

## **Free Trade Agreements, Customs Unions, and the Dynamics of Political Influence.**

John McLaren  
Department of Economics  
University of Virginia  
P.O. Box 400182  
Charlottesville, VA 22904-4182  
<http://www.people.virginia.edu/~jem6x>

November 2004

*Preliminary draft.*

*I am extremely grateful to participants at the Leitner Conference on Political and Economic Aspects of Regional Integration at Yale University, and to seminar participants at New York University, for useful comments. I am also grateful to Maurice Schiff for useful conversations, and I am particularly in debt to Pravin Krishna and Kala Krishna. All errors and weaknesses in this work are my responsibility alone.*

## **Abstract**

This paper analyses the choice between a customs union (CU) and a free trade agreement (FTA) based on the dynamics of political influence induced by the two agreements. An FTA preserves the maximum future discretion a government might have over its trade policy in a trade agreement, but a CU commits the government to a particular external trade policy. For this reason, if government receives any rents from influence activities, those rents are likely to arrive in one large lump-sum in the case of a CU, but in a steady stream in the case of an FTA. A government with a short expected lifespan in office will tend to prefer a CU, with which it can lock successor governments into a particular trade policy, and collect the fee up front from the private sector. However, governments expecting a long life in office will prefer the steady stream of rents accruing from an FTA, especially if there is a high degree of turnover in the private sector.

The classic taxonomy of regional trade agreements identifies two key categories: free trade agreements (FTA's) and customs unions (CU's). The difference between the two can be stated in two parts. First, a CU agreement specifies the external tariffs of all signatories contractually,<sup>1</sup> while an FTA does not. Second, and more specifically, a CU specifies those tariffs to be the same for all signatories. Among the patchwork of regional and preferential trade arrangements currently in place in the world trade regime are a number of prominent examples of both types. The European Union (EU) and the Common Market of the South (MERCOSUR) are customs unions, as is the partnership formed by the EU and Turkey in recent years. South Africa and its neighbors belong to the Southern African Customs Union (SACU). At the same time, the North American Free Trade Agreement (NAFTA) and the European Free Trade Area (EFTA) are free trade agreements. Chile has signed free trade agreements with a number of countries, including Canada, and the EU has signed one with South Africa.

It seems like a serious omission that there is no theory at hand to explain how the choice between an FTA and a CU is made (although important inroads have been made, as will be discussed below). A striking episode is the period of formation of the EU and EFTA, during which one group of European countries' governments determinedly set out to create a grand European customs union, and a second, neighboring set of governments set out to create a grand European free trade agreement. A natural question is: Why did these governments have strong and differing

---

<sup>1</sup>This is an oversimplification. The institutional details vary, but usually a CU treaty will specify some sort of mechanism by which external tariffs will be worked out through a separate negotiation. The point that is being made here is that whatever the institutional details, partners to a CU are bound to a particular set of tariffs through a negotiated agreement.

preferences over the type of preferential trade arrangement?

This note explores one possible element on which such a theory might be based: The two types of agreement have different dynamics for political bargaining. This is due to the first defining characteristic of the difference mentioned above: An FTA leaves future external trade policy to the discretion of each member government, thus providing a continual incentive for interest groups to try to influence the government. A CU, on the other hand, specifies future external trade policy contractually, thus potentially eliminating a role for political influence activities once the agreement has been ratified,<sup>2</sup> but intensifying political activities up to that point by raising the stakes.

Thus, if the government receives any rents from influence activities, these rents can potentially all be received up front under a CU, but arrive in a continual stream in the case of an FTA. Which of these would be preferred by a rent-maximizing government, then, depends on two factors. First, the shorter is the government's expected tenure in office, the more attractive is the immediate receipt of rents. Thus, political turnover argues for the attractiveness of a CU. Second, if each firm in the protected sectors itself expects to have a short lifespan and to be replaced by new entrants later, it will be unwilling to pay the full present discounted value of the sector's future protection up front, and the government will have an incentive to keep rents flowing from future entrants as they arrive. Thus, private-sector turnover argues for the attractiveness of an FTA.

Both of these forms of turnover are important in practice. On the political level, it is a truism that countries like Italy and Turkey change governments at a sometimes dizzying speed, while

---

<sup>2</sup>This effect is emphasized by Rodrik (1998) as one possible factor in his analysis of economic success in Botswana. The argument is that because of Botswana's membership in the Southern African Customs Union, the government has no discretion over its trade policy, thus killing the incentive for large-scale rent seeking and influence activities.

countries like Mexico have a very low rate of turnover. See Bienen and van de Walle (1991) for an international study of differences in political turnover rates. Less well known is the importance of turnover in the private sector. This was documented empirically in the United States in a pioneering paper by Dunne, Roberts, and Samuelson (1988), who showed that rates of firm entry and exit in US manufacturing are surprisingly high. Roberts (1996) has documented this as well for Chile, Colombia and Morocco, where the effect of entry and exit is even greater than in the US.

