A POLITICAL ECONOMY ANALYSIS OF PREFERENTIAL TRADING AND MULTILATERALISM

Pravin Krishna
Brown University

INTRODUCTION

The recent revival of interest in preferential trading arrangements has led to a parallel revival of academic interest in the desirability of these arrangements both in themselves and vis-à-vis multilateral free trade. The new theoretical developments are characterized by two wholly different approaches. One side (as did Viner et al. (1960)) what would happen to welfare if arbitrarily specified Free Trade Areas (FTAs) or Customs Unions (CUs) were to form; the other side asks what the incentives are for arriving at such arrangements, (rather than, for example, reaching out for multilateral, nonpreferential free trade). Recent theoretical developments are of both varieties. The papers by Krugman (1992), Srinivasan (1993) and Deardorff and Stern (1994) have analyzed the implications of the arbitrary expansion of FTAs. In contrast, the incentive aspects for forming FTAs in the first place, and then for their expansion to include new members, have begun to attract attention as well.

This note is in the latter tradition. It uses a model of imperfect competition, with a simplified structure, to examine (1) the conditions under which a bilateral arrangement will be supported by partner countries and (2) the impact of such bilateral FTA formation on the incentives for multilateral liberalization that would extend the FTA to the outside country.

Modeling the full range and relative magnitudes of the factors that influence trade policy is a difficult task. It is, however, obvious that producers play a strong role in determining trade policy outcomes. This paper builds on a rather simple political economy framework in which the role of producers is decisive in determining into which reciprocal tariff-reducing arrangements countries enter. The trade policy is driven by the gains or losses of domestic firms under the different trade arrangements considered. Within this framework, I reach two conclusions. First, preferential arrangements that are more "trade diverting" are more likely to be supported by the partner countries and second, preferential arrangements reduce the incentives that member countries face to seek multilateral tariff liberalization. This reduction in domestic incentives could sometimes be critical; multilateral tariff reductions that are initially feasible could be rendered infeasible. The larger the amount of trade that is diverted by the preferential arrangement from the rest of the world, the more likely it is that multilateral liberalization would thus be impeded.

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477
THE MODEL

The model is a simple extension of the Brander-Krugman (1983) model. In Vinerian fashion and without loss of generality, the world is split into country X, country Y (where X and Y are the potential partners in a bilateral arrangement) and the rest of the world, denoted by Z. A single good is produced by firms from each of the countries. The market structure is one of imperfect competition, with oligopolistic producers producing goods that are perfect substitutes for each other. The markets in the different countries are assumed to be segmented. The equilibrium concept is that of Cournot-Nash. We assume that firms do not incur any transportation costs in supplying the good abroad, but that such costs are prohibitive for any third party arbitrageurs. As in Brander and Krugman (1983), the model also assumes that a competitively produced numeraire good also exists and that is freely traded. This numeraire good is transferred across countries to settle the balance of trade.

To facilitate the analysis, the notation is set up as follows: Let \( i = X, Y, Z \) and \( j = X, Y, Z \) be country indices. Then, let

\[
q_i^j = \text{the quantity supplied by a single firm from } i \text{ in } j's \text{ markets;}
\]

\[
P_i^j = \text{the equilibrium price of the good in } j's \text{ markets;}
\]

\[
\pi_i^j = \text{the profits made by any firm from } i \text{ in } j's \text{ markets;}
\]

\[
t_i^j = \text{the specific tariff imposed by country } j \text{ on imports from } i;
\]

\[
n_i = \text{number of firms from } i;
\]

\[
n = n_x + n_y + n_z = \text{the total number of firms.}
\]

Production is assumed to have no fixed costs and marginal costs are assumed to be constant at \( c \) in terms of the numeraire good. Aggregate utility in country \( j \) is assumed to take the form

\[
U(K, Q_j) = K + (A_j Q_j - Q_j^2)/2,
\]

where \( K \) denotes the consumption of the competitively produced numeraire good and where \( Q_j = \sum n_i q_i^j \) denotes the total sales of the oligopolistically produced good in country \( j \)’s markets by firms from \( X, Y, \) and \( Z \).

