Politics of Free Trade Areas:

Tariffs versus Quotas

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In this paper we compare and contrast the political viability of bilateral Free Trade Area (FTA) Agreements in the presence of tariffs and quotas. Assuming that the government maximizes a weighted sum of welfare and producer profits, we show that the political viability of FTAs varies according to whether trade restrictions take the form of tariffs or quotas. A key result is that whereas an FTA is unambiguously rejected by one of the countries under a tariff it may be endorsed by both trading partners under a voluntary export quota or import quota that provides equal protection as the tariff.

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Contents

1. Introduction

A key issue in the recent literature on preferential trading, surveyed systematically in Panagariya (2000), concerns the conditions under which free-trade areas are likely to be endorsed by potential members.[1] In an important paper, Grossman and Helpman (1995) address the question in a small-union model in which production activity is characterized by perfect competition. Relying on the political-economy model developed in Grossman and Helpman (1994), they conclude that a bilateral free trade area (FTA) is more likely to be endorsed by both partners when trade between them is approximately balanced, tariff levels are similar and the arrangement is trade diverting.[2] Krishna (1998) uses an imperfect-competition model and also finds that trade diverting FTAs are more likely to be endorsed. Duttagupta and Panagariya (2000) introduce an intermediate input into the Grossman and Helpman (1995) model and show that the rules of origin can make initially infeasible FTAs become feasible, although the FTAs that are supported by rules of origin can be welfare reducing.

To-date, the issue of the viability of FTAs has been analyzed exclusively in the presence of tariffs. In this paper, we ask whether the presence of quantitative trade restrictions rather than tariffs in certain sectors may make FTAs politically more acceptable.[3] We find this to be indeed true when the quantitative restrictions take the form of voluntary export quotas. Specifically, for a given level of initial protection, an FTA that is rejected in the presence of a tariff may be accepted in the presence of a voluntary export quota that restricts imports by equal amount.

From a theoretical standpoint, our paper may be viewed as a contribution to the vast body of the literature on tariffs versus quotas, stimulated by Bhagwati (1965). From the

policy standpoint, our analysis contributes to a more complete understanding of the politics of FTAs. For instance, the Multifibre Arrangement (MFA) was in existence at the time the North American Free Trade Agreement (NAFTA) was negotiated.[4] Similarly, many of the European association agreements have been negotiated in the presence of tariff-quotas in agriculture that operate much like voluntary export quotas. To understand fully why the respective member countries endorsed these FTAs, we must also understand the politics of FTAs in the presence voluntary export quotas as distinct from tariffs.

The paper is organized as follows. In Section 2, we study the viability of a FTA when the initial restriction takes the form of a voluntary export quota so that all quota rents accrue to the exporting countries. In Section 3, we derive precise conditions for the FTA to be accepted by both partners and identify parameter values crucial for this outcome. In Section 4, we briefly discuss how our analysis can be extended to three alternative situations: (i) quota rents accrue wholly or partially to the country levying the quota, (ii) the initial quota is determined endogenously and (iii) the FTA-union firms are characterized by potential market power. In each case, we are able to establish the validity of our basic result. Section 5 summarizes our main results.

2. Tariffs versus Voluntary Export Quotas

Before we introduce the formal model, a heuristic explanation is provided to see why the politics of FTAs under voluntary export quotas differs from that under tariffs. Note that our objective is limited to analyzing how a specific sector protected by quota rather than tariff affects the support for FTA. Such a sector may or may not be important for a specific agreement. As such, our analysis contributes to a more complete understanding of the politics of FTAs rather than offering a complete and self-contained theory of FTA

formation. With this in mind, we focus on the analysis of a single sector, which we call apparel.

Consider first the case when the instrument of protection is tariff. Assume two potential members of whom one imports apparel while the other exports it. We refer to the former as Home Country (HC) and the latter as Foreign Country (FC). In addition, there is an outside country called the Rest of the World (RW). HC and FC are small in relation to RW. We also assume that each government bases its decision on a weighted sum of overall welfare and the profits of its domestic firms. Since profits also enter into welfare, they receive a larger weight in the government's objective function than the consumers' surplus and tariff revenue.