These ideas have been formalized here in a model that is specialized for the purpose. One point to underline is that in order to emphasize that the salient distinction between FTA's and CU's for our purposes is the first one, we dispense with the second distinction, and thus allow for agreements in which the external tariffs are specified contractually but not harmonized across signatory countries. These are here called 'generalized customs unions' (GCU's). Indeed, it turns out that harmonization of tariffs in this model is in general inefficient and will not occur in equilibrium.

Second, the structure of bargaining proposed here differs somewhat from that followed by most work in this area. The most popular structure for theoretical work on trade agreements is taken from Grossman and Helpman (1994, 1995a, 1995b), in which first industrial interest groups commit themselves non-cooperatively to a schedule of bribes to be paid to the government contingent on trade policy outcomes, and then the governments bargain, their behaviour affected by the bribe schedules they have been offered. That structure is not terribly useful for the purposes of this paper. In the simple form for the economy that is adopted here for transparency in the political economy elements of the story, the Grossman-and-Helpman-style bidding equilibrium that determines trade policy would not allow the government to collect any rents from the political influence process.

However, the story sketched above requires the government to collect some fraction of the rents at least. The proposition that the government does collect some rents is realistic in practice for many reasons, and there are many ways of restoring it to the model. The simplest is simply to allow for generalized Nash bargaining between the governments and the interest groups that wish to influence them. That is what is done here. Alternative assumptions that would achieve a similar result at the expense of much more trouble will be discussed later.

Third, we allow here for two alternative assumptions: one under which treaties are written in stone once ratified and cannot be altered; and on under which any agreement to be renegotiated. It is very important that an argument such as is made in this paper be robust to the possibility of renegotiation. It is easy to tell a story in which a treaty locks in the government to a particular trade policy and thus prevents future political influence, provided that one assumes that renegotiation is impossible, but it is easy to see that typically the agreement that would emerge in equilibrium in such a case would allow for *ex post* Pareto-improving alternative arrangements. In that case, it is difficult to see why the two governments would not consent to tear up the treaty and replace it with a better one, calling into question the proposed equilibrium. The framework proposed here is immune to that problem. This is a contrast with, for example, Maggi and Rodriguez-Clare (1998), where renegotiation is disallowed, and the argument of the paper cannot be made if it is allowed back in.<sup>3</sup>

---

<sup>3</sup>It has been pointed out to me is that an implication of the version with no renegotiation would be that the lobbying sector in Brussels would have withered away long ago, because the EU is a customs union. However, lobbying continues there and, if anything, grows. Of course, not all of the lobbying there concerns trade policy, but even if it did, it would not be a problem for the model, since in this model, continuing lobbying is consistent with the version with renegotiation. I am grateful to Maurice Schiff for comments on this.

There is a rich literature on the formation of external trade policy in the context of a preferential trade arrangement, and the argument presented here draws heavily on it. Cadot, de Melo, and Olarreaga (1999), Panagariya and Findlay (1996), Richardson (1993, 1994) all study the effects of a preferential trade agreement on the block's external tariffs in an political economy model. See Panagariya (1999) for a survey. Richardson (1994) and Panagariya and Findlay (1996) specifically discuss the choice between CU's and FTA's in light of how they structure the domestic process of political influence. They emphasize the 'free-rider' problem for lobbyists in a CU, arising from the fact that the tariff to a given sector is a kind of public good that benefits producers in that sector throughout the union. Because of these effects, Richardson (1994) shows that in his model lobbyists in the import-competing sectors would prefer FTA's although they would tend to result in lower welfare. In addition, Krueger (1997) discusses FTA's versus CU's, emphasizing both economic questions and political-economy ramifications. The issues of the dynamics of political influence that are the focus of this paper are not raised in any of these other papers.

The next section lays out the elements of the model and the outcomes in the one-period version. Section 2 analyzes two-period FTA's. Section 3 then analyzes GCU's and the choice between the two types of agreement, and derives the proposition sketched above that the choice between the two forms is driven by relative rates of political and private-sector turnover. Section 4 discusses a number of remaining questions.

*1. The model.*

*1.A. Basic elements.*

Countries X and Y are both small in the world economy. There are three goods, marked x, y and z. Take good z to be the numeraire. Preferences for all consumers are the same everywhere, and are given by the utility function  $U(Q_x, Q_y, Q_z) = \sum_{i=1,2} (aQ_i - bQ_i^2/2) + Q_z$ , yielding demands for x and y given by  $P_i = a - bQ_i$ , where  $P_i$  is the price of good  $i$ , for  $i = x, y$ . Every citizen has a unit of labor, which can be used to produce one unit of good x. In addition, country X has an inelastic unit supply of good x per period, and an inelastic supply of  $\theta$  units of good y per period, where  $\theta < 1$ . Country Y similarly has one unit of good y and  $\theta$  units of good x per period. These endowments of goods x and y are held by a vanishingly small fraction of the population in both countries. For simplicity, assume that each owner of an x endowment also owns a y endowment, and vice versa, and that all such owners within one country own them in the same proportions.

