Modelling Reciprocal Trade Liberalization: The Political-economy and National-welfare Perspectives

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1. INTRODUCTION

Much trade liberalization takes place reciprocally. The GATT and now the World Trade Organization are institutions based on multilateral reciprocal trade negotiations in which governments liberalize international trade by agreeing to allow each others’ exporters access to each others’ markets. The same exchange of market access characterizes the more limited agreements where selective countries enter into free trade agreements or customs unions.

Looking in the international trade literature, one can find an explanation for why governments reciprocally liberalize trade policy based on the classical optimum tariff argument (see JOHNSON 1965, MAYER 1981 and the survey by DIXIT 1987 and VOUSDEN 1990). Countries impose optimum tariffs to improve their terms of trade, by the application of monopsony power in world markets. The tariff-imposing country’s consumers decrease consumption of the good on which the tariff is levied, because the good is more expensive. Since the country is «large», this means that world demand for the good has contracted, and the relative price of the good falls in the world market. Since the country is importing the good, the terms of trade have improved. Tariff revenue is central to the story. Domestic consumers must receive the tariff revenue from the optimum tariff, preferably as a lump-sum transfer with no distortionary substitution effects, if they are to benefit from the optimum tariff. Otherwise, they are simply left consuming a higher priced good. Trading partners may however retaliate by imposing an optimum tariff of their own. Consumption is then well off the world Pareto efficient contract curve. With both countries worse off relative to free trade after retaliation, both countries have an incentive to negotiate their way back to the contract curve by reciprocally eliminating their tariffs.

This explanation for reciprocal trade liberalization is presented with governments behaving as benevolent maximizers of a social welfare function or with governments maximizing the utility of a representative consumer in their country. The criterion for policy change is Pareto efficiency reflected in aggregate national income. Intra-country
distributional issues are attended to by lump-sum taxes and subsidies (which have the property that peoples’ incentives to work as opposed to leisure are unaffected by government taxes and transfers). Optimum tariffs are imposed because national income increases, and optimum tariffs are reciprocally taken off after retaliation because national income increases. Pareto-efficiency, with compensation in principle, is sufficient to have the government make first its protectionist and then its liberalizing decision. Examples extending the optimum-tariff basis for government policy behavior include the literature on regional trading blocks based on Krugman (1991, 1994) and managed trade by Bagwell and Staiger (1990).

Explaining liberalization by governments in terms of Pareto efficiency with potential compensation is not convincing. Voters and interest groups care about actual compensation, not potential, and lump sum transfers are more an artefact than a feasible policy instrument. Since protection is plausibly explained by political-economy considerations relating to income distribution (see the surveys by Hillman, 1989a, Magee, Brock, and Young 1989 and Weck-Hannemann, 1992), we would suppose that the converse liberalizing policies would also be so explained. Indeed, we conjecture that few economists believe that governments levy tariffs for terms of trade reasons. Yet the above-cited literature is based on the assumption that governments do apply optimum tariffs, only to recant when confronted with retaliation.

There is another literature which has been motivated by the actual forms that trade negotiations take. This literature is more institutionally oriented and stresses the importance of market access for exporters in foreign markets. See for example Finger (1988, 1991), Hauser (1988), and Moser (1990). Trade negotiations in this literature entail governments making reciprocal «concessions» regarding market access, in return for like «concessions» from foreign governments. The exchange of market access has a clear distributional foundation: protection of domestic import-competing producers is compromised by exchange of market access, which benefits export industries. The literature is implicitly based on a partial equilibrium model, in which industry rents and profits are related to nominal prices of an industry’s output and not on relative prices.

In this paper we summarize the results of recent research in a general equilibrium framework (Hillman and Moser, 1995; Hillman, Long, and Moser, 1995), which we claim provides an accurate picture of reciprocal liberalization motives.1 Governments