Assume that HC imports the product from both FC and RW. Given that it is small, its internal price is fixed at the border price plus per-unit tariff. The formation of the FTA results in tariff free access for FC in HC's market for apparel. Assuming that some imports into HC continue to come from RW, the internal price of the product does not change within the union and the FTA is purely trade diverting. Imports from the partner rise at the expense of RW without a decline in the price. FC experiences an increase in welfare as the profits of its exporting firms increase. Based solely on this sector, FC supports the FTA.

But HC loses from trade diversion: it collects no tariff revenue on imports coming from the partner. In addition, with no change in the internal price, domestic import-competing firms in this sector have no incentive to lobby for the FTA. Nor does the consumers' surplus change. Assuming that governments do not engage in transfer payments to compensate each other, HC votes against the FTA, making the FTA an infeasible proposition.

Under a voluntary export quota, the analysis is modified in two ways. First, since the quota holds the imports from RW fixed, the FTA cannot lead to trade diversion in the traditional sense. Second, the FTA nevertheless induces a transfer from the outside country to the union member. Increased competition from FC leads to a decline in the internal price of the product. This lowers the quota rent accruing to RW, while the consumers in HC benefit from the lower price. The overall welfare in HC rises while the profits of import-competing firms in it decline. If the former effect dominates in the government's objective function, HC may now vote in favor of the FTA. Moreover, since FC government may also experience a net increase in its objective function due to quota-free access to HC's market, it may also vote favorably.[5]

In the rest of this section, we demonstrate this heuristic argument formally and offer some extensions. We assume that preferences are quasi linear in both HC and FC with the numeraire good yielding a constant marginal utility. Production of the numeraire good requires only labor while that of each non-numeraire good requires labor and a sector-specific factor. These assumptions ensure that all substitution in demand and supply takes place between the non-numeraire goods and the numeraire good. In effect, the changes in non-numeraire goods do not interact with each other and we can carry out the welfare analysis using the partial-equilibrium framework.

Consider first the effects of an FTA on various agents in the economy starting with equal level of protection under alternative instruments. We consider successively the cases of tariff and voluntary export quota. The FTA involves freeing the imports from the partner, holding the specified instrument of protection at its original level with respect to the outside country.

As already mentioned, our focus is on a single non-numeraire good that we call apparel. We assume that HC imports this good while FC and RW export it. Figure 1 considers the case when the initial equilibrium is characterized by a tariff. The downward sloping curve, MM, represents the import demand for apparel in HC. By assumption, the rest of the world's supply is perfectly elastic at price P^W. The export-supply of FC slopes upward and is given by E^*E^*. Initially, HC applies a nondiscriminatory tariff at a per-unit rate measured by the vertical distance NF (=RS = GK = HJ). The tariff makes the export supply from FC, as perceived by agents in HC, to be $E^*_tE^*_t$. Likewise, the price from RW, as faced by buyers in HC, becomes $P = P^W+t$. In equilibrium, HC imports OM^* from FC and M^*M^W from RW.

[Insert Figure 1 here]

Under the FTA arrangement, HC eliminates its tariff on FC, leaving the tariff on RW at its original level. Since FC is an exporter of apparel in the initial equilibrium, it is reasonable to assume that it does not impose a tariff on the product. In this case, the price of apparel in FC cannot exceed P^W. Because the price in HC is higher than P^W, all of FC's output is now diverted to HC. Thus, FC's sales in HC are represented by its total supply curve (rather than the export supply curve), as shown by S^*S^*. By assumption, the total output of apparel in FC at price P (= P^W+t) is too small to eliminate RW as a supplier to HC.

The FTA leads to the following changes. The price in HC remains unchanged at P and its imports from FC rise to OM'^* while those from RW fall to M'^*M^W. The union is wholly trade diverting in apparel with no increase in the *total* quantity of imports into HC. Exporters in FC receive a net increase in their profits as represented by area FGYN.

Correspondingly, HC loses area FGKN that it previously collected in tariff revenue. Triangle GKY is the net loss to the union as a whole due to trade diversion. Tariff revenue in FC, producers' surplus in HC and consumers' surpluses in both countries are entirely unaffected.