As indicated in the introduction, it will be necessary to have some degree of producer turnover in the model. A full model of continuous entry and exit of business firms could be elaborated, for example, along the lines of Jovanovic (1982); a simpler approach might follow the lines of Grossman and Horn (1988). However, in order to avoid distracting from the main line of argument, here an extremely simple form of exogenous turnover will be imposed. If a citizen has an endowment of either x or y in one period, then that citizen will have an identical endowment next period with probability  $\sigma \leq 1$ . (Think of  $\sigma$  as the ‘staying power’ of a firm.) The fraction  $(1 - \sigma)$  of citizens who lose their endowments in the following period are replaced by an equal number of new endowment holders from the general populace, so that the total quantity is unchanged.

The world price of both good x and good y is equal to 1. Assume that  $a - 1 > (1 + \theta)b$ , so

that under free trade both X and Y would import x and y, and export z, and that either country's demand for the import competing goods could if necessary absorb both countries' supply. This avoids some distracting taxonomy. Denote by  $t_j^i$  the tariff imposed by the government of country  $i$  on imports of good  $j$  from the rest of the world, and the 2x2 matrix of tariffs across countries by  $T$ .

In each country, both x-sector and y-sector producers are organized into an influence group that is able to negotiate with its government and also with the other government over trade policy.

Each country's government is of the type laid out in Grossman and Helpman (1994). Its objective function is total national welfare (total consumer plus producer surplus, plus any tariff revenues), plus  $\alpha$  times the contributions it receives from interest groups. The parameter  $\alpha$  is non-negative, and indicates the degree of influence the interest groups can have over policy. However, in addition to these familiar assumptions, we introduce the possibility of political turnover: The government in power is aware that it may not be in power next period. A full model of electoral competition could be built to endogenize transitions, but for our purposes it will suffice to assume that there is a fixed probability,  $\delta \leq 1$ , that the current government will remain in power next period. (Think of  $\delta$  as the 'durability' of a government.) If it does lose power, it will be replaced with another government with exactly the same characteristics.

The timing of the model is as follows. There are two periods. The two governments meet with their respective interest groups and with each other at the beginning of period 1 to negotiate. If they negotiate an agreement, it will specify some constraints on trade policies and perhaps side payments for the two countries for both periods. If it is a free trade agreement (FTA), it will specify only that the tariff of each partner on its imports from the other will be zero. This will not prevent

the two governments from meeting within each period to agree informally on outside tariffs. If it is a generalized customs union (GCU), it will specify a zero tariff on imports from the partner and also will specify a value for tariffs against the rest of the world. These tariffs may be specified as different in period 2 compared to period 1, and may differ for the two countries. After the period-1 tariffs have been determined (either through an FTA and informal agreement, or formally through a GCU), the trade equilibrium occurs and the period's prices, trade and utility levels are realized.

At the beginning of period 2, each government learns whether or not it is still in power and each  $x$  or  $y$  producer learns whether or not she still is capable of producing. Then if the agreement formed in the previous period was an FTA, the bargaining process begins again, this time to determine the period-2 tariffs against the rest of the world. If the agreement was a GCU, there are two cases to consider. If renegotiation is not possible, the existing agreement is simply carried out. If renegotiation is possible (by far the more realistic case), and if there is any *ex post* inefficiency in the agreement, then the governments and the interest groups renegotiate the agreement. The case in which renegotiation is not possible is offered as a useful conceptual benchmark; it makes the point about the importance of relative turnover rates very clearly, and the essential idea can then be seen to hold up in the case with renegotiation as well.

If renegotiation occurs, the rest of the period follows exactly the same pattern as period 1. The threat point when an FTA is in place is the Nash equilibrium in tariffs against the rest of the world. The threat point when a GCU is in place is simply the set of tariffs specified in the agreement.

In each case, either in formal negotiations over the type and details of a treaty or in informal negotiations over current tariffs, there are a multiplicity of ways in which the bargaining could be

specified. An obvious approach would be to specify it as Nash bargaining taking place between the two governments, but influenced by prior interest-group contribution schedules, as in Grossman and Helpman (1995a, b). A difficulty with that approach for the questions raised here is that with that framework in the simple economic setting we consider, the governments would not receive any of the surplus from that process,<sup>4</sup> while government capture of some portion of the surplus from influence activities is essential to the argument in question. (It is also extremely plausible empirically, of course.) In order to get at these ideas in the simplest possible way that allows for the government to capture some of the surplus, we assume that the outcome is given by generalized Nash bargaining between the four parties: The two industrial interest groups and the two governments. This simply imposes that each of the four receives some fraction of the bargaining surplus, and here we will assume that it is split evenly between the four groups. It will be obvious that the exact distribution of the surplus is irrelevant to the argument being made.

