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"Political Externalities, Nondiscrimination, and a Multilateral World"

by

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Abstract: During the past half century tariffs have reached historically low levels through gradual, nondiscriminatory, and multilateral liberalization featuring reciprocal concessions. Yet economists have not obtained convincing explanations of why liberalization possesses these characteristics or of what their implications are. There is an extensive theoretical literature on multilateral trade agreements, based on the idea of terms-of-trade externalities between national governments, but this literature is inconsistent with actual agreements. This paper presents an alternative, rudimentary, multi-country model with high initial tariff barriers—a caricature of the world of half a century ago—based instead on political externalities between governments. With remarkably little necessary formal structure—in particular, no formal bargaining model—the framework gives an immediate and transparent role to gradual liberalization, reciprocity, nondiscrimination, and multilateral negotiation that is consistent with and closely parallels actual experience.

Outline:

POLITICAL EXTERNALITIES, NONDISCRIMINATION, AND A MULTILATERAL WORLD

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PERHAPS THE MOST PROMINENT ACCOMPLISHMENT of international trade theory in the twentieth century was its theory of international trade agreements. Following Harry Johnson's classic paper[1] (1953/54), literally scores of contributions elaborated and developed the theory. The deservedly influential paper of Bagwell and Staiger (1999) can justly be seen as triumphantly completing the research agenda initiated by Johnson nearly half a century earlier.

The central premise of this extensive literature (which, for lack of a better term, I label the "Received Theory") is that trade agreements respond to the fact that trade barriers, imposed for *whatever* reason, can, for countries with market power, move the terms of trade in their favor, shifting real income there from the rest of the world.

The Received Theory is a truly magnificent accomplishment. It offers a rationale for the multilateral trade liberalization that is easily the most important economic policy accomplishment of our era. It offers an explanation of the very special characteristics of that

[1]Harry Johnson dominated trade theory during his lifetime, but is now remembered mainly for this single paper.

liberalization. It has furnished the basis for innumerable analyses of a host of other significant international economic policy issues.

There is just one problem. The Received Theory is simply irrelevant to actual multilateral trade agreements.

I. Multilateral Trade Agreements and the Received Theory

History's greatest act of deliberate economic policymaking is almost certainly the trade liberalization produced by the multilateral negotiating rounds sponsored by the General Agreement on Tariffs and Trade [GATT] and establishing the World Trade Organization [WTO]. This is widely appreciated.

Much less appreciated, by economists, is the fact that a crucial characteristic of this liberalization is that the resulting trade agreements do ***not*** prevent countries from trying to influence their terms of trade. Let me repeat this point, since it is crucial and trade theorists[2] have proven rigidly impervious to it: ACTUAL MULTILATERAL TRADE AGREEMENTS DO ***NOT*** PREVENT COUNTRIES FROM TRYING TO INFLUENCE THEIR TERMS OF TRADE.

To explain, a country with market power, as we all know, can influence its terms of trade by taxing either imports or exports. Now, those parts of the GATT that specify how countries should treat each other, notably Article I (General Most-Favoured-Nation Treatment), Article XI (General Elimination of Quantitative Restrictions), and Article XXVIIIbis (Tariff Negotiations), do generally refer explicitly to barriers to *both* imports and exports. By contrast, those parts addressing actual liberalization, notably Article II (Schedules of Concessions) and Article III (National Treatment on Internal Taxation and Regulation) address *only* import barriers.

Article XI (General Elimination of Quantitative Restrictions), which rules out "quotas, import or export licenses or other measures," on both imports and exports, *explicitly* exempts from this prohibition "duties, taxes or other charges" and, therefore, export taxes. Nothing in the GATT prevents a country from implementing export taxes.[3]

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[2]By contrast, those policymakers who know what the terms of trade are (apparently a small minority, I grant) seem to regard this point as quite obvious.

[3]Don't take my word for this: Read the GATT. This is admittedly not a pleasant experience, but the main text is only 40-odd pages.

However, Article XXVIIIbis (Tariff Negotiations) does refer to *both* import barriers and export barriers, so it is also true that nothing in the GATT prevents countries from negotiating schedules of concessions that apply to potential export taxes as well as to tariffs, should they so choose. But they have in fact *not* chosen to do so. In their schedules of concessions, countries have bound their import taxes: They have *not* bound export taxes.