The decision to form the FTA is itself endogenous with the Grossman-Helpman (1994, 1995) political-economy process driving the decision-making process. Focusing solely on the coalition proof equilibriums, and abstracting from other sectors in the economy, the decision to endorse the FTA by HC depends on whether it increases the value of the following expression:

$$R = \pi + gU . \tag{1a}$$

Here π denotes profit in the apparel sector in HC and U is defined as follows

$$U = CS + \pi + TR \tag{1b}$$

where CS and TR denote consumers' surplus and tariff revenue in HC, respectively. Since profits enter into welfare with equal weight as consumers' surplus and tariffs and g is positive, (1a) and (1b) imply that producer profits have a higher overall weight in the objective function than the latter. We can write the objective function in FC, R^*, analogously by attaching an asterisk to each variable in equations (1a) and (1b).

We have already seen that in FC, the FTA leads to an increase in the profits of exporters and, hence, also welfare. The value of R^* rises unambiguously and FC votes in favor of the FTA. In HC, tariff revenue declines without any change in the consumers' or producers' surplus. This unambiguously reduces the value of R and HC votes against the FTA. The FTA fails to materialize.

For completeness, we note that at the other extreme, if FC's supply of apparel is so large that it eliminates the rest of the world, RW, as a source of imports into HC and pushes the price in HC to P^W, the union is wholly trade creating. In this case, profits and welfare in FC are unchanged so that it is indifferent between the status quo and FTA. In HC, welfare rises but profits fall. Therefore, for sufficiently small values of g, this country still rejects the FTA. Only if the value of g is large, does HC accept the union.

In the following, we focus on the wholly trade diverting case shown in Figure 1. There are two reasons for this focus. First, unless the FC is much larger relative to HC, it may not be able to meet the latter's import demand and hence eliminate entirely the imports of apparel from the outside country. Second, this case is also clear-cut: with HC necessarily voting negatively in the presence of a tariff, the FTA is infeasible in this case.

Turning now to the quota case, we first assume that quota rents accrue entirely to exporters. In Figure 2, assume that FC is subject to a MFA quota of FR (=NS) and RW to RH (= SJ). As in Figure 1, these quotas result in the price P in HC, where $P = P^W+e$, and e is the implicit quota rent. We make the conventional assumption for voluntary export quotas that unlike tariff revenues, quota rents accrue entirely to the exporting countries: FC collects FRSN and RW bags RHJS.

[Insert Figure 2 here]

With the formation of the FTA between HC and FC, the quota on the rest of the world is fixed at RH (=SJ) while that on FC is removed. With the imports from rest of the world fixed at RH, the import demand curve facing union partner FC is obtained by subtracting horizontally the quantity RH everywhere from MM. This yields mm as the

demand curve facing FC in HC. Once again, as the price in FC cannot rise above P^W, all of FC's supply is diverted to HC. The new equilibrium price in HC settles at point U. Imports into HC from FC expand to OM'^* and, since imports from RW do not change, total imports expand by $M^*M'^*$. Given the fixed quota on the outside country, there is no trade diversion, this is the efficiency gain in the FTA under an initial quantitative restriction relative to an equivalent tariff. Nevertheless, the outside country suffers a loss due to the decline in the price in country HC and the consequent partial loss of the quota rent. Similarly FC loses its quota rents, although that could be more than compensated by the increase in producer's profits. Hence, a FTA under an initial voluntary export quota redistributes the quota rent from the RW and FC to the consumers in HC in that they face a lower price of apparel.

The effect of the FTA on the welfare of FC is ambiguous. Because the domestic price there remains unchanged at P^W, the consumers' surplus is unaffected. The quota rent disappears and is replaced by additional profits to exporters of apparel. The extra profit is WUYN. In principle, this may be more or less than the lost quota rent, FRSN, explaining the ambiguity of the effect of the FTA on welfare. However, in the underlying political process as profits are weighted more than the quota rent, the value of R^* might increase even if FC's welfare decreases and hence FC would still vote in favor of the FTA.

In HC, the price of apparel falls as a result of the FTA. This means that consumers' surplus rises while producers' profits fall. But since the increase in the consumers' surplus exceeds the fall in profits, for sufficiently large values of g, R rises and HC also votes in favor of the FTA. Thus, an FTA that would have been infeasible under a tariff can become feasible under MFA. This is not inevitable but it is possible. In Appendix I, a simple linear case is constructed to analyze the conditions under which this is indeed a possibility.