Assume that any agreement that provides for mutual free trade but allows for the two countries' external tariffs to differ also includes a rule of origin, so that goods cannot be imported at the low tariff, transhipped, and sold at a higher price in the high-tariff country. Because of this, if  $t_j^i < t_j^k$ , then  $j$  producers in country  $i$  will all sell in the higher-priced country- $k$  market, while all country- $i$  consumers will import from the rest of the world. In this case, there will be a difference between the producer's price of  $j$  and the consumer's price in country  $i$ , which will take the values  $(1 + t_j^k)$  and  $(1 + t_j^i)$  respectively. In country  $k$ , the producer and consumer prices will both be

---

<sup>4</sup>This is a feature of the case in which the membership of each interest group constitutes an infinitesimal fraction of the population, so that their consumer surplus has negligible importance in their incentives. Thus, interest groups do not try to persuade the government to lower protection on goods other than what they produce, and so there is no meaningful competition between interest groups.

equal to  $(1 + t_j^k)$ . Grossman and Helpman (1995b) call this the case of ‘expanded protectionism,’ because producers in the low-tariff country  $i$  benefit from the higher tariff in country  $k$ . This property simplifies the analysis, and is a consequence of the assumption, made above, that total supply is sufficiently small relative to total demand.

The following notation, closely following that in Grossman and Helpman (1995a), will be adopted. The producer surplus to the  $j$  sector in country  $i$  in a period in which the tariff matrix is  $T$  is denoted  $\Omega_j^i(T) = (1 + \max(t_j^i, t_j^k))$  if  $i = j$  and  $\theta(1 + \max(t_j^i, t_j^k))$  if  $i \neq j, j = x, y$ . Since the owners of endowments in these sectors are a vanishingly small portion of the population, we can ignore consumer surplus, tariff revenues and any international side payments in analyzing their incentives, and thus their payoff is simply  $\sum_j \Omega_j^i(T)$  minus whatever contributions they paid to the government (recall that to simplify matters we assume that the  $x$  owners and the  $y$  owners are the same people). Ignoring the possibility of side-payments from one government to the next, denote welfare in country  $i$  by:

$$\Omega(T) = \sum_{j=x,y} [\Omega_j^i(T) + t_j^i ((a - (1 + t_j^i))/b - \xi(i, j, t_j^i)) + (a - (1 + t_j^i))^2/2b],$$

where  $\xi(i, j, t_j^i) = 0$  if  $t_j^i < t_j^k$ ;  $\theta$  if  $t_j^i = t_j^k$  and  $i \neq j$ ; 1 if  $t_j^i = t_j^k$  and  $i = j$ ; and  $(1 + \theta)$  if  $t_j^i > t_j^k$ . The second term in the square brackets is tariff revenue, and the third is consumer surplus. The payoff to the government of country  $i$  during this period would then be given by  $\Omega(T)$  plus  $\alpha$  times whatever contributions the government has received from the interest groups that period.

*1.B. Static outcomes.*

In analyzing the full two-period model, it is useful to have on hand what the outcome would be if there was only a single period. Consider first the case of a Nash equilibrium in external tariffs, with free trade between the two countries. This is the situation offered by an FTA without informal coordination. Here, the country- $i$  interest group bargains with the  $i$  government over country  $i$ 's tariffs, taking as given what they expect the other country's tariffs to be. The threat point is the *status quo ante* of zero tariffs. The result of this bargaining is a value for  $t_j^i$ ,  $j = x, y$ , that maximizes the joint surplus of the two parties:<sup>5</sup>

$$\Omega(T) + \alpha \sum_{j=x,y} \Omega_j^i(T), \quad (1)$$

taking  $t_j^j$  as given. As in Richardson (1994), pure-strategy Nash equilibrium tariffs for each good will be asymmetric in the sense that each good will have a positive tariff in one country and a zero tariff in the other. To see why, suppose that initially that both countries impose that same positive tariff on good  $x$ . Then, if country  $Y$  lowers its tariff slightly below  $t_x^X$  it enjoys a discrete jump in its tariff revenue, an infinitesimal benefit in consumer surplus, and no change in producer surplus,

---

<sup>5</sup>It may seem initially confusing that the payoff to the interest group is multiplied by  $\alpha$  in expression (1). The point is that the bargaining outcome (tariff and side payment) must be Pareto-efficient. Since each unit of bribe to the government gives the government  $\alpha$  units of utility, it is straightforward to see that maximizing the government's payoff, subject to the constraint that the interest group payoff take some minimum value, will be accomplished by setting the government's marginal loss from an increase in the tariff equal to  $\alpha$  times the marginal benefit to the interest group from the increase in the tariff. But this says that the choice of tariff must maximize (1). The same outcome occurs for essentially the same reason in Grossman and Helpman (1995a).

hence an improvement in its payoff (1). As it lowers the tariff further, the sum of tariff revenue and consumer surplus rises but producer surplus is unchanged. Thus, it is optimal for country Y to allow its own tariff on x to fall to zero and allow its own x producers to sell in the X-country market. A parallel argument holds for good y.

