariff country retains its barrier to imports from its FTA partner.

excluded, on the fraction of total trade excluded, or perhaps on something else. We can cover all of the various possibilities by representing the rule as $\int_{i \in \mathcal{E}} T_i di \leq T$, where \mathcal{E} is the set of excluded industries, T_i is the size of sector i according to the indicated measure, and T is the exogenous limit imposed by the constraint. If, for example, the rule places a limit on the number of excluded industries, then $T_i = 1$ for all i , whereas if it places a limit on the fraction of excluded trade, then T_i is the share of industry i in total preagreement trade. By writing the rule as an integral, we of course assume a continuum of sectors. This allows us to avoid "integer problems," which would complicate the exposition without furthering understanding.¹³

In describing the unilateral stances that can emerge as equilibrium government responses to political pressures, it will prove convenient to refer to the *politically optimal set of exclusions*, $\mathcal{E}(T)$. We define this set as follows. First, we order the industries so that $i \in [0, n]$ and $g_i \equiv (\Delta \Pi_i + a \Delta W_i) / T_i$ increases with i . Second, we assign the label i_0 to the sector with the lowest index such that $g_i = 0$. If $g_i > 0$ for all i , then $i_0 = 0$. Finally, we define \hat{i} so that

$$\int_0^{\hat{i}} T_i di = T.$$

Definition 3: The set of *politically optimal exclusions* $\mathcal{E}(T)$ is the set of sectors i such that $i \in [0, \min(i_0, \hat{i})]$.

This definition requires that, for any industry in the set $\mathcal{E}(T)$, the joint gain to the government and the factor owners from liberalizing bilateral trade in good i must be nonpositive and in fact more negative (when normalized by the "size" of the sector) than for any sector not in the set.

¹³ Integer problems may arise, because sectors must be excluded wholly or not at all. With large sectors, a ranking of industries according to their (size-adjusted) political clout would not fully determine the list of exclusions, because some potential "last" entry on the list might cause the constraint to be violated while another (smaller) sector would not.

Our first result concerns coalition-proof stances.

RESULT 4: *There exists a coalition-proof stance with $R = F$ if and only if*

$$(9) \quad \int_{i \in \mathcal{E}(T)} (\Pi_{iN} + aW_{iN}) di \\ + \int_{i \notin \mathcal{E}(T)} (\Pi_{iF} + aW_{iF}) di \\ \geq \int_i (\Pi_{iN} + aW_{iN}) di.$$

In this stance, the sectors $i \in \mathcal{E}(T)$ are excluded from the agreement.

The left-hand side of (9) gives the joint welfare of all lobbies and the government under an FTA with excluded sectors $\mathcal{E}(T)$, while the right-hand side gives the joint welfare of these parties in the status quo. The result follows from theorem 3 of Bernheim and Whinston (1986), which states that every coalition-proof equilibrium in a menu auction selects an action from among those that maximize the joint welfare of the principals and the agent.¹⁴ In the coalition-proof unilateral stance, the constraint on the size of the excluded set will bind if and only if there exists more than a measure T of industries (measured in the relevant way; i.e., by number, trade volume, etc.), in which the factor owners would lose more in profits from being included in the agreement than a times what the average voter would gain. The excluded industries are those that are most politically sensitive, in the sense that their inclusion imposes the greatest cost to specific factor owners and politicians taken together.

The coalition-proof stance can be supported by "truthful offers" in which (i) each lobby bids the same amount for an exclusion as for an outright rejection of the

¹⁴ Note that $\mathcal{E}(T)$ maximizes $\int_{i \in \mathcal{E}} (\Pi_{iN} + aW_{iN}) di + \int_{i \notin \mathcal{E}} (\Pi_{iF} + aW_{iF}) di$ among all sets \mathcal{E} that have $\int_{i \in \mathcal{E}} T_i di \leq T$.

agreement ($C_{iE} = C_{iN} \geq 0$ for all i); (ii) all industries $j \notin \mathcal{E}(T)$ bid for an exclusion exactly what they stand to lose (if anything) by being included in the agreement; and (iii) all industries $i \in \mathcal{E}(T)$ bid for an exclusion at most what they stand to save by having their trade barriers preserved, and exactly what is needed to ensure that they are among those excluded. This stance may be *pressured*, in the sense that at least some of the industries that stand to gain from the FTA contribute actively on its behalf (i.e., $C_{iI} > 0$ for some i). The joint contributions of these (export) industries then are just sufficient to overcome the political resistance to the agreement.