If the US, for example, were to decide, for whatever reason, to impose aggressively a set of export taxes that could improve its terms of trade, its outstanding multilateral trade obligations would not prevent it from doing so.[4]

Thus, while the Received Theory takes the purpose of trade agreements to deal with terms-of-trade manipulation, actual multilateral trade agreements just do not do this. A major embarrassment, to be sure. But it's even worse than that.

The more sophisticated and realistic contributions to the Received Theory—such as Bagwell and Staiger (1999)—allow governments to be concerned primarily with any number of internal or political-economy objectives that relate to the domestic relative price of imports in terms of exports. This price can be manipulated unilaterally with trade policy, but, if a country has market power, such manipulation will impact the terms of trade, creating an international externality. Dealing with this terms-of-trade externality is the *sole* reason for trade agreements in these models.

Two implications are immediate. **i** Small countries will *never* sign on to trade agreements. If they did, they would surrender the use of trade policy for domestic objectives while receiving *absolutely nothing* in return. **ii** Large countries will negotiate *only* trade agreements that constrain terms-of-trade manipulation. Trade agreements that do not do this would, *for no reason*, surrender the use of trade policy for domestic objectives.

In reality we observe exactly the opposite. Small countries eagerly sign on to multilateral trade agreements. Large countries negotiate trade agreements that do not prevent terms-of-trade manipulation, and do not negotiate multilateral agreements that would prevent it.

The Received Theory predicts what we do not see and cannot explain what we do see.[5] An immediate implication is that the Received Theory's explanations of the very special characteristics of the historic multilateral liberalization (*e.g.,* reciprocity, non-discrimination) are vacuous.

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[4]Domestic politics and the US Constitution certainly would, but that's another (unilateral) story.

[5]This critique need not apply to papers that consider intergovernmental externalites that operate independently of the terms of trade. Examples include Hillman, Long, and Moser (1995), Grossman and Helpman (1995a, b), Hillman and Moser (1996), and Ethier (1998a, 2001). But such contributions constitute only a tiny fraction of the theoretical literature on trade agreements.

So, how to deal with this monumental catastrophe? I suggest that we just take seriously what policymakers have *always* said that they are doing (terms-of-trade externalities are notably absent here!). This involves what I term *political externalities*.

This paper proceeds as follows. The next section develops the idea of political externalitites and introduces a governmental objective function reflecting these externalities. I then digress to briefly examine a very special case in which the predictions of the Received Theory will be consistent with those of my alternative approach based on political externalities. I then show that this alternative delivers what the Received Theory cannot: reciprocal trade agreements, involving even small countries, that do not necessarily constrain export taxes. I then add more structure to the objective function to allow an extended discussion of gradual liberalization, nondiscrimination, and multilateralism.

II. Political Externalities

"Political externalities," by my definition, arise when policymakers in one country believe that their political status (whatever that might be specified to mean) is directly sensitive, to some degree, to actions by policymakers in another country.

My notion of political externalities is derived from two hypotheses about the economic environment which I consider unobjectionable.

a Policymakers try to maximize some objective function. This might reflect political support in some sense, net bribes or contributions *a la* Grossman and Helpman (2002), or simply the probability that their decisions will be ratified by some subsequent legislative process. But, just for convenience, I refer to the maximand as "political support."

b Special interests are subject to "bounded rationality" in determining how responsible policymakers are for changes in their welfare. They observe the actions of policymakers, but they also know that many other economic events, plus their own actions, conspire in some complicated way to determine actual outcomes.

Several comments. *First*, I will not explicitly analyze microeconomic interactions between policymakers and special interests, as in Grossman and Helpman (2002). The latter task is a worthwhile one for another day. My objective today is the prior one of making clear the central role of political externalities for trade agreements.

Second, asymmetric information will play no role in what follows. *Imperfect* information is critical for **b**, but it will not matter whether all agents share a common (limited) information set or not.

Third, irrationality will also play no role in what follows. In particular, I suppose that both policymakers and special interests realize that, given my assumption of no international borrowing or lending, the value of imports must end up equal to the value of exports, so that any policy action impacting one must induce repercussions restoring the equality.