Note that in the above analysis of FTA (under initial tariff or voluntary export quota), we implicitly assume a Rule of Origin (ROO) on final goods that disallows FC from transshipping apparel products imported from RW to HC. If such a ROO were not in place, FTA could become feasible under a tariff and infeasible under an equally restrictive voluntary export quota.

Thus, under a tariff in the absence of the ROO, FC will purchase apparel from RW at the world price and resell it to HC at the higher internal price until the latter equalized the world price and arbitrage opportunities are fully exhausted. In this case, there will be no change in the value of the FC government's objective function so that it will weakly endorse the FTA. In HC, welfare will rise with the decline in the internal price of apparel while producers will lose. For sufficiently large values of g, HC will also endorse the FTA.

Under a voluntary export quota with no ROO, the FTA will be infeasible, however. While HC could still vote in its favor for sufficiently large value of g, FC will necessarily reject it. In the absence of ROO, FC would not enjoy any producer's profits from the FTA, but would lose the quota rent that it enjoyed under the voluntary export quota.

Thus, ROO plays a crucial role in the political viability of FTA under tariffs versus voluntary export quotas. Also observe that in general we could manipulate the ROO such that a proportion of the FC sales in HC are allowed to be of the RW origin. Our discussion above suggests that such manipulation can allow the FTA to be feasible under tariffs as well as voluntary export quotas. We offer a careful analysis of the role of ROOs in determining the political viability of FTA arrangements in a separate paper, Duttagupta and Panagariya (2000). In this paper, we explicitly allow for intermediate inputs, which give rise to the ROOs in a natural way. But in the rest of this paper based on final goods only, we follow

Grossman and Helpman (1995) in assuming that FTAs are supported by ROOs that disallow transshipment of goods.

3. Precise Conditions and Numerical Examples

We now turn to the precise conditions under which the FTA that is rejected under a tariff is accepted under a voluntary export quota that provides equal protection. Given the FTA is unambiguously rejected under the tariff, we only need to look at the conditions under which it is accepted under the voluntary export quota. Since these conditions depend on the comparison of absolute values of R (and R*) under the voluntary export quota and FTA, however, we are restricted to the linear case.

Denote the demand and supply functions for apparel in HC by $D = D_0 - 2cP$ and $S = -S_0 + 2kP$, respectively where D_0, c, k > 0 and $S_0 \geq 0$. Demand and supply functions in the FC are similar, i.e., $D^* = D_0^* - 2c^*P^*$ and $S^* = -S_0^* + 2k^*P^*$ where, D_0^*, c^*, $k^* > 0$ and $S_0^* \geq 0$. The world price of apparel is normalized to unity.

As just noted, our task is to derive the conditions under which both parties endorse the FTA in the presence of a voluntary export quota. The total imports by HC may be written

$$M = (D_0 + S_0) - 2(c+k)P \qquad (2)$$

Similarly, the total exports by FC are given by

$$E^* = -(D_0^* + S_0^*) + 2(c^* + k^*)P^* \qquad (3)$$

We distinguish the values of variables in the quota equilibrium by subscript Q and those in the FTA equilibrium by F. Then setting $M = M_Q > 0$, where M_Q is exogenously fixed, we can solve (2) for the domestic price under the quota, P_Q. Remembering that the

world price is set equal to 1 by the choice of units, we can define $e_Q = P_Q - 1$ as the quota rent that accrues to exporters. Observe that given the fixed quota, e_Q is a known constant.

The domestic price of apparel under the quota in HC is $1+e_Q$. Foreign exporters receive only 1, although their consumers enjoy the proceeds from the quota rents accruing on these exports. The consumers' and producers' surpluses in HC under the quota are given by

$$CS_Q = \frac{[D_0 - 2c(1+e_Q)]^2}{4c} \equiv \frac{D_Q^2}{4c} \tag{4a}$$

$$PS_Q = \frac{[-S_0 + 2k(1+e_Q)]^2}{4k} \equiv \frac{S_Q^2}{4k} \tag{4b}$$

Therefore, we can write the value of HC's objective function under the quota may be written

$$R_Q = g\frac{D_Q^2}{4c} + (1+g)\frac{S_Q^2}{4k} \tag{5}$$

To evaluate the feasibility of the FTA, we must do similar calculations under the FTA equilibrium. This mainly requires solving for the price within the FTA-union. Recall that under the FTA, FC sells all its apparel in HC. This supply must be equated to the total import demand in HC minus the imports from (i.e., the quota on) RW. We have

$$-S_0^* + 2k^* P_F = [(D_0 + S_0) - 2(c+k)P_F] - \left\{[(D_0 + S_0) - 2(c+k)(1+e_Q)] - [-(D_0^* + S_0^*) + 2(c^* + k^*)]\right\} \tag{7a}$$