1. See also the earlier contribution by Mayer (1985). A different explanation for why governments motivated by domestic distributional concerns liberalize in international negotiations is provided by Grossman and Helpman (1995). In their model, governments in international trade talks strike a balance between the political strengths of the industry interests of the same industry in the two countries. Because they reduce their model to a partial equilibrium framework (by fixing the wage rate), there is no linkage between the import-competing and the export sectors in the same country. Therefore, import protection or export subsidies in one industry do not affect the other domestic industries but influence the same industry in the other countries. International negotiations internalize these spillovers such that both governments can improve their political support (eventually after some compensations between the governments). By using a general equilibrium model, we wish to reflect the fact that export and import-competing sectors need not be small and compete for the same domestic resources.
exchange market access because of mutual political gains. The source of these mutual gains is that reciprocity lowers the political costs of liberalization by facilitating income distribution that is not possible when liberalization is unilateral. Specifically, in agreeing to exchange market access, governments are agreeing to transfer income to each others’ exporters. Each government makes an income transfer to the exporters of the other government’s constituency. These transfers are reflected in terms of trade effects which determine the distribution of tariff revenues between the liberalizing countries. If the home country decreases its tariffs unilaterally, the volume of trade increases, and therefore the tariff revenue of the foreign country increases because of the larger tax base for its maintained tariffs. A revenue transfer takes place from the home country’s consumers to the foreign government, corresponding to the home country’s terms of trade loss and the foreign country’s terms of trade gain.

Unilateral liberalization thus entails harming the domestic import-competing sector, and allowing the foreign government to extract greater tax revenue from home consumers. Reciprocal liberalization eliminates the «free-riding» of governments on the tax bases of each others’ consumers, changing at the margin the political distributional cost-benefit calculation. Therefore, governments can raise their political support by redistributing income from the import-competing to the export sector. The extent to which the reciprocal liberalization equilibrium approaches free trade depends on the relative political influence of import-competing interests in the liberalizing economies. There is no assurance that the liberalized equilibrium will be free trade.

Our explanation for trade liberalization has in common with the optimum-tariff elimination explanation the prediction that reciprocal trade liberalization will take place. The difference is in the motives for government behavior, and in the extent of liberalization. We derive behavioral implications from self-interest motives of policy makers concerned with political support and electoral success, for which income distribution is primal. In the optimum-tariff-bargaining literature, distributional concerns associated with government policies have been washed out, and liberalization occurs in accord with a criterion of aggregate benefit without regard for the distribution of that benefit. As a most critical test of the two models, the optimum-tariff bargaining literature therefore gives us no reason to expect the negative lists that exclude politically sensitive sectors from trade liberalization agreements.

We now proceed to describe briefly the elements of the formal model of trade liberalization based on political motives. In a final section, we note some further implications regarding predictions of persistence of trade policy conflict.

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2. See also Hillman (1989b).
2. TRADE POLICY AND INCOME DISTRIBUTION

To demonstrate the income distribution effects of reciprocal trade liberalization, we use the specific factors model which focuses on industry interests in the conduct of policy. In each of two economies, two competitive industries employ an industry-specific factor ($K_i$) and an intersectorally mobile factor ($L$) using constant-return-to-scale technologies. $\pi$ is the relative world price of good 1 expressed in terms of good 2. The domestic economy imports good 1 and exports good 2, and vice versa for the foreign country. The domestic government levies a tariff $t$, such that the domestic relative price is

$$p = \pi (1 + t) .$$

The foreign country’s tariff on good 2 is $\tau$ so that its domestic relative price is

$$p^* = \frac{\pi}{1 + \tau} .$$

Notice that the two countries are not small in the sense of confronting given world prices at which they can sell any quantity they wish. Rather, the model reflects the fact that countries’ exporters usually have market access concerns, which means that market access is restricted abroad.

The real incomes (expressed in units of good 1) of the three factor owner groups consist of the real rents ($R_i$) for the industry-specific factors and the real wages for the mobile factor, plus shares of the tariff revenue ($T$):

$$Y_1 = R_1 (p) + s_1 (p) T$$

$$Y_2 = R_2 (p) + s_2 (p) T$$

$$Y_3 = w (p) L + s_3 (p) T .$$

Increases in the relative price $p$ increase $R_1$, and reduce $R_2$ and $w$ ($w$ is expressed in units of good 1). We do not want the distribution of tariff revenue to have any significant effect on income distribution (since in practice it does not); so we assume tariff revenue is distributed in accord with the income shares ($s_i$) of the factor groups, and that this rule cannot be changed. Allocation of tariff revenue therefore is not used to counter or neutralize distributional effects of trade policy.\(^4\)

In this general equilibrium model, there are two important effects of domestic and foreign trade policy:

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3. For the details of the model described in this section, refer to HILLMAN, LONG and MOSER (1995).