The price of this good in country \( j \), is therefore a linear function for the total output,

\[
P_j = A_j - Q_j.
\]

Uniform non-discriminatory tariffs are initially assumed to be applied by all countries on imports from other countries. Therefore to start with,

\[
t_i^j = \begin{cases} 
1 & \text{if } i = j \\
0 & \text{if } i \neq j
\end{cases}
\]

In the usual manner, these tariffs simply add on to the marginal costs of firms, whose effective marginal costs of exports then become \( c + t \). Each firm regards each country as a separate market and therefore chooses its optimal quantity for each country separately. Under the Cournot assumption, firms are assumed to be maximizing profits taking other firms’ outputs as given with all firms choosing their quantities simultaneously. Firms from country \( i \), choosing their quantities for country \( j \), therefore solve the following problem,

\[
\max_{q_i^j} \pi_i^j = q_i^j A_j - q_i^j (c + t_i^j)
\]

which yields,

\[
q_i^j = \theta_i + ([\sum n_j \pi_i^j]/n + 1) - t_i^j,
\]

where \( \theta_j = (A_j - c)/(n + 1) \), as the Nash equilibrium output level.

The political economy framework is one in which producers play a decisive role in shaping trade policy. We have in mind an agenda-setting government that considers both bilateral and multilateral reciprocal tariff reductions. Firms’ lobby either for or against these proposed trade regime changes depending upon whether or not the firms would see an increase in their profits following this change in regime. If the gains are greater than the losses, the model assumes that the proposed trade policy change is implemented.

The remainder of this note is structured as follows: It first examines the conditions under which a bilateral arrangement will be entered into by \( X \) and \( Y \). It then examines the impact on the incentives for multilateral liberalization vis-à-vis the rest of the world \( Z \), by comparing the incentives for such liberalization once the bilateral arrangement is in place with the incentives prior to the bilateral arrangement.

Article XXIV of the GATT Articles of Agreement permits Customs Unions and Free Trade Areas. However, these preferential arrangements are sanctioned only as long as “duties and other regulations of commerce” on “substantially all trades” are eliminated. Here, the GATT rules are interpreted as requiring that goods be freely traded between the parties to the agreement. Accordingly, a bilateral arrangement between \( X \) and \( Y \) implies that \( t_i^j \) and \( t \) have to be set equal to zero.

Let \( \pi_i^j \) denote the equilibrium quantities that would be sold once the bilateral arrangement is in place and let \( \pi_i^j \) denote the corresponding profits. Since profits are decisive, for a bilateral arrangement to be supported in country \( X \) and \( Y \), we need,

\[
\sum n_j \pi_i^j > \sum n_j \pi_i^j \text{ and } \sum n_j \pi_i^j > \sum n_j \pi_i^j.
\]

Using equations (2) and (3) and some algebraic manipulation we can say that a Bilateral arrangement will only be supported by \( X \) and \( Y \) if

\[
\pi_i^j + \pi_i^j n_j < \pi_i^j + \pi_i^j (1 + n_i + n_j),
\]
These conditions follow directly from equation (3). Equation (4) is the condition under which $X$ supports the bilateral arrangement. Equation (5) is the condition for $Y$ to support the arrangement. They can be interpreted, roughly, as requiring the sales in the partner country to be sufficiently large relative to home country sales for the agreement to be supported by the home country. The intuition here is clear. With a bilateral arrangement what you gain is better access to the partner's market; the larger the partner's market, the greater the gains. What you lose, however, is the market share in your own market. The gains have to be greater than the losses for the arrangement to be supported. This gives us conditions which require the size of the partner's market to be sufficiently large relative to the size of the domestic market for the arrangement to be supported. As elaborated on in Krishna (1996), $X$'s gains in $Y$'s market come from two sources:

1. The reduction in the tariffs imposed by $Y$ against $X$ reduces their effective marginal costs in $Y$ from $c + t$ to $c$. This is the direct effect. This accounts for the $Y$ in the $1 + n_1$ term in condition (4).

2. The reduction in marginal costs of $X$'s firms relative to firms from $Y$ and $Z$ shifts the equilibrium quantities in $X$'s favor. Firms from $X$ gain a competitive advantage over the $n_1$ firms from $Y$ and the $n_2$ firms from $Z$. This is the strategic effect. This accounts for the $1 + n_1 + n_2$ term in condition (5). The larger the number of firms in $(n_1, n_2)$ over which firms from $X$ gain a strategic advantage, the greater the strategic effect.

In their own domestic market, there is no "direct effect" on $X$'s firms since their marginal costs remain the same. There is a strategic loss relative to firms from $Y$ whose marginal costs in $X$ similarly fall from $c + t$ to $c$ and this accounts for the $n_2$ term on the left-hand side of the equation. Condition (5) may be interpreted, mutatis mutandis, in exactly the same manner as condition (4). Expanding and examining the terms in conditions (4) and (5), we can also say that if conditions (4) and (5) are both satisfied by $(a_1, a_2, a_3, n_1, n_2, n_3, n_4)$ they are necessarily satisfied by $(a_1, n_1, n_2, n_3, n_4)$.