Basic axioms

Given this (unobjectionable, I hope) environment, I argue the relevance of the following two axioms.

Axiom 1 *"Political support" is more sensitive to the* **direct** *effects of government actions than to the* **indirect** *consequences, because, given bounded rationality, as in* **b***, a larger fraction of the public is likely to hold the government more responsible for the former than for the latter.*

Suppose, for example, that the US reduces textile import barriers and that textile imports subsequently rise. Those in the textile industry, and others, realize that the former is responsible, at least in part, for the latter. Suppose that foreign textile-exporting countries spend their increased proceeds on US wheat and machine tools, restoring trade balance. Some of those in these latter industries, knowing that trade must balance overall, may well credit at least some of their good fortune to the reduction in textile barriers, but they, and others, will also credit their own business acumen, general economic conditions, random events, etc. *Even* if an economically sophisticated individual exporter of machine tools realizes (as I explicitly allow) that an increase in textile imports must generate an equal-valued increase in exports of *something*, he/she has little reason to credit that for his/her *own* additional sales of machine tools.

If, on the other hand, the US government has negotiated reductions in *foreign* trade barriers on wheat and machine tools, it will most surely get credit for at least part of the rise in exports of these goods. This axiom is in the spirit of Hillman's classic use (1982) of a political support function to analyze protection for declining industries, which argued that such a function should be more sensitive to changes clearly due to government action.[6]

Evidence for the practical relevance of this axiom is truly abundant and should be obvious. Governments consistently attempt to "sell" trade agreements to the public on the

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[6]Extensions of Hillman's model may be found in Long and Vousden (1991) and Brainard and Verdier (1994).

basis of the increased exports *directly* implied (in my sense) by the agreements (or the jobs devoted to producing those exports), while opponents point to the increased imports *directly* implied (again in my sense). When a trade dispute arises, the aggrieved government invariably measures the harm it has suffered by the value of the exports it has *directly* lost as a result of the "unfair" trade measures employed by its partners. The same principle has also consistently been employed in trade disputes and in renegotiations under the GATT and the WTO (though the calculations have of course sometimes differed). Furthermore, when the WTO authorizes punishments, it specifies those punishments in terms of the *direct* imports from the punished country that can be curtailed by the punishing countries. See Ethier (2001).

> **Axiom 2** *Government officials believe that trade volumes influence political support independently, to some degree, from their implications for factor rewards.*

The consequences of policies for factor incomes obviously matter politically, but the above examples—all involving trade volumes—also amply motivate and illustrate this second axiom. Two reasons plausibly explain its evident relevance. The primary one is analogous to the distinction between direct and indirect effects: Changes in trade volumes help people to determine how much blame (or credit) for income changes should be attached to government negotiators (as opposed to the Fed, individual merit, nasty employers, unknown shocks, etc.). The evidence supplied in the previous paragraph is relevant here as well. A secondary, distinct, reason is an obvious feature of contemporary life: An increase in imports itself causes people in affected sectors to become nervous and fearful for the future, irrespective of whether they are eventually individually affected or not.

Governmental objectives

Consider a single economy whose government might conclude international trade agreements with trading partners. Suppose that this home economy produces two goods, exporting A and importing B. (This is an obvious abstraction, for simplicity, from the fact that Axioms **1** and **2** reflect, in no small part, that any modern economy has many sectors). Consider, also for simplicity, a time horizon in which all factors are specific to either the A sector or the B sector: This establishes a divergence of interests regarding trade liberalization.

This paper concerns tariff reductions, so the direct effects mentioned in Axiom 1 include the increase in imports directly due to the tariff reduction (*i.e.*, the tariff reduction times the price elasticity of import demand times the initial level of imports), denoted ΔM_D. If the reductions are not unilateral but instead part of an international agreement, there will also be

a direct effect ΔX_D on exports, equal to the direct increases by trading partners of imports of home goods. Indirect effects consist of changes, ΔM_I and ΔX_I, in imports and exports necessary to restore equilibrium and to maintain balanced trade (which I assume throughout) together with the induced changes, ΔR_x and ΔR_m, in the real rewards of factors specific to exportables and to importables respectively.