Thus, a Nash equilibrium will have zeroes off the main diagonal for the  $T$  matrix.<sup>6</sup> Checking the first order condition quickly confirms that the equilibrium value for X's tariff will be:

$$t_x^X = \max((\alpha - \theta)b, 0).$$

The Nash equilibrium value of  $t_y^Y$  will be exactly the same. The tariff will be higher the greater the susceptibility of the government to bribery, as indicated by  $\alpha$ , and will be lower, the greater the trade diversion induced by the partner country, as indicated by  $\theta$  (see Richardson (1993) for an exposition of essentially this idea in a different model). If  $\theta > \alpha$ , it will not be worth X's while to use a tariff at all; taking into account how much of the benefit of protection will go to producers in the partner country, the benefit to its own producers even with the political bias would be outweighed by the harm to consumers. Because it is a clean and convenient benchmark case, let us assume that this is the situation; in that case, an FTA without informal coordination on tariffs would be equivalent to multilateral free trade. Denote the 2x2 matrix of zero tariffs<sup>7</sup> that results from the Nash

---

<sup>6</sup>It is possible to have a Nash equilibrium with the zeroes on the main diagonal or along a column, so that one country uses no tariffs at all. However, for various reasons this one seems likely to be focal.

<sup>7</sup>Note that under these parameter assumptions, the outcome from the bargaining is the same as the treat point, so there is no bargaining surplus and there are therefore no side payments between the interest groups and the government.

equilibrium by  $T^0$ .

On the other hand, coordination between the two countries would set the tariffs to maximize the sum of the objective functions as specified in (1). Again, it would be optimal to set the off-diagonal tariffs equal to zero. This would allow half of the consumers of each good to enjoy the benefits of free trade while providing protection for all of its producers in one country. The first order condition with respect to  $t_x^X$  and  $t_y^Y$  then quickly yields

$$t_x^X = t_y^Y = t^* \equiv \alpha(1 + \theta)b.$$

The optimal tariff rises with the degree of political influencibility as well as with the scale of importables production within the two countries. Denote this cooperative 2x2 tariff matrix with  $t^*$  on the main diagonal and zeroes off by  $T^C$ . More generally, since the tariff for a good will always be equal to zero in one of the two countries, it will be convenient to denote  $t_x^X$  by  $t_x$  and to denote  $t_y^Y$  by  $t_y$ .

This does not tell us about payments made to governments by their respective influence groups. Again, we assume generalized Nash bargaining, in which the total bargaining relative to the threat point is split four ways. The threat point here is the Nash equilibrium discussed above, which under our parameter assumptions is equivalent to multilateral free trade. Adding up the surplus (1) for both countries and subtracting its value under free trade from its value under the politically optimal tariff  $t^*$ , we find that the bargaining surplus equals  $\alpha^2(1 + \theta)^2 b / 2$  per country.

Adding one half of this to each government's free trade payoff  $\Omega^i(T^0)$  must equal the

government's payoff from the negotiated tariffs  $\Omega^i(T^C)$  plus  $\alpha S$ , where  $S$  denotes the side payment from each country's interest group to its government. This yields  $S = (3/4)\alpha(1+\theta)^2 b$ , which we will denote  $S^{FTA}$ .

## 2. The Two-period model: Free Trade Agreements.

Consider how this system works now in the full two-period setting. First, a note about the form of agreements is in order. If in period 1 the two governments agree to a GCU, the agreement can in general take the form of a period-1 tariff matrix and an international side payment, together with a period-2 tariff matrix and side-payment. If they agree to an FTA, then it may have side-payments but no tariff commitments, as the two countries will coordinate on tariffs on an *ad hoc*, period-by-period basis. In practice, however, the symmetry of the model means that we can ignore international side payments altogether, and so from here on in we will do so. Thus, a GCU will be characterised by its first- and second-period tariffs,  $T(1)$  and  $T(2)$ , respectively. We will analyze the bargaining outcome for each type of agreement, and then discuss how the form of agreement is itself determined by the bargaining.

First, the analysis of a FTA in the two-period setting is straightforward: It is simply the single-period case described above, repeated. In order to analyze the choice of whether to pursue an FTA or a GCU, it is necessary to compare the anticipated intertemporal joint surplus under both arrangements as of period 1. Each government's period-1 payoff is equal to  $\Omega^i(T^C) + \alpha S^{FTA}$ . The second-period payoff is the same, but the government knows that it is only with probability  $\delta$  that

it will still be in power to benefit from it. Thus, the government's expected intertemporal payoff from the FTA is given by  $(1 + \delta)(\Omega^i(T^C) + S^{FTA})$ . Each interest group's payoff is given by  $\sum_j \Omega_j^i(T^C) - S^{FTA}$  in period 1. The period-2 payoff will be the same, but each individual member of the interest group knows that she will be in business to enjoy it only with probability  $\sigma$ .