Inequality (9) may hold even when inequality (4) fails for $R = F$. That is, the coalition-proof stance may endorse an FTA with exclusions in cases where the agreement would be defeated in the absence of exclusions. The exclusions allow the government to avoid the biggest political costs associated with an FTA, and the net political gain may be positive once these particularly exposed sectors are sheltered from the agreement.

When inequality (9) does fail, a coalition of industries can form to block any proposed FTA. Moreover, the contributions that block a given proposal require no monitoring (they are best responses) and leave each coalition member at least as well off as under the agreement. However, as before, the interests that oppose the FTA may fail to achieve the required degree of coordination. In this event, the politics may give rise to a unilateral stance in support of an FTA, even though the interests that stand to benefit from the agreement contribute nothing to further its cause. We will refer to such a stance with all $C_{iI} = 0$ as *unpressured*.¹⁵ The

next result gives the necessary and sufficient conditions for the existence of such a stance.

RESULT 5: *There exists an unpressured stance with $R = F$ if and only if*

$$(10) \quad \int_{i \in \mathcal{E}(T)} aW_{iN} di + \int_{i \notin \mathcal{E}(T)} aW_{iF} di + C \\ \geq \int_i aW_{iN} di$$

where $C = \int_{i \in \mathcal{E}(T)} \max[0, a(W_{iF} - W_{iN}) + \max_{j \notin \mathcal{E}(T)} (-T_j g_j)] di$. In this stance, the sectors $i \in \mathcal{E}(T)$ are excluded from the agreement.

The proof of this result is available from the authors upon request.¹⁶ Intuitively, C represents the total amount of contributions by lobbies that are excluded from the agreement when each such lobby gives the minimum amount that ensures it a place on the list of exclusions (given the equilibrium bids of the others). Each excluded lobby must compensate the government for the political cost of any loss in aggregate welfare that results from its placement on the list of exclusions. This is reflected in the term $a(W_{iF} - W_{iN})$. It must also bid enough to overcome the offers of those lobbies that fail to secure a place on the list. Each lobby j not included in $\mathcal{E}(T)$ bids $C_{jE} = \Pi_{jN} - \Pi_{jF}$ for a potential exclusion, so $-T_j g_j$ reflects the opportunity cost to the government of leaving lobby j off of the list. If for lobby i , $a(W_{iF} - W_{iN}) + \max_{j \notin \mathcal{E}(T)} (-T_j g_j) < 0$, then the government would wish to exclude this lobby even without any positive inducement, in which case the lobby contributes nothing (i.e., $C_{iE} = 0$).

¹⁵ It is unpressured in the sense that the government's decision to pursue the agreement elicits no contributions from beneficiaries. The government may, however, collect contributions from some or all of the industries that are granted exclusions.

¹⁶ In Grossman and Helpman (1994b) we proved a similar result for the case of a finite number of sectors, where GATT rules are taken to imply a restriction on the number of elements in the set of excluded sectors. With sectors of finite size, we must allow for the possibility that a single sector may be able to block the agreement even if it does not coordinate its political activities with the others.

Result 5 is analogous to Result 1. In each case, the unpressured stance in favor of F can exist because the opponents of the agreement fail to coordinate their political activities to further their common cause. When each lobby expects others to offer little or nothing for a total rejection of the agreement, no single lobby among those slated for inclusion may have enough at stake to warrant its acting unilaterally. Of course, in the case of Result 5, the stake of any single lobby is assumed to be small, and so the unpressured stance exists whenever the agreement coupled with the minimal contributions from the excluded sectors is palatable to the politicians.