This is easily verified by examining the right-hand side of conditions (4) and (5). This gives us a strong result. The larger the trade diversion that would result from the preferential arrangement, the more likely it is that the arrangement will be supported by the partner countries.

We now assume that conditions (4) and (5) are satisfied, that a bilateral agreement is in place between $X$ and $Y$, and examine the incentives that $X$ and $Y$ face for multilateral tariff liberalization vis-à-vis $Z$.

By multilateral liberalization we mean an elimination of tariffs by all countries on imports from other countries. Prior to the bilateral arrangement this implies an equal reduction in tariffs in $X$, $Y$, and $Z$. After the bilateral arrangement between $X$ and $Y$, multilateral liberalization implies that $X$ and $Y$ eliminate their tariffs against a reciprocating $Z$ and that the tariffs imposed by $X$ on imports from $Y$ and vice-versa continue to be zero.

Let

$$
P_1 = \sum_i p_{i1},$$

$$\mu P_1 = \sum_i (\mu p_{i1}),$$

and

$$\mu P_1 = \sum_i (\mu p_{i1})$$

denote the total profits of a firm from $X$ prior to the bilateral arrangement, after the bilateral arrangement and after total multilateral liberalization, respectively.

As a simplification, we now assume that the partner countries are identical, i.e., that $X = A$ and $Y = B$. This allows us to examine the effects of the bilateral arrangement on any one partner country (instead of having to carry out the analysis for both the partner countries separately). Without any loss of generality, we only look at these effects on firms from $X$. Comparing profits initially with the profits with bilateral and the multilateral tariff reductions we can say that preferential arrangements necessarily reduce domestic incentives to seek multilateral tariff liberalization, i.e., $(\mu P_1 - P_1) - (\mu P_1 - P_1)$ is always $> 0$. Also, bilateral arrangements could critically reduce internal incentives for multilateral liberalization, i.e., multilateral liberalization that was otherwise feasible could lose support due to bilateral arrangements. This is more likely the larger the trade diversion associated with the bilateral arrangement.

Consider first the reduction in incentives, $(\mu P_1 - P_1) - (\mu P_1 - P_1)$ which is easily seen to equal $(\mu P_1 - P_1)$ which is always $> 0$ from equation (3). Thus bilateral arrangements always reduce the incentives for multilateral liberalization. For bilateral arrangements to make infeasible multilateral arrangements that were initially feasible, we need to see if the following conditions could hold together:

$$\mu P_1 > 0 \quad \text{and} \quad (\mu P_1 - P_1) < 0.$$  

Using equations (2), (4), and (5), equation (6) could be rewritten as

$$h(n_3) < \alpha_3 < g(n_3),$$

where it is easily verified that $h(n_3) < \alpha_3 < g(n_3)$.
and that
\[ d[\log(n_x) - \log(n_y)]/dn_x > 0. \]

Thus, if \( n_x \) lies between \( h(n_x) \) and \( g(x) \), the bilateral arrangement would impede multilateral liberalization.\(^8\)

**SUMMARY AND CONCLUSIONS**

This note examines the impact of FTAs on the internal incentives for multilateral liberalization and challenges the contention that FTAs are superior to GATT-style (multilateral) trade liberalizations as a way of getting to multilateral free trade for all. Using a model of imperfect competition in segmented markets, preferential arrangements that divert trade away from the rest of the world are more likely to be supported politically and second, such preferential arrangements will reduce the incentives for multilateral liberalization. It can also be shown that in some cases this reduction in incentives could be critical: Multilateral liberalization that is initially feasible could be rendered infeasible by preferential arrangement. The larger the trade diversion from the preferential arrangement, the more likely this will be the case.

**NOTES**

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8. Since this paper was written, independent work by Groossman and Helpman (1993) arrives at a conclusion that is similar in spirit: a preferential arrangement would be politically viable if it resulted in “enhanced protection” for partner country firms.

9. This assumption is only being made to simplify the analysis and does not change the economic arguments in any substantial way.

10. While the focus of this paper is on internal incentives for multilateral liberalization, it could be that a bilateral arrangement between \( X \) and \( Y \) makes an initially unattended \( Z \) seek multilateral trade liberalization if the bilateral arrangement diverts a large amount of trade away from it, i.e., if \( U_Z > U_X \).

11. In an interesting recent paper, Y. (1993) advances the case of open membership rules at the GATT to ensure that preferential rules do not become stumbling blocks to global free trade.

**REFERENCES**