4. We could think of tariff revenue as contributing to the financing of government services or public goods.
1. Symmetric effects of changes in $t$ and $\tau$ with respect to internal price ratios:

Both an increase in the domestic tariff and in the foreign tariff, increase the domestic price of the imported good 1 in the home country, and also increase the internal price of the imported good 2 in the foreign country. Hence, variations in $t$ and $\tau$ have identical effects on the real rents of the industry specific factors and on the wage rate of the mobile factor. Neglecting tariff revenue effects for the moment, trade liberalization in either country decreases real income in both countries' import-competing sectors and increases real income in both countries' export sectors.

2. Asymmetric effects of changes in $t$ and $\tau$ with respect to terms of trade:

Changes in domestic and foreign tariffs have opposite effects on the terms of trade. By raising its tariff, a country can improve its terms of trade at the expense of the other country. If the foreign government increases protection, the domestic government can counter the domestic income distribution effects of the foreign protectionist policy by liberalizing its trade policy, but this deteriorates its terms of trade. The deterioration of the terms of trade is reflected in redistribution of the tariff revenue between the two countries: Tariff revenue increases abroad and declines at home. This is illustrated in Figure 1 which depicts domestic excess demand and foreign excess supply of good 1. If

Figure 1
both countries adhere to a free trade policy, the domestic relative prices \( (p_0 \text{ and } p_0^*) \) are identical and equal \( \pi_0 \). Supposes only the domestic government levies a tariff such that its internal price rises to \( p_1 \) and its terms of trade improve to \( \pi_1 \). The domestic tariff revenue is equal to the area \( p_1 \pi_1 BA \). Part of this tax is borne by the export sector in foreign country which receives a lower relative price for the exported good. Suppose that the foreign government imposes a tariff on its imports (or a tax on its exports, which is identical because of the Lerner symmetry theorem). If the domestic government wishes to maintain the domestic relative price \( p_1 \) it has to lower its tariff \( t \). Its terms of trade deteriorates to \( \pi_2 \). With \( p_1 \) maintained, the sum of domestic and foreign tariff revenue remains constant but the distribution of the revenue between the governments changes: The home government’s revenue declines to the area \( p_1 \pi_2 CA \) and the foreign country’s revenue is equal to \( \pi_2 p_1^*BC \). This reflects the deterioration in the home country’s terms of trade and the improvement in the foreign terms of trade.

3. GOVERNMENT BEHAVIOR

Given these distributional effects within a country and the distributional consequences between the countries, how do governments choose their trade policies, and how do they respond to trade policy abroad? Suppose governments choose trade policies to maximize political support by trading off support from the gainers and losers from policy decisions. For any given \( \tau \), the government of the home country determines a value of \( t \) that maximizes its political support function

\[
W = M \left[ Y_1 (t, \tau), Y_2 (t, \tau), Y_3 (t, \tau) \right].
\]

(6)

Political support is increasing (at a decreasing rate) in the real incomes of the three factor owner groups: \( M_i > 0, M_{ii} < 0, i = Y_1, Y_2, Y_3 \). The political weights \( (M_i) \) of the different groups reflect the groups’ respective political importance to the government. The political-support specification is a general approach that can subsume various institutional forms of representative democracy.

The political-support maximizing tariff \( (t) \) for the domestic government (given the foreign tariff \( \tau \)) follows from the solution to

6. Alternatively, we could have used political competition to establish endogenous trade policies or modelled incumbent politicians as maximizing personal income subject to an election constraint (as in URSPRUNG, 1990), or specified an incumbent politician as solving a common agency problem in announcing «protection for sale» subject to an overall welfare constraint (as in GROSSMAN and HELPMAN, 1994).
Equation (7) can be used to derive the domestic reaction curve \( t(\tau) \). The foreign reaction curve \( \tau(t) \) is obtained in a similar way.\(^7\) Figure 2 depicts the domestic government's reaction curve which has a negative slope under standard assumptions. An intuitive explanation is as follows: Suppose the foreign tariff is at \( \tau_0 \) and the domestic government has chosen its political optimum tariff \( t_0 \) to attain at point \( E \) its highest iso-political-support curve (\( W \) constant). If the foreign government liberalizes to \( \tau_1 \), point \( H \) is reached, which is off the domestic reaction curve. At \( H \), the country as a whole has increased its income because of the terms of trade improvement which is reflected in the increased tariff revenue. The gains have gone however disproportionately to the export sector which has benefitted from the improved foreign market access. The politically optimizing government will reallocate these gains: It raises the domestic tariff such that the import-competing sector is partially compensated for the decline in the domestic relative price due to improved market access.\(^8\) Political support is highest at the endpoint \( F \) where there are no barriers to foreign market access and, therefore, the tariff revenue accrues.