From Results 4 and 5 we see that all unilateral stances in support of an FTA share the same set of (politically optimal) exclusions. It is easy to see why. Suppose, to the contrary, that there existed a unilateral stance in which some mass of sectors $i \in \mathcal{E}(T)$ were not exempted and that perhaps some others $j \notin \mathcal{E}(T)$ were excluded in their place. First, if there were no such j 's, then each such i would be willing to bid up to $\Pi_{iN} - \Pi_{iF}$ in order to secure an exclusion. The government would add i to the exclusion list if the contribution offer were large enough to compensate for the political cost, $a(W_{iF} - W_{iN})$. But according to the definition of $\mathcal{E}(T)$, we must have $\Pi_{iN} - \Pi_{iF} \geq a(W_{iF} - W_{iN})$, because $g_i < 0$ for all $i \in \mathcal{E}(T)$. Second, if there were some mass of j 's on the list of exclusions in the place of the i 's, choose some subsets of the i 's (say \tilde{I}) and the j 's (say \tilde{J}) such that $\int_{i \in \tilde{I}} T_i di = \int_{j \in \tilde{J}} T_j dj$. The j 's in \tilde{J} would have bid at most $\int_{j \in \tilde{J}} (\Pi_{jN} - \Pi_{jF}) dj$ for their places on the list of exemptions. Again, the definition of $\mathcal{E}(T)$ ensures that the lobbies $i \in \tilde{I}$ could have bid something less than their potential profit gain, and this would have been enough to induce the government to exclude these sectors instead of those in \tilde{J} .

B. Bargaining over Industry Exclusions

We turn now to the international negotiation of an FTA that might exclude certain industries. We will argue first that the ability to issue some exemptions can save an FTA that otherwise would not be politically

viable.¹⁷ Then we will discuss the considerations that determine the number and identity of the excluded sectors.

The fact that exemptions can save an FTA follows almost immediately from the analysis in the previous section. We have seen that the prospects for a unilateral stance in support of an FTA improve when a government has the flexibility to issue exemptions. The exemptions allow the government to capture the support of some potential losers, while at the same time winning the favor of exporters (and perhaps voters) who would benefit from the agreement. Of course, in a negotiating situation, neither country is likely to be in a position to dictate the terms of an agreement. Yet the logic of our argument continues to apply. A successful negotiation requires that *some* agreement be identified that both governments prefer on political grounds to the status quo ante. Exclusions improve the prospects for this, because they can be "sold" to some powerful import-competing interests in exchange for their support.

Which sectors will be granted exclusions in an equilibrium agreement? The answer depends on the particulars of the negotiating process. We appeal here to the simple and familiar Nash bargaining solution in order to illustrate some of the considerations that come into play.¹⁸

Suppose that the equilibrium agreement is designed to maximize a geometric weighted average of the "surpluses" of the two negotiating governments. Moreover, let the lobbies anticipate this bargaining outcome at the time that they make their con-

¹⁷ It appears, for example, that the NAFTA was saved by last-minute concessions granted to U.S. sugar producers and citrus growers in the form of exclusions from the agreement.

¹⁸ In Grossman and Helpman (1994b) we used an alternating-offer bargaining model to establish two propositions. First, we showed that an FTA with exclusions can be an equilibrium outcome in an explicit bargaining model, even if the unique equilibrium when exclusions are prohibited entails a continuation of the status quo. Second, all exclusions may apply to the imports of a single country, if that country's government is the only one that would reject an all-inclusive FTA.

tribution offers. Since the governments always have the option to walk away from the negotiating table, their surpluses are calculated with reference to the political welfare they would achieve by setting $R = N$. More formally, the equilibrium agreement can be represented by a set of indicator variables, α_i , where $\alpha_i = 0$ implies that sector i is included in the FTA ($i \in I$) while $\alpha_i = 1$ implies that sector i is excluded from the agreement ($i \in E$). The Nash bargaining solution solves expression (11), below, subject to the constraint that $\int \alpha_i T_i di \leq T$, where β^J is the Nash weight attached to the surplus of government J and $\bar{G}^J \equiv \int (a^J W_{iN}^J + C_{iN}^J) di$ is the political welfare that accrues to government J if it chooses to stay with the status quo.