I represent the effect, at the *initial* terms of trade, of a change in trade policy on a linear approximation to the government's objective function *S* as follows.

$$\Delta S = a\Delta R_x + a\Delta R_m + b\Delta X_D + c\Delta X_I - b\Delta M_D - c\Delta M_I. \tag{1}$$

The parameters *a*, *b*, and *c* are assumed nonnegative. Axiom 2 is accommodated by including changes in both factor rewards and trade volumes. With trade liberalizations, $\Delta R_x > 0$, $\Delta R_m < 0$, and in **(1)** I assume for simplicity that the government cares simply for the excess of what gainers gain over what losers lose (this will be modified subsequently).

Choose units so that, at the initial terms of trade, the international price of *B* in terms of *A* is unity. The requirement that trade balance is therefore: $\Delta X_D + \Delta X_I - \Delta M_D - \Delta M_I = 0$. Substituting this requirement into **(1)** and rearranging terms gives:

$$\phi = \Delta y + \mu \Delta MA \tag{2}$$

where $\phi = \Delta S/a$, $\Delta y = \Delta R_x + \Delta R_m$, $\mu = [(b-c)/c](c/a)$ and $\Delta MA = \Delta X_D - \Delta M_D$. In this expression, $(b-c)/c$, which Axiom **1** requires that I assume nonnegative, can be interpreted as a measure of the extra sensitivity of political support to direct effects and c/a measures the sensitivity of political support to trade volumes independently of their effects on factor rewards. I call the term ΔMA the *net* exchange[7] of market access: the excess of the direct amount by which the tariff reductions would raise foreign demand for home exports, at initial world prices, over the direct amount they would raise home demand for imports (in terms of exportables), again at initial world prices.

This net exchange of market access can therefore be written as follows.

$$\Delta MA = \sum_i M_i \, \varepsilon_i \, \tau_i - M \, \varepsilon \, \tau \tag{3}$$

Here *i* indexes over the trading partners of the home country, M_i indicates country *i*'s initial imports from the home country, ϵ_i country *i*'s relevant elasticity of demand for imports from the home economy, and τ_i the degree of trade liberalization by country *i* called for by the

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[7]See Hillman and Moser (1996), and also Hillman (1990).

policy change under consideration. M, ϵ and τ denote the analogous terms for the home economy.

The parameter μ, called the *market access sensitivity*, reflects the importance the government attaches to market access. μ is positively related to the extra sensitivity of political support to direct effects and to trade volumes independently of their effects on factor rewards; if either of these is zero, ΔMA drops out in **(2)**. Introducing political externalities simply amounts to assuming $\mu > 0$. Since ϕ is defined relative to the initial terms of trade, it excludes any effects on the government objective function that might be caused by consequent terms-of-trade movements.

This formulation of the government's objective function accords well with what people who actually negotiate trade agreements claim to be trying to do. They have been quite consistent about this: They have always said they seek to "exchange market access." Krugman (1991, p 25) gives a concise description.

> To make sense of international trade negotiations, one needs to remember three simple rules about the objectives of the negotiating countries:
>
> (1) *Exports are good.*
> (2) *Imports are bad.*
> (3) *Other things equal, an equal increase in imports and exports is good.*

This sounds like economic illiteracy. But if so, it has been a very persistent illiteracy by the very people who make policy. It is natural to suspect, as Krugman (1991) argues and as I have just done, that this is a reflection of a political-economy concern for special interests. The political-economy approach has become pervasive in the last 15 years in the positive theory of trade policy.[8] My notion of political externalities is exactly consistent with Krugman's description, and gives it a behavioral basis.

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[8]See Nelson (1988), Hillman (1989) and Rodrik (1995) for surveys.

III. A (Limited) Rehabilitation of The Received Theory

Before examining the implications of political externalities for trade negotiations, I briefly consider their relation to the Received Theory in a very special case. That case is when there are just two countries. Then **(3)** becomes:

$$\Delta MA = M \left(\varepsilon^* \tau^* - \varepsilon \tau \right)$$

where an asterisk refers to the foreign country. Thus, since the budget constraint requires an increase in home imports to equal in value an increase in home exports, the exchange of market access just equals the excess demand on world markets for home exports implied, at the initial terms of trade, by the policy changes. This immediately implies that the change in *P*, the relative world price of home imports in terms of exports (assumed initially unity), necessary to reestablish equilibrium in world markets, is the following.

$$\Delta P = - \frac{\Delta MA}{\varepsilon + \varepsilon^* - 1}$$

(The denominator on the right-hand side of this expression will be recognized as the familiar Marshall-Lerner term). It is also well known that, at initial terms of trade, the change in real income implied by a trade-policy change equals the implied change in imports multiplied by the wedge between home and world relative prices: $\Delta y = t \, \Delta M,$ where *t* is the home ad-valorem tariff.