Therefore, the typical interest group member's expected intertemporal payoff from the FTA is given

by  $(1 + \sigma) \left( \sum_j \Omega_j^i(T^C) - S^{FTA} \right)$ . Adding these up (as before, with a weight of  $\alpha$  on the interest group

payoff), we find that the joint surplus in each country from an FTA is equal to:

$$(1 + \delta)\Omega(T^C) + (1 + \sigma)\alpha \sum_j \Omega_j^i(T^C) + (\delta - \sigma)\alpha S^{FTA}. \quad (2)$$

Note that the first-period side payments cancel each other out, but if the survival rates for governments and for firms differ, the second-period side payments do *not* cancel each other out. The reason is that if the government, for example, expects to lose the next election but most business firms expect to be in business for a long horizon, then any anticipated transfer after the election from the firms to the government that will be in place at that time will be regarded as a cost to the current generation of firms but will not be regarded as a benefit to the current government. What is being measured in (2), and what counts for determining the bargain that will be struck at the beginning of period 1, is the expected surplus to the *current generation* government and producers, and since those parties may be replaced by others over time, a delayed transfer is not necessarily a zero-sum game from their point of view.

### 3. *Generalized Customs Unions, and the Choice of the Form of Agreement.*

#### 3A. *The Case with no Renegotiation.*

As mentioned above, we will first analyze GCU's under the assumption that renegotiation of the agreement in period 2 is not possible. This is not terribly realistic or theoretically compelling, but the logic of how the type of contract affects the timing of influence rents comes through very clearly in that hypothetical case. Once the point has been made, it is easy to see how the essential argument survives when renegotiation is allowed.

It is also worth mentioning that the polar opposite of completely costless renegotiation is not realistic either, as trade negotiations typically consume substantial government resources (a point discussed at length in McLaren (1999)). Further, the difficulty of constructing a true Pareto-improving treaty revision together with the myriad ways in which a societal faction can block new trade agreements (protests, filibusters, and the like) suggest that there are limits to renegotiability in practice. Thus, perhaps an intermediate model would be the most realistic of all.

Think, then, of the bargaining problem in period 1, when the instrument in question is a GCU. If we constrain ourselves to symmetric tariff matrices as described above, as we can without loss of generality, the payoff to each government will be:

$$\Omega^i(T(1)) + \delta\Omega(T(2))$$

before taking any first-period transfers into account. The payoff to a typical member of the interest group will be:

$$\sum_j [\Omega_j^i(T(1)) + \sigma\Omega_j^i(T(2))]$$

before first-period transfers. Therefore, the joint payoff is equal to:

$$\Omega^i(T(1)) + \alpha \sum_j \Omega_j^i(T(1)) + \delta \Omega^i(T(2)) + \sigma \alpha \sum_j \Omega_j^i(T(2)). \quad (3)$$

Bargaining will maximize this with respect to choice of  $T(1)$  and  $T(2)$ . It is immediately apparent that the optimal value of  $T(1)$  is  $t^*$ , since the terms that depend on  $T(1)$  in (3) are simply the same as (1). The optimal value of  $T(2)$ , on the other hand, will depend on the values of  $\delta$  and  $\sigma$ , and in particular on their ratio, and will be strictly decreasing in  $\delta/\sigma$ . Three special cases are of interest. First, if  $\delta > 0$  but  $\sigma = 0$ , the effect of the second-period tariff on producers does not show up in the objective function at all apart from its inclusion in the welfare function  $\Omega^i$  along with the effect on all of the other citizens. In this case, the producers who will be affected by that tariff are not even in the marketplace yet, and thus not at the bargaining table. The existing producers are not willing to pay anything for future protection that they will not be around to enjoy. Thus, the tariff matrix chosen for that period will simply maximize unweighted welfare, which, of course, for this small open two-country region, will imply free trade.

On the other hand, if  $\delta = 0$  and  $\sigma > 0$ , then it is the second period welfare that does not appear in the maximand, only the producer surplus of the members of the interest group. Thus, the optimal value for  $T(2)$  will offer the maximum possible protection to the producers, and will feature prohibitive tariffs.

In the final special case of interest  $\delta = \sigma$ . In this case,  $T(2)$  is set equal to  $T^C$ .

It is now straightforward to see which contract will be chosen in equilibrium, by comparing (2) to the optimized value of (3). Clearly, we need pay attention only to the second-period terms. Again, in the case in which  $\delta > 0$  but  $\sigma = 0$ , the GCU has free trade in period 2, and so it is the

contract selected by the bargaining if:

$$\delta\Omega^i(T^0) > \delta(\Omega^i(T^C) + S^{FTA})$$

However, we know from the logic of Nash bargaining under an FTA that the right hand side is higher. This is due to the requirement that the bargaining solution be Pareto-improving over the threat point (and if there is any positive surplus, it must be strictly Pareto-improving). Thus, in this situation an FTA is preferred.

Second, if  $\delta = 0$  but  $\sigma > 0$ , prohibitive tariffs will be chosen in period 2.<sup>8</sup> Again, compare (2) and (3). The GCU is preferred if:

$$\sigma\alpha \sum_j \Omega_j^i(T(2)) > \sigma\alpha \left( \sum_j \Omega_j^i(T^C) - S^{FTA} \right).$$

Clearly this inequality will be satisfied, since the producer surplus will be higher with the prohibitive tariffs than with  $T^C$ , and *a fortiori* because of the side payment. Thus, in this case a GCU will be chosen. Finally, it is immediate to verify that in the case in which  $\delta = \sigma$ , both forms of agreement produce the same joint payoff.