To find the solution to this problem, we can treat the α_i 's for the moment as if they could vary continuously between 0 and 1. Then the first-order conditions for maximizing (11) imply

$$\sum_{J=A,B} \frac{\beta^J}{G^J - \bar{G}^J} \times \left[\frac{(a^J W_{iF}^J + C_{iI}^J) - (a^J W_{iN}^J + C_{iE}^J)}{T_i} \right] \geq -\lambda \quad \text{when } \alpha_i = 0$$

$$\sum_{J=A,B} \frac{\beta^J}{G^J - \bar{G}^J} \times \left[\frac{(a^J W_{iF}^J + C_{iI}^J) - (a^J W_{iN}^J + C_{iE}^J)}{T_i} \right] \leq -\lambda \quad \text{when } \alpha_i = 1$$

and $\lambda \geq 0$, where $G^J \equiv \int_{i \in E} (a^J W_{iN}^J + C_{iE}^J) di + \int_{i \in I} (a^J W_{iF}^J + C_{iI}^J) di$ is the equilibrium political welfare of government J in the Nash bargain, and λ is the Lagrange multiplier associated with the limited-exclusions

constraint. It follows that if industries are ordered according to the term on the left-hand side of the first two inequalities, then the Nash agreement excludes all sectors with indexes less than or equal to some critical cutoff value.

These conditions give the decision rule in terms of the industry-specific contribution offers. It would be more revealing to have an ordering that depends only on aggregates and on the supply and demand conditions in the various industries. To this end, we will establish the following result.

RESULT 6: *Let the industries be ordered so that $\omega^A g_i^A + \omega^B g_i^B$ is increasing with i , where $\omega^J \equiv \beta^J / (G^J - \bar{G}^J)$ and $g_i^J \equiv (\Delta \Pi_i^J + a \Delta W_i^J) / T_i$. Then the FTA that solves the Nash bargaining problem excludes all industries $i \in [0, i^*]$, for some $i^* \geq 0$.*

The proof relies on the fact that each small lobby takes G^J and \bar{G}^J as constant in constructing its contribution offer. Each industry expects to be included in the FTA if its offer and that of the same industry in the other country are such that

$$\sum_{J=A,B} \omega^J [a^J (W_{iF}^J - W_{iN}^J) + C_{iI}^J - C_{iE}^J] / T_i < -\lambda$$

and to be excluded if the direction of inequality is reversed. There are several cases to consider.

First consider an excluded industry ($j \in E$), where the special interests in the importing country (say A, for concreteness) make a positive contribution to secure the exclusion ($C_{jE}^A > 0$). We know that these contributions must be lowered to the point where the negotiators are just marginally willing to exclude the sector, that is, where

$$\sum_{J=A,B} \omega^J [a^J (W_{jF}^J - W_{jN}^J) + C_{jI}^J - C_{jE}^J] / T_j = -\lambda.$$

$$(11) \quad \max_{\{\alpha_i\}} \sum_{J=A,B} \beta^J \log \left\{ \int_i [(1 - \alpha_i)(a^J W_{iF}^J + C_{iI}^J) + \alpha_i(a^J W_{iN}^J + C_{iE}^J)] di - \bar{G}^J \right\}$$

The industry's payment does not exceed its profit differential; $C_{jE}^A \leq \Pi_{jN}^A - \Pi_{jF}^A$. We know also that the export interest in country B, which would rather not see its product on the list of exclusions, must bid up to the full profit differential to avoid this outcome ($C_{jI}^B = \Pi_{jF}^B - \Pi_{jN}^B$). Otherwise, a slight increase in its offer will be profitable for this lobby. Combining these facts, we have $\omega^A g_j^A + \omega^B g_j^B \leq -\lambda$ for this excluded industry.