Now, set $\mu = 1 / \left(\varepsilon + \varepsilon^* - 1 \right)$ and perform the above indicated substitutions into **(2)** to obtain:

$$\phi = t \, \Delta M - M \Delta P. \tag{4}$$

Equation **(4)** will be recognized as the standard expression for the effect of a change in trade policy on real national income.[9]

Thus **(4)** is a special case of **(2)**. This implies the following.

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[9] See, for example, Ethier (1995), p. *A-41.*

Proposition 1 *Any results implied by two-country, two-commodity models of the Received Theory, regarding trade agreements, necessarily apply also to the above model based instead on political externalities.*

A large fraction of the papers concerned with the Received Theory have indeed utilized 2x2 models. But, before heaving a collective sigh of relief, note the following. *First*, we utilize 2x2 models not because we think the world is 2x2, but because these models display in sharp relief points that we believe are of general significance. So a 2x2 model that is basically miss-specified (as is the Received Theory with regard to multilateral trade agreements) is still very suspect from this point of view.

Second, the above argument depends critically on the exchange of market access being identical to the world excess demand for home exportables. This identification is valid in a world of two countries, but collapses with more than two. Since multilateral trade agreements, by their very nature, involve more than two countries, this objection is fatal.

So, my rehabilitation of the Received Theory does not in the end amount to all that much. But it's the best I can do.

IV. Trade Agreements Motivated By Political Externalities

I now describe more fully a simple formal model in which to embed the above objective function. To make it clear that terms-of-trade effects are not surreptitiously driving my results, I want a model in which individual countries lack market power.

The background

Assume two goods, *A* and *B*, two factors of production, and $2N$ countries. N countries have a comparative advantage in *A* and N in *B*; otherwise they are all identical. Technology is neoclassical. Each country perceives itself as too small to manipulate world prices to its own advantage. Assume a succession of periods. Factors are both mobile between sectors across periods, but both are immobile within each period. All consumers spend positively on both goods.

Initially, each country has an historically given tariff *t* on all imports. Tariff revenue is assumed to be redistributed to the populace in a lump sum fashion that does not alter relative

income distribution. I assume away export subsidies.[10] For simplicity I suppose that the initial tariff is nondiscriminatory and common to all countries. Also factors in each country are initially allocated between the two sectors. Governments determine changes in their initial tariffs; this may be done unilaterally or with bilateral or multilateral negotiation. I shall not explicitly model negotiations. The inter-sectoral immobility of factors for the rest of the duration of the period ensures that in each country one interest group prefers more protection and one prefers less protection.

At the close of any negotiations, governments implement tariff changes and trade takes place. Once the period ends, factors become free to move between sectors, and, once they have done so, history repeats itself, with the initial tariffs for the new period equal to the final tariffs from the preceding period and with a new generation of policymakers ready to consider tariff changes.

Note that, if instead of the objective function **(2)**, I were to adopt the perspective of the Received Theory, no trade agreements of any kind would arise in this model. A government that cared only about national welfare would unilaterally adopt free trade. A government that also had some domestic objective that can be influenced only by trade policy would unilaterally adopt the level of protection that optimally trades off national welfare for that objective. In either case, policymakers would be doing the best they can and there would be no potential role for trade agreements.

Unilateralism and reciprocity

For illustration, consider some of the implications in this model of the objective function **(2)**. These implications will be useful for what follows and will also show how the objective function, and the axioms about political support that produced it, cause governments to behave as they do.

Suppose a unilateral reduction $\tau_i = \left(- \dot{t} / (1+t) \right) > 0$ in all its tariffs by a single country i.

At unchanged world prices, the home relative price of imports falls by the amount of the tariff decrease, so that $\Delta MA = -\epsilon \tau_i M_i < 0$ and $\Delta y > 0$ with the latter bounded above by the increase in real income that would follow from the adoption of free trade. This immediately implies the following.