The conclusion is that *the higher is the rate of producer turnover relative to political turnover, the more likely is an FTA to be selected.*

---

<sup>8</sup>In other words, in at least one country for each good, a tariff will be set greater than or equal to  $\bar{t}$ , where  $1 + \bar{t} = a - b(1 + \theta)$ .

### 3.B. The Case with Renegotiation.

This conclusion about the effect of relative turnover rates on the form of the agreement can now quickly be seen to hold when we allow governments to renegotiate their agreements. This means that when we get to period 2, even if there has been a GCU negotiated in the previous period that is legally binding on the current government (whether that government is the same as the one that signed the treaty or not), if the tariffs specified in that agreement are not *ex post* efficient, then a new treaty can be written that, perhaps with the use of side payments, can be made a Pareto improvement on the previous one. In this case, all parties would consent to abrogation of the old and ratification of the new.

Of course, this means that whenever  $T(2)$  in the original GCU treaty is different from  $T^C$ , it will be renegotiated and replaced with a new agreement specifying the tariffs  $T^C$ , because this is the tariff matrix that maximizes the joint payoffs. Thus, the tariff outcome is trivial. The only remaining question is the side payment that will emerge from the renegotiation.

For any  $t \in [0, \bar{t}]$ , where  $1 + \bar{t} = a - b(1 + \theta)$ , define  $\gamma(t)$  as the value of unweighted welfare within one country one gets from the tariff matrix with  $t$  along the main diagonal and zeroes elsewhere. Define  $\pi(t)$  as the corresponding value of producer surplus in one country from the same tariff matrix. Then clearly  $\gamma' < 0$  and  $\pi' > 0$ . These functions determine the threat point for the renegotiation. Clearly, since the threat point for the interest group improves and that for the government falls as  $t$  rises, the net side payment from the interest group to the government as a result of the negotiation is a strictly decreasing function of  $t$ . In effect, if the second period tariff specified in the prior agreement is equal to zero, the government can credibly threaten the producers with free

trade unless they provide an adequate bribe; if it is equal to  $\bar{t}$ , the interest group can threaten the government to enforce its commitment to prohibitive tariffs through the courts, unless the government gives a sufficient pork-barrel handout.

Following the previous logic, the joint payoffs within one country can be written:

$$(1 + \delta)\Omega^i(T^C) + (1 + \sigma)\alpha\Omega \sum_j \Omega_j^i(T^C) + (\delta - \sigma)S(t), \quad (4)$$

where  $S(t)$  is the net side payment from the interest group to the government, written as a function of the tariff level written into the GCA agreement for period 2, which serves as the threat point for renegotiation.

The conclusion is now immediate: Since  $S(t)$  is a decreasing function, if  $\delta$  is larger than  $\sigma$ , the agreement will set  $t = 0$  for period 2, and if  $\sigma$  is larger than  $\delta$ , it will set  $t$  equal to the prohibitive level  $\bar{t}$  or some higher value (the precise value then is a matter of indifference). Comparing this with (2), we note that the GCU can give exactly the same joint surplus as the FTA by setting  $t = 0$ , so when  $\sigma > \delta$ , the GCU is strictly preferred. On the other hand, when  $\sigma < \delta$ , the two become equivalent, and so the FTA is weakly preferred. Thus, the earlier principle, that the higher is the rate of producer turnover relative to political turnover, the more likely is a FTA to be selected, survives renegotiation.

### 3.C. Interpretation.

The thrust of the argument is the same with and without renegotiation. The point is that a GCU acts as a form of commitment device. This offers perfect commitment in the case without renegotiation, and imperfect commitment in the case with renegotiation; in the latter case it restricts the government's *ex post* discretion because all parties must consent to any deviation from the original agreement. Recall that by the somewhat artificial way the model has been constructed this difference in commitment is the *only* difference here between an FTA and a GCU.

Noting this, it is easy to understand the finding that a GCU is preferred when there are a low level of producer turnover and a government with a short life expectancy. The government can extract more future rents from the private sector with an FTA than with a GCU that locks in a high level of protection. The private sector knows this, and to the extent that a private firm expects to be operating in the future, that implies that a firm will be willing to pay more now for a GCU than for an FTA. In effect, the GCU allows the stream of rents to be relatively front-loaded, which is desirable for a government that does not expect to be in power very long, and can be thought of as a trick for transferring future bribery rents from a future government to the current government, with the connivance of the private sector. On the other hand, a government that knows it is durable will enjoy the ability to collect a steady flow of rents in the future, particularly if each period brings a fresh supply of new entrants to be milked. In this light, the FTA can be thought of as a trick for transferring rents from the future private sector to the government, with the connivance of the current private sector.

This, of course, provides the raw material for a possible empirical test: Are countries with higher rates of government turnover and low rates of producer turnover more likely to sign customs

union agreements rather than free trade agreements, compared with other countries? The first variable is relatively easy to measure (see Bienen and van de Walle (1991) for a study that does so), and although the second is more difficult, it is possible, as Roberts (1996), for example, has shown.