The term in curly brackets represents the quota on RW, which equals HC's import demand minus imports from FC *in the pre-FTA equilibrium*. The solution to this equation gives us P_F, which may be written

$$P_F = 1 + e_Q \frac{(c+k)}{c+k+k^*} - \frac{D_Q^*}{2(c+k+k^*)} \tag{7b}$$

This value of P_F is necessarily less than $1+e_Q$. In addition, we restrict parameters such that it is also larger than 1 since FC will begin selling part of its supply to RW if P_F were to fall below 1.

Given P_F, we can readily calculate D_F and S_F and hence R_F. Thus, we can obtain

$$R_F-R_Q= g\frac{(D_F^2-D_Q^2)}{4c}-(1+g)\frac{(S_Q^2-S_F^2)}{4k}$$

$$= (1/2)\,[(1+e_Q)-P_F].[g(D_Q+D_F)-(1+g)(S_Q+S_F)] \qquad (6)$$

Since $P_F < 1+ e_Q$, we know that $S_F < S_Q$ and $D_F > D_Q$. Therefore, as expected, the first term in the first equality is positive while the second (inclusive of the minus sign) is negative. From the second equality, it is evident that the larger D_0 and c and smaller $-S_0$ and k the more likely that HC will accept the FTA. In the linear case, *ceteris paribus*, these parameter values are also associated with larger elasticities of demand and smaller elasticities of supply. But clearly, the initial equilibrium matters since that is crucial to the determination of the absolute level of consumers' surplus relative to producers' surplus. Therefore, independently of the elasticities, the levels of D_0 and S_0 are crucial.

Next, let us turn to FC. Remembering that FC consumers and producers face a price equal to 1 under the quota, the consumers' surplus, producers' surplus and quota rent may be respectively written

$$CS_Q^*=\frac{(D_0^*-2c^*)^2}{4c^*}\equiv\frac{(D_Q^*)^2}{4c^*} \qquad (8a)$$

$$PS_Q^*=\frac{(-S_0^*+2k^*)^2}{4k^*}\equiv\frac{(S_Q^*)^2}{4k^*} \qquad (8b)$$

$$QR_Q=e_QE_Q^* = e_Q[-(D_0^*+S_0^*) + 2(c^*+k^*)] \qquad (8c)$$

Observe the second equality is obtained by using (3) after substituting $P^* = 1$. Under the FTA, the consumers' surplus is unchanged since the consumer price in FC remains 1 while the quota rent disappears. Therefore, only the producers' surplus needs to be computed, which is given by

$$PS_F^* = \frac{(-S_0^* + 2k^* P_F)^2}{4k^*} \equiv \frac{(S_F^*)^2}{4k^*} \tag{9}$$

We are, thus, able to write

$$R_F^* - R_Q^* = -ge_Q E_Q^* + (1+g)\frac{(S_F^*)^2 - (S_Q^*)^2}{4k^*}$$

$$= -ge_Q [-(D_0^* + S_0^*) + 2(c^* + k^*)] + (1+g)\,(1/2)\,[(1+e_Q) - P_F]\,(S_Q + S_F) \tag{10}$$

In making its decision, FC government must weigh the loss of quota rent (first term in the above equality) against the gain in producer profits (second term). The larger D_o^* and the smaller c^*, the more likely the loss in quota revenue is dominated by the gain in producers' surplus. Large values of D_0^* and small values of c^* imply large domestic demand and hence low exports in the initial equilibrium. In turn, this means low quota rents to be lost from the FTA. On the other hand, a small S_0^* implies large exports in the post FTA equilibrium and hence large scope for increased producers' surplus from the FTA.