Next consider an included industry ($k \in I$), where the special interests in the exporting country (again A, for concreteness) contribute positively to ensure that their product is not among those excluded ($C_{kI}^A > 0$). Again, the negotiators must be left indifferent between including this sector in the agreement and not. This time we must have $C_{kI}^A \leq \Pi_{kF}^A - \Pi_{kN}^A$, and (by a similar argument as before) $C_{kE}^B = \Pi_{kN}^B - \Pi_{kF}^B$. So now we find $\omega^A g_k^A + \omega^B g_k^B \geq -\lambda$ for this included industry.

Third consider an excluded industry ℓ , where the import-competing interests in (say) A make no contribution; $C_{\ell E}^A = 0$. Since this is an import-competing industry, we must have $\Pi_{\ell N}^A - \Pi_{\ell F}^A \geq 0$. Also, we know that the export industry in B does not find it profitable to bid what it would take to ensure that its product is not among those excluded. That is, the bid $C_{\ell I}^B$ that would make

$$\omega^B C_{\ell I}^B + \sum_{J=A,B} \omega^J a^J (W_{\ell F}^J - W_{\ell N}^J) = -\lambda T_\ell$$

exceeds $\Pi_{\ell F}^B - \Pi_{\ell N}^B$. These facts again imply that $\omega^A g_\ell^A + \omega^B g_\ell^B \leq -\lambda$ for this excluded industry.

Finally, the argument for an included industry in which the export interests do not make any positive contribution is analogous to the previous one. So, in each case, if $\omega^A g_i^A + \omega^B g_i^B$ exceeds $-\lambda$, the industry is covered by the FTA, whereas if this magnitude falls short of $-\lambda$ the industry appears on the list of exclusions. Result 6 follows immediately.

The result reveals that the same factors that dictate the politically optimal set of exclusions in a single country also enter into the determination of the set of exclusions in

a Nash bargain. In each country, a sector's political "clout" depends upon the effect that the FTA would have on the sum of profits and a times aggregate welfare, normalized for the sector's size (as measured by T_i). If this number (represented by g_i^J) is positive, it means that there is a potential political gain for country J from having the sector included in any free-trade agreement. If it is negative, then it would be politically desirable to leave it out. In the unilateral stance, the government excludes only those sectors whose inclusion would be politically damaging and, among those, the ones that would generate the greatest political harm. In the Nash bargain, on the other hand, the politics in both countries must be taken into account.

The Nash solution takes a weighted sum of the political cost/benefit measures for the two countries. The same weights apply in comparing all of the different industries. They reflect the relative bargaining abilities of the two sets of negotiators (as captured in the Nash framework by the weighting parameters β^A and β^B) and the relative surpluses that the two governments attain under the FTA as compared to the status quo. As usual, a government that has a relatively stronger threat point (a high \bar{G}^J) finds its interests weighted more heavily in the final bargain. So, for example, the harm that an FTA might bring to some import-competing industries in country A will be given greater consideration, and the gains from improved market access for country-B exporters will receive less consideration, the greater is \bar{G}^A and the smaller \bar{G}^B . The \bar{G}^J 's in turn reflect the aggregate welfare that country J achieves in the status quo with no FTA and the contributions that the government would receive from its import-competing sector if it rejected the agreement entirely. If \bar{G}^A is very large, for example, then ω^A will be large, and only import-competing industries in country A (which may have $g_i^A < 0$) will be candidates for exclusion from the agreement. The same would be true if β^A were large.