> **Proposition 2** *A government with objective function (2) will never liberalize unilaterally, with a large enough market access sensitivity* μ.

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[10]Unlike export taxes, export subsidies have been of substantial concern to the GATT and to several of the GATT rounds of negotiations. Such subsidies are presumably inhibited by countervailing-duty laws (in existence prior to post-war liberalization and explicitly allowed by the GATT in Article VI).

Consider instead a unilateral adoption of an export tax $\sigma_i > 0$ by a single country i. At unchanged world prices, the home relative price of exportables falls by the amount of the tax, so that $\Delta MA = \Delta X_D = -\epsilon \sigma_i X_i < 0$ and $\Delta y < 0$. This immediately implies the following.

> **Proposition 3** *A government with objective function **(2)** will never implement an export tax.*

Define a liberalization as *reciprocal* if accompanied by foreign liberalizations that imply $\Delta MA = 0$. Thus the second term of the governmental objective function vanishes, so that, since $\Delta y > 0$, the following is immediate.

> **Proposition 4** *A government with objective function **(2)** will always accept a reciprocal liberalization, and it would prefer a reciprocal move to free trade.*

Reciprocity neutralizes concern about market access, rendering the magnitude of μ irrelevant. Governments will not unilaterally liberalize, but they wish to negotiate reciprocal liberalizations that achieve free trade. All bargaining, whether bilateral or multilateral, will involve reciprocal liberalization. Furthermore, Proposition 3 implies there is no need for a reciprocal trade agreement to rule out export taxes. Recall that I have assumed that trade cannot be subsidized: Tariffs are constrained to be nonnegative.

Thus political externalities deliver what the Received Theory has failed to do. To proceed further, I next take a closer look at actual multilateral trade agreements.

V. Characteristics of Actual Multilateral Trade Liberalization

The GATT-WTO liberalization has taken a very special form. As noted above,

1 Actual multilateral trade agreements do *not* prevent countries from trying to influence the terms of trade.

Furthermore,

2 Negotiated agreements feature *reciprocity*: the mutual exchange of concessions.

3 Liberalization has been *gradual*.

4 *Nondiscrimination* is central: Each country should be a most favored nation [MFN] of every other country.[11]

5 The countries of the world negotiate *multilateral* trade agreements.

None of these features appears inevitable. The Received Theory imagines that the exact opposite of **1** holds. Before the current half century, trade agreements were seldom multilateral. Requiring nondiscrimination eliminates at the outset many potential agreements from consideration. Though it's easy to understand why a country might sometimes try to use its own liberalization to bargain for foreign liberalization, reciprocity has hardly been universal outside the GATT framework—there have been many unilateral liberalizations, by developing countries and others, in recent years. Nor is there any inherent need for liberalization to be gradual: Customs unions and free trade areas purport to do it all at once.[12]

So the most important positive accomplishment of trade policy in history has taken a very special form. Why multilateralism? Why MFN? Why gradual liberalization? Why reciprocity? What are their implications?

One would think that explaining this very special form would be a central task of international trade theory. Astonishingly, this has not been so. While the descriptive literature is vast, the analytical literature remains sparse.

For example, MFN has long interested economists, with a slow but steady appearance of papers addressing the theoretical relation of MFN and multilateral liberalization. See: Viner (1951), Caplin and Krishna (1988), Ludema (1991), Choi (1995), McCalman (1997), and Bagwell and Staiger (1999). In recent years this literature has usually taken a game-theoretic perspective. Analysis has been complicated and has often left the reader uncertain whether real-world essentials were even addressed. An MFN clause was included in the early nineteenth century trade agreement between England and Portugal that motivated Ricardo's choice of example for his explanation of comparative advantage—the most famous passage in trade theory. Understanding the relation between MFN and trade liberalization has been one of the major unsolved problems in our field from its very beginning.

The theory in the previous section, built on political externalities, has delivered characteristics **1** and **2**, but is thus far silent on **3**, **4**, and **5**. To proceed further, I add more structure to

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[11]One nation extends MFN status to another if it pledges it will never levy a higher duty on products from that country than on similar products from any other country. The GATT/WTO allows, in Article XXIV, exceptions for customs unions and free trade areas.