We use the above example to simulate and identify a range of values for the parameters such that the FTA is accepted or rejected by either or both the governments. We fix the values of e, g , g^*, c, c^*, S_0, S_0^*, D_0 and D_0^* such that the post- FTA price, P_F, satisfies $1 < P_F < 1+e$ and then identify the ranges of k and k^* for which the FTA is accepted or rejected by one or both the governments. The simulation outcomes are given in Table 1 (a) and (b) for e = 0.20 and 0.25.[6]

For a given k^*, FC rejects the FTA for smaller values of k, unless k^* is "sufficiently small". On the other hand, HC rejects the FTA for larger values of k unless k^* is "sufficiently large". The intuition behind these results is best understood in terms of the relationship among P_F, k and k^*. An increase in k increases P_F, which increases FC's payoff but decreases HC's payoff. However, an increase in k^* decreases P_F, which increases HC's payoff at the cost of FC's payoff. Hence, in Table 1 (a), for e = 0.2, and $k^* = 0.6$, FC rejects the FTA if $k < 1.1$, while HC rejects the FTA if $k \geq 1.6$. For all values of k such that, $1 < k < 1.6$, the FTA is accepted by both parties. All other results can be interpreted in a similar manner. Note that for these parameter specifications, the FTA is always joint welfare improving. In some cases, FC's welfare declines with the FTA, but HC always benefits enough to compensate the former. We caution, however, that these welfare results need not carry over to alternative specifications or even parameter values.

4. Extensions

The essential point made regarding different implications of tariffs and quotas for the endorsement of FTAs can be extended in at least three additional directions.

4.1 An Import Quota

First, suppose the barrier to trade takes the form of an import quota rather than voluntary export quota. In this case, the quota rent accrues to HC. If we assume that quota rents are collected by the government through a competitive auction of quota licenses and redistributed to consumers in a lump sum fashion, our analysis in the previous section survives with one modification. Given the imports from RW are fixed at their previous level, there is still no trade diversion. Therefore, as shown in Figure 2, trade creation associated with increased imports from FC continues to lower the union-wide producer price

and enhances efficiency. But we no longer have the second effect associated with the formation of FTA in the presence of voluntary export quotas—the transfer of rents from RW to the FTA-union. This is because no quota rents accrue to RW in the presence of import quotas in the first place.

For FC, the effect of the FTA is more favorable than under the voluntary export quota. Indeed, it benefits unambiguously from the FTA just as under the tariff and necessarily votes in favor of it. This is because it receives no part of the quota rents in the initial equilibrium. Therefore, under the FTA, it has no quota rents to lose. But its firms benefit from free access to HC's market. Overall welfare of FC and the profits of its firms rise and, therefore, R* rises as well.

For HC, the effect is less favorable than under the voluntary export quota but R may still rise leading it to endorse the FTA. The FTA lowers the price of apparel and generates gains to consumers that may exceed the reductions in the profits of domestic firms and quota rents. Thus, it remains possible for the FTA to be endorsed by both governments.

This analysis is modified without changing the basic conclusion if import licenses are given away, say, to producers, instead of being auctioned off competitively. In this case, quota rents become a part of domestic firms' profits and, thus, receive a higher weight than the consumers' surplus in R. This affects the quantitative calculation of R but not the qualitative conclusion that the FTA may still be feasible. Likewise, if quota rents are shared among HC, FC and RW, the basic conclusion that both governments may endorse the FTA remains valid.

4.2 Endogenous Quota

In Section 2, we assumed that the initial trade restriction is exogenously given. In the spirit of Grossman and Helpman (1995), we can extend it, however, to the case when the initial restriction itself is chosen endogenously. Without fully spelling out the analysis explicitly, we note here that if quota rents accrue entirely to FC and RW, as traditionally assumed under the voluntary export quota, the initial quota equilibrium is characterized by either free trade or complete autarky. Because there are no quota rents to be manipulated in this case, a government that favors producers excessively (a low value of g) chooses autarky while the one that favors producers only mildly (a high value of g) chooses free trade.

The intermediate case of a restrictive quota that does not go all the way to autarky can be resurrected, however, if quota rents are shared by HC with its trading partner. In this case, our conclusion that both governments may endorse the FTA can be once again gleaned. This is discussed in a greater detail in a longer version of our paper (Panagariya and Duttagupta 2000), available upon request.