When the two governments' bargaining situations are relatively symmetric ($\omega^A \cong \omega^B$), then the agreement compares the po-

litical benefit to one country from having an exporting sector included with the possible cost to the other in terms of lost profits and forgone tariff revenue. If, for example, the sector would experience enhanced protection, the potential gains to the exporting industry may be large, while the import-competing industry would suffer no losses at all. Such a sector would probably not find its way onto the list of exclusions, unless the prospective welfare loss for the importing country due to the trade diversion were exceptionally large. By contrast, a sector that would experience reduced protection may well be considered for the exclusion list, especially if the prospective consumer-surplus gains in the importing country are modest. Then the political benefit to the exporting country from including the sector would be small (because the export industry reaps no extra profits) while the fallout from losses that would befall the import-competing producers may be great. Finally, note that only industries with $\omega^A g_i^A + \omega^B g_i^B < 0$ are candidates for exclusions, and the constraint on the size of the exclusion set binds only if there is a sufficient mass (appropriately measured) of such sectors.

V. Conclusions

We have examined the conditions under which a free-trade agreement might emerge as an equilibrium outcome of a negotiation between politically minded governments. The governments, we imagine, respond to political pressures from industry special interests but also pay some heed to the plight of the average voter.

If an FTA must completely liberalize trade among the partner countries, a particular government might endorse an agreement in two types of situations. The first arises when the FTA would generate substantial welfare gains for the average voter and adversely affected interest groups fail to coordinate their efforts to defeat the accord. The second arises when the agreement would create profit gains for actual or potential exporters in excess of the losses that would be suffered by import-competing industries, plus the political cost of any wel-

fare harm that might be inflicted on the average voter.

A free-trade agreement requires the assent of both governments. We have found that this outcome is most likely when there is relative balance in the potential trade between the partner countries and when the agreement affords enhanced protection rather than reduced protection to most sectors. With enhanced protection, an exporting industry captures the benefits of the high domestic prices in the partner country. With reduced protection, an import-competing industry sees its domestic price fall as a result of the duty-free imports from the partner. Whereas reduced protection may involve some trade creation, enhanced protection gives rise only to trade diversion. Thus, the conditions that enhance the viability of a potential agreement also raise the likelihood that the agreement would reduce aggregate social welfare.

If some industries can be excluded from an FTA, the prospects for an agreement improve. Each government would wish to exclude those sectors whose inclusion would impose on it the greatest political costs. Political costs reflect either the fierce opposition of the import-competing interests or the harm that would be suffered by the average voter in the face of inefficient trade diversion. By excluding some sensitive sectors, a government may be able to diffuse the opposition to an FTA.

In a bargaining situation, the equilibrium agreement reflects the political pressures felt by both negotiating governments. We examined the Nash bargaining solution and found that exclusions are granted to industries for which a weighted sum of the political benefit of market access in the exporting country and the (possible) political cost of more intense import competition in the importing country is most negative. Both the political benefit and the political cost are measured by a weighted sum of the change in industry profits and the change in average welfare in going from the status quo to bilateral free trade. The weights on benefits in one country and costs in the other reflect the negotiating abilities of the two governments (i.e., the "Nash weights") and the

political welfare that would accrue to the two governments if they rejected the agreement entirely.

We conducted all of our analysis under the restrictive (but somewhat realistic) assumption that governments cannot offer direct, treasury-to-treasury, transfer payments as compensation for any political costs associated with an agreement. It would be a simple matter to redo our analysis for the case in which such transfers are feasible. The more interesting and difficult question in the political economy of international relations concerns the reasons why compensation payments have played such a limited role in most trade negotiations.

APPENDIX

Contributions to Foreign Governments

In the main text we maintained the assumption that an interest group can offer contributions only to its own, native government. Now we relax this assumption and allow lobbies in each country to seek influence over the other's policy. We examine the conditions under which an FTA without exclusions can emerge as an equilibrium outcome, and we compare the scope for such agreements with the case when politicians are prohibited from accepting gifts from abroad.

An FTA can emerge as an equilibrium outcome in one of three different ways. First, both governments may support the agreement as an unpressured stance. Second, both may support it as a pressured stance. Third, one government may favor the FTA as an unpressured position, while the other is being pressured into such support. We discuss each of these possibilities in turn.