#### 4. *Further Questions.*

*Bargaining.* In the well-known Grossman and Helpman (1994) setting, the government passively receives offers by each interest group, so when (as here) there is no meaningful competition between interest groups in the same country, the interest groups capture all of the surplus. Of course this is an arbitrary assumption, adopted for convenience, but in the questions asked in this paper the division of the surplus is crucial, and so the assumption matters. In order to allow the government to capture some surplus, this paper has used the crude assumption that the two governments and two interest groups engage in four-way Nash bargaining. What really seems to be needed here is a more institutionally plausible model of bargaining, in which the government and the interest groups can make alternating offers and thus perhaps share the surplus in equilibrium. It seems extremely plausible that the tenor of the results arrived at here would survive such a change.

*Upright Governments.* In this model, all governments are the same, and interested in appropriating rents as well as providing good governance. A natural question is: What would happen if we allowed for the possibility of ‘reformer’ governments, interested only in good governance, or in other words interested only in maximizing  $\Omega$ ? It appears that this could provide an additional reason for the attractiveness of customs unions, because they might be able to tie the hands of a future reformer government that would otherwise simply cut all tariffs to zero. However,

this would need to be verified, because the customs union could always be renegotiated, and in the presence of costless intergovernmental side payments the actual tariff outcome in period 2 does not depend on the agreement in existence at the beginning of period 2. This suggests the following area for exploration.

*Costly side payments.* In practice, most ‘side payments’ between governments do not seem to take the form of lump sum payments. There are various reasons one may expect this to be the case, not the least of which is that the marginal cost of public funds is high when the only way of raising public funds is through distortionary taxation. Taking this into account (for example, in a manner similar to the problem of ‘costly compensation’ studied in McLaren (1999)) could result in situations in which the agreement in place at the beginning of period 2 can change the tariffs that result from renegotiation. It could be the case that combining this with the possibility of upright governments mentioned above could substantially increase the attractiveness of a customs union to a venal government, but such a model would be substantially more complex than that studied here.

## References.

- Bienen, Henry and Nicholas van de Walle (1991). *Of Time and Power: Leadership Duration in the Modern World*. Stanford, California: Stanford University Press.
- Cadot, Olivier, Jaime de Melo, and Marcelo Olarreaga (1999). "Regional Integration and Lobbying for Tariffs Against Nonmembers." *International Economic Review* 40:3 (August), pp. 635-58.
- Dunne, Timothy, Mark J. Roberts, and Larry Samuelson (1988). "Patterns of Firm Entry and Exit in U.S. Manufacturing Industries." *Rand Journal of Economics* 19(4), pp. 495-515.
- Jovanovic, Boyan (1982). "Selection and the Evolution of Industry." *Econometrica* 50: pp. 649-70.
- Krueger, Anne O. (1997). "Free Trade Agreements Versus Customs Unions." *Journal of Development Economics* 54 (October), pp. 169-87.
- Grossman, Gene and Helpman, Elhanan (1994). "Protection for Sale," *American Economic Review* 84(4), September, 835-50.
- \_\_\_\_\_ (1995a). "Trade Wars and Trade Talks." *Journal of Political Economy* 103:4 (August), pp. 675-708.
- \_\_\_\_\_ (1995b). "The Politics of Free Trade Agreements," *American Economic Review* 85(4), September, pp. 667-690.
- Grossman, Gene M. and Henrik Horn (1988). "Infant-Industry Protection Reconsidered: The Case of Informational Barriers to Entry." *Quarterly Journal of Economics* 103:4 (November), pp. 767-87.
- Maggi, Giovanni, and Andres Rodriguez-Clare (1998). "The Value of Trade Agreements in the Presence of Political Pressures." *Journal of Political Economy* 106:3 (June), pp. 574-601.
- McLaren, John (1999). "A Theory of Insidious Regionalism." Columbia University: Mimeo.
- Panagariya, Arvind (1999). "Preferential Trade Liberalization: The Traditional Theory and New Developments." *Journal of Economic Literature*.
- \_\_\_\_\_ and Ronald Findlay (1996). "A Political Economy Analysis of Free Trade Areas and Customs Unions," Robert Feenstra, Douglas Irwin and Gene Grossman, eds., *The Political Economy of Trade Reform*, Essays in Honor of Jagdish Bhagwati, MIT Press.
- Richardson, Martin (1993). "Endogenous Protection and Trade Diversion." *Journal of International Economics* 34(3-4), pp. 309-24.

\_\_\_\_\_ (1994). "Why a Free Trade Area? The Tariff Also Rises." *Economics and Politics* 6:1 (March), pp. 79-96.

Roberts, Mark J. (1996). "Employment Flows and Producer Turnover," in Mark J. Roberts and James R. Tybout, *Industrial Evolution in Developing Countries: Micro Patterns of Turnover, Productivity, and Market Structure*. Oxford: Oxford University Press.

Rodrik, Dani (1998). "Trade Policy and Economic Performance in Sub-Saharan Africa." NBER Working Paper No. W6562 (May).