\[ \frac{\partial W}{\partial t} = \sum_{i=1}^{3} M_i \frac{\partial Y_i(t, \tau)}{\partial t} = 0. \]  

(7)

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7. The exact derivation can be found in HILLMAN, LONG, and MOSER (1995).

8. See HILLMAN (1982) and LONG and VOUSDEN (1991), who show that the import-competing sector is not completely compensated for a terms of trade improvement.
completely to the home country. The negative slope of the reaction curve thus indicates that a government concerned with political support will unilaterally respond to foreign liberalization by increased protection at home.

How does the behavior of a government motivated by political-support motives deviate from that of a welfare-maximizing benevolent government? There are two specifications of the political support function which give rise to a politically optimal tariff identical to the conventional optimum tariff (see Hillman, Long and Moser 1995). These specifications can be characterized as follows:

1. **Perfect political competition:**

   There is perfect competition in the political market place such that the governments is forced to put *identical weights* to the three factor owner groups. Obviously, such a government maximizes the income of the country as a whole.

2. **Perfect interest group competition:**

   If only the specific factor owners are politically important and they have the same influence on government decisions, then, the conventional optimum tariff is politically optimal for the government if changes in the domestic price ration do not affect the income share of the mobile factor owner.

   In all other configurations, the politically optimum tariff deviates from the conventional optimum tariff. Particularly, when the political market is characterized by *asymmetric interest group influence* there are two situations: First, the import-competing industry may be more influential than the export sector, in which case the politically optimal tariff is higher than the conventional optimum tariff, but is not prohibitive because the import-competing sector receives a share of the tariff revenue. Second, if the export sector is more influential politically, the government chooses a lower tariff than the conventional optimum tariff, and possibly free trade.

4. **RECI PROCAL LIBERALIZATION**

   As in the optimum-tariff bargaining literature, reciprocal liberalization away from a non-cooperative Nash equilibrium is mutually beneficial. The difference is to whom. In the optimum-tariff bargaining literature, the benefits are to the «country». In the political-economy model, the benefits are to governments in terms of political support predicated on income distribution. Under the assumption of the existence of a stable and unique Nash-equilibrium, Figure 3 depicts the mutual political gains from cooperation. By reciprocally lowering tariffs such that policies move from $N$ to $Z$, both governments
can reach an iso-political-support curve with higher political support from their respective domestic constituencies.

The distributional consequences in each country of a reciprocal liberalization are that specific factors in the import-competing industry in both countries lose unambiguously and specific factors in the export sectors in both countries gain, with no compensations for the losers. Why is such a redistribution politically optimal? Reciprocity has lowered the political costs of reducing protection relative to unilateral liberalization. If the government liberalizes unilaterally, a change in the domestic relative price results in a greater revenue loss (or a smaller increase in tariff revenue) than if the same change in the domestic relative price were the consequence of reciprocal liberalization. Unilateral liberalization alters the distribution of tariff revenue between the countries (which reflects the terms of trade effect) while this change in distribution of tariff revenue is moderated (or there is no change) with reciprocal liberalization. Hence reciprocal liberalization is politically feasible. Whether free trade is realized depends on the weights in the political support function (see the discussion in HILLMAN and MOSER 1995). In the optimum tariff explanation of reciprocal liberalization, cooperation between countries of approximately equal size results in free trade.