An FTA can result without pressure in either country if and only if

$$(A1) \quad a^J(W_F^J - W_N^J) \\ \geq \max[0, \max_i(\Pi_{iN}^A - \Pi_{iF}^A), \max_i(\Pi_{iN}^B - \Pi_{iF}^B)] \\ \text{for } J = A \text{ and } J = B.$$

In words, the FTA must offer aggregate

welfare gains to both electorates; and there can be no single import-competing industry in either country that stands to lose so much under the agreement that it could profitably block the accord with contributions to one government *or the other*. Clearly, this condition is more restrictive than the analogous one in the situation without cross-country contributions [compare (2)]. Without foreign contributions, we required only that it be unprofitable for any lobby to turn its own government against the accord. Now an import-competing industry may succeed politically by offering a big enough gift to the foreign politicians, even if it is unwilling to pay what it would take to win over its own government.

If an FTA emerges as a pressured stance in both countries, then both governments will be left indifferent to the pact. Also, each lobby that will lose under the agreement offers contributions to each government that exhaust its potential to benefit by preserving the status quo. This is because each such lobby could block the pact by swaying either one of the two governments, and no such lobby needs to ante up its offer when both governments actually endorse $R = F$. Finally, no lobby that will benefit from the agreement pays the two governments combined more than what it stands to gain under the FTA. Combining the three equalities and the inequality, we find that an equilibrium outcome with pressured stances in both countries in support of the regime F requires

$$(A2) \quad a^A W_F^A + a^B W_F^B + \sum_{i,J} \Pi_{iF}^J \\ \geq a^A W_N^A + a^B W_N^B + \sum_{i,J} \Pi_{iN}^J \\ + \sum_{i \in S_N, J} (\Pi_{iN}^J - \Pi_{iF}^J).$$

There are offsetting considerations at play when comparing this condition to the analogous one that applied before. On the one hand, the export interests in each country can enter into the political battle abroad

and possibly help their allies to overcome resistance to the agreement that the latter could not defeat alone. The force of this can be seen by noting that, even if (3) does not hold separately for both $J = A$ and $J = B$, the left-hand side of (A2) may nonetheless exceed the sum of the first three terms on the right-hand side. On the other hand, the import-competing interests in each country have the opportunity to voice their opposition in both. Thus, even if (3) does hold for both $J = A$ and $J = B$, condition (A2) may fail due to the presence of the fourth term on the right. In short, an ambiguity arises in comparing the alternative political situations: the presence of foreign contributions may make an FTA politically viable that would not otherwise be so, but it also may negate the viability of an agreement that could emerge as a political equilibrium without foreign influences.

The final outcome to consider is one where government J supports the agreement as an unpressured stance, while government K supports the agreement as a result of political pressure. In country J , a condition like (A1) must be satisfied: the FTA must improve national welfare there; and no single lobby representing an import-competing industry in either country should be able to reverse the government's unpressured stance. Again, this condition is somewhat more stringent than the corresponding one that applied without foreign contributions. In country K , the government is left indifferent, the import-competing interests in both countries offer their full profit differential in an effort to block the pact, while the export interests offer at most what they stand to gain. These requirements imply

$$(A3) \quad a^K W_F^K + \sum_{i,J} \Pi_{iF}^J \geq a^K W_N^K + \sum_{i,J} \Pi_{iN}^J$$

which may be more or less stringent than the corresponding condition in the absence of foreign contributions. Suppose, for example, that government A would support the agreement in an unpressured stance, and consider the outcome of the political contest in country B . Allowing foreign contribu-

tions enhances the prospect for a pressured stance with $R^B = F$ if $\sum_i \Pi_{iF}^A \geq \sum_i \Pi_{iN}^A$ and reduces it otherwise. The cross-border contributions bring foreign interests into play in country B 's political battle, which strengthens one side or the other depending upon which interests in country A have more at stake in the decision.

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