4.3 Imperfect Competition

We also note that the analysis in the presence of imperfect competition under quotas is quite different from that under tariffs. The simplest case is the one in which each of HC and FC has one producer of apparel while RW offers the product at a fixed price. As long as the tariff does not eliminate the supplies from RW entirely, these producers fail to exert any market power and the competitive case applies with the FTA rejected by HC. This changes under the quota, however, since the firms in HC and FC now behave as duopolists. We do not solve the problem fully here but hypothesize that it will now be possible to find cases in which the FTA could be endorsed.[7]

5. Concluding Remarks

In this paper, we have studied the implications of voluntary export quotas for the political viability of free trade areas when potential members are small in relation to the rest of the world. For a given level of initial protection, we show that the presence of such quotas, rather than tariff, makes a FTA more viable. The basic argument can be summarized as follows. Suppose one union member imports the product under consideration while the other exports it. Under a tariff, we hold the tariff rate on imports from the outside country fixed with the quantity of imports determined endogenously. As long as the FTA does not eliminate extra-union imports entirely, the price of the product in the importing country is unchanged and the FTA is wholly trade diverting. The diversion lowers the welfare of the importing member without benefiting its producers. This country votes against the FTA. Though the union partner and its exporters benefit from the trade diversion and favor the FTA, the FTA fails to materialize due to a lack of support from *both* members.

In contrast, under the voluntary export quota, we fix the quantity of imports coming from the outside country and allow the price in the importing country to be determined endogenously. This ensures that there is no trade diversion and the internal price of the product declines due to increased competition from the union partner. The latter effect redistributes the quota rent from the outside country to the FTA-union members. The resulting welfare gain can make the importing country vote favorably on the FTA without necessarily reversing the vote of its potential union partner. The FTA may now be feasible.

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Table 1 (a): e = 0.2, FTA is joint welfare improving for these parameters

$D_0 = 4$, $D_0^* = 2.5$, $S_0 = 2$, $S_0^* = 0.5$, $c = 0.5$, $c^* = 1$

$k^* = 0.6$	$k = 1$	FC rejects the FTA
	$1.1 \le k \le 1.5$	Both HC and FC accept the FTA
	$1.6 \le k \le 2.1$	HC rejects the FTA
$k^* = 0.7$	$1 \le k \le 1.2$	FC rejects the FTA
	$1.3 \le k \le 1.5$	Both HC and FC accept the FTA
	$1.6 \le k \le 1.9$	HC rejects the FTA

Table 1 (b): e = 0.25, FTA is joint welfare improving for these parameters

$D_0 = 4$, $D_0^* = 2.5$, $S_0 = 2$, $S_0^* = 0.5$, $c = 0.5$, $c^* = 1$.

$k^* = 0.6$	$0.9 \le k \le 1.4$	Both HC and FC accept the FTA
	$1.5 \le k \le 2.0$	HC rejects the FTA
$k^* = 0.7$	$k = 0.9$	FC rejects the FTA
	$1.0 \le k \le 1.4$	Both HC and FC accept the FTA
	$1.5 \le k \le 1.8$	HC rejects the FTA