Referring again to Figure 3, both governments have an incentive to defect from the cooperative solution $Z$ by raising their tariffs. For example, the domestic government could achieve larger political support at $D$ than in $Z$. This reflects the Prisoners’ Dilemma present here. As in the optimum tariff bargaining literature, sustained cooperation can be explained by reputation in repeated interactions (see for example RIEZMAN, 1991).
The political-support explanation however notes the distributional consequences of a move from $Z$ to $D$: The export sector would unambiguously lose and the import-competing sector would gain. Hence, there is an internal distributional conflict associated with abiding by internationally negotiated trade policy commitments (see also Schuknecht, 1990). This perspective suggests the presence of an additional enforcement mechanism for international agreements. Since the owners of specific capital in the export industry have an interest in their government’s adhering to liberalization agreements, there is an incentive to enact such treaties in national laws so that national courts can be used to enforce liberalization commitments.\footnote{Such an approach to the enforcement of GATT rules, for example, has been advocated among others by Tumlir (1985) and Petersmann (1991).}

5. **PERSISTENCE OF TRADE POLICY CONFLICT**

Finally, there are implications of interest regarding persistence of trade policy conflict. First, suppose that there is a change in policy preferences, for example due to an election that replaced the government party or party coalition. If the new home government values incomes in the export sector more than the government which it has displaced, it prefers a more liberal trade policy for any given foreign trade policy. Its reaction function shifts downwards. The political-support maximizing foreign response is however not reciprocal liberalization but increased protection (see Hillman and Moser 1995). Conflict is created regarding trade policy, since a liberalizing response has been met with increased protectionism. A unilaterally more liberal U.S. policy should for example evoke more protectionist European and Japanese policies, and lead the United States to seek solutions based on the principle of super 301 (if you do not liberalize, we will deny you market access; as opposed to exchange of market access).

As a second extension, consider circumstances where the domestic government’s protection takes the form not of tariffs but of voluntary export restraints. Revenue from the restriction of trade has been given to foreign exporters, and protection has resulted therefore in no terms of trade gain. Beginning from a protectionist Nash equilibrium, bilateral negotiations cannot induce the liberalization described in Figure 3, because the marginal benefits and cost of reciprocal liberalization are equal to those of unilateral liberalization. We accordingly have a political-economy prediction of enhanced difficulties in seeking reciprocal trade liberalization with a foreign trading partner whose producers are beneficiaries of voluntary export restraints in their export markets.
6. CONCLUSIONS

We have presented results of recent research that provides a positive theory of reciprocal trade liberalization policies by governments with political-support concerns. The optimum tariff bargaining literature with its welfare maximizing governments uses as a sufficient criterion for liberalization improvement in national income without regard for domestic income distribution. That is, for liberalization to occur, it is sufficient that a Pareto-improvement occurs expressed in increased national aggregate incomes. The political-economy view of motives for liberalization is based on the idea that exchange of market access permits governments to mutually increase political support by exchange of market access.

We invite economists to take their choice regarding which story which they wish to tell (see MCCLOSKEY, 1985). We regard the story that is predicated on domestic income consequences of policy decisions and governments’ concerns for political support as more accurate, not only because the available evidence indicates that governments in democracies are concerned with the political-support implications of their policies; but, also, because of consistency in explaining reciprocal trade liberalization on the same behavioral basis as protection.

REFERENCES


HILLMAN, ARYE L., NGO VAN LONG, and PETER MOSER (1995) «The political economy of reciprocal trade liberalization», manuscript.


SUMMARY

We present results of recent research that provides a positive theory of reciprocal trade liberalization policies by governments with political support concerns. The exchange of market access permits governments to benefit each others' exporters, thereby reciprocally facilitating political-support enhancing income transfers that could not have been made unilaterally. In contrast to the optimum tariff-bargaining literature, our explanation of reciprocal liberalization is consistent with the political-economy explanation of protection, and with the objectives of international trade negotiators who seek to improve foreign market access for their exporters in exchange for «concessions» in opening the access to domestic markets.

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RESUME

Pourquoi des gouvernements, poursuivant l’objectif d’assurer leur réélection, s’engagent-ils dans une libéralisation réciproque des échanges internationaux? L’explication donnée est qu’une ouverture réciproque cause une redistribution du secteur produisant des biens concurrencés par les importations vers le secteur d’exportation. A la différence d’une ouverture unilatérale, cela augmente le soutien politique apporté au gouvernement. Au contrairement aux modèles utilisant un tarif optimum, notre modèle est compatible avec les modèles économico-politiques du protectionnisme.