[12]By "gradual liberalization" I do not mean the phased implementation of a negotiated reduction but rather a succession of negotiated reductions building on each other. Customs unions and free trade areas are typically implemented in phases, but the initial agreement to form one claims to commit (as the GATT requires) the participants to substantially free internal trade by some definite date.

the governmental objective function. In particular, consider the following additional axiom regarding the political-economy environment.

Axiom 3 *Government officials wish to avoid policy actions that would cause a serious reduction in the income of any interest group.*

Subject people to a big hit and they will hate you—and act accordingly. Small damages, though, will be submerged by larger concerns. This is the idea behind the familiar conservative social welfare function advocated by Corden (1997, pp 74–76) as a useful aid to understanding trade policy. Hillman (1982) shows how similar conclusions can be derived from a political support function. Deardorff (1987) and Brander and Spencer (1994) provide further applications of Corden's conservative social welfare function to trade policy. Finally, prospect theory's treatment of consumer behavior emphasizes an analogous asymmetric valuation of gains and losses by individuals.[13]

To incorporate the concerns of this axiom I replace the objective function **(2)** with the following.

$$\phi = \left[\Delta R_x - (-\Delta R_m)^{1+\gamma} \right] + \mu \Delta MA \tag{5}$$

The parameter $\gamma > 0$ reflects Axiom 3: Political support is increasingly sensitive to reductions in the income of any group.[14] I accordingly refer to γ as the *Corden sensitivity*.

Since $\Delta y = \Delta R_x + \Delta R_m > 0$, the following is immediate.

Proposition 5 *A government with objective function* **(5)** *will always accept a sufficiently small reciprocal liberalization. It will never accept a move to free trade, provided that the Corden sensitivity γ is sufficiently large.*

So gradualism is a simple consequence of the assumed environment. But nondiscrimination and multilateralism are more involved: They are examined at length in the following section.

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[13]See, for example, Shafir, Simonson, and Tversky (1997).

[14]For $\gamma > 0$ appropriately to reflect a conservative social welfare function I need to choose units so that $-\Delta R_m > 1$ for the policy change being considered. This observation was prompted by a comment by Rob Feenstra.

VI. The Characteristics of Negotiated Trade Liberalization

Suppose that, given high initial tariffs, countries may commence negotiations. Because of Proposition 2 no government will liberalize unilaterally, but Proposition 5 implies that each government would concede some market access, harming import-competing interests, for reciprocal foreign market access beneficial to exporters. Governments may negotiate bilaterally or multilaterally. I will not explicitly model the negotiations; instead I ask what might characterize any reasonable bargaining process, given the objective function **(5)**.

First, I need to introduce some symbols and some jargon. Let τ_{ij} denote a hypothetical rate of reduction in the tariff country i applies to imports from country j. Let $T = \{\tau_{ij}\}$. No country attempts to tax the good in which it has a comparative advantage (Proposition 3), so T is a nonnegative vector with $2N^2$ elements. Because of the common initial tariff, the effective rate of liberalization for country i, τ_i^M, would simply be the largest rate of reduction it would *M*ake: $\tau_i^M = \max_j \tau_{ij}$. Let n_i^M denote the number of countries j for which $\tau_{ij} = \tau_i^M$. Likewise, let τ_i^R denote the largest effective concession country i would *R*eceive:

$$\tau_i^R = \max_j \{\tau_j^M \,|\, \tau_j^M = \tau_{ji}\}, \quad \text{and let } n_i^R \text{ denote the number of countries } j \text{ for which } \tau_{ji} = \tau_i^R.$$

Finally, let τ^* denote the value of τ that maximizes $\Delta R_x(\tau) - (-\Delta R_m(\tau))^{1+\gamma}$.

> **Definition 1** *A hypothetical* T *is an* optimal reciprocal liberalization *if, for every country i, $\tau_i^M = \tau_i^R = \tau^*$ and $n_i^M = n_i^R$.*

One optimal reciprocal liberalization is the *symmetric* $T = \{\tau^*\}$, which can be viewed as multilateral and nondiscriminatory. But there are many others. For example, with *bilateral discriminatory* liberalization the *A* exporters and *B* exporters pair off, with each country liberalizing by τ^* with