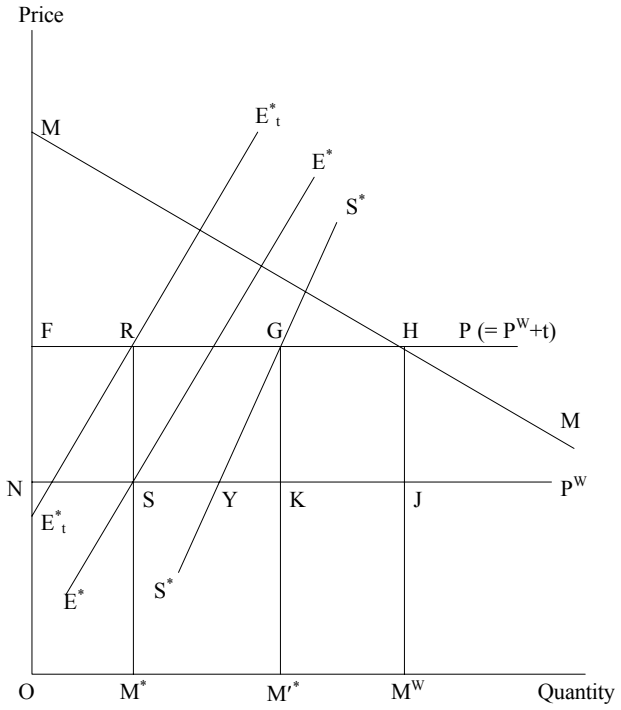

Figure 1: The Tariff Case

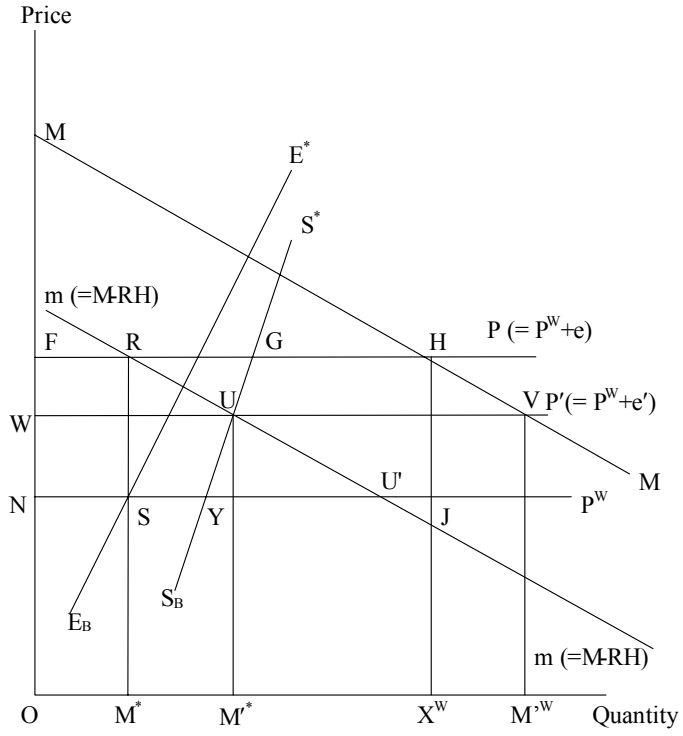

Figure 2: The MFA Case

FOOTNOTES

[1] Several of the political-economy theoretic questions on preferential trading were initially raised and discussed in Bhagwati (1993). Richardson (1993), Levy (1997), Panagariya and Findlay (1996) and Cadot, de Melo and Olarreaga (1999) analyze formally some of the theoretical issues raised by Bhagwati. Among recent surveys of the literature on preferential trading are Bhagwati and Panagariya (1996), Bhagwati, Greenaway and Panagariya (1998), Fernandez and Portes (1998), Panagariya (1999) and Winters (1996). Many of the important contributions to the theory of preferential trading, both old and new, have been brought together in a recent volume edited by Bhagwati, Krishna and Panagariya (1999).

[2] The political support function underlying the Grossman and Helpman (1994, 1995) analyses can be traced back to at least Baldwin (1987).

[3] To our knowledge, the only contribution to consider the role of MFA-type restrictions in a political economy model of preferential trade arrangements (PTAs) is the as yet unpublished paper by Cadot, de Melo and Olarreaga (1998). The focus of these authors is on the optimal choice of the voluntary export quotas on outside countries in response to an exogenous decision to form the FTA, however.

[4] Even though the NAFTA members expected MFA to be dismantled under the Uruguay Round Agreement, its role in the negotiations cannot be ignored altogether for three reasons. First, at the time the NAFTA negotiations concluded, the UR Agreement was not a certainty. Second, under the Agreement on Textiles and Clothing (ATC), the MFA removal is heavily back loaded such that much of the liberalization will take place on January 1, 2005. Therefore, it provides continued protection for at least the first ten years of NAFTA. Finally, many policy analysts have also

expressed skepticism towards effective implementation of the ATC, arguing that anti-dumping will likely replace it.

[5] Unlike under the tariff, FC's vote is not unambiguously positive under the quota, however. This is because part of its quota rent it collects in the pre-FTA equilibrium is also transferred to the consumers in HC now.

[6] Alternately, we could also evaluate ∇R and ∇R^* for a range of values of the remaining parameters. The analysis would be similar to the one above where we focus on k and k^*.

[7] Feldman and Richardson (2000) consider the effects of an FTA when the supplies from potential partner and the outside country are both perfectly elastic and the domestic industry is a potential monopoly. They show that the FTA in this situation can lead to welfare gains even without any trade creation by lowering the price facing the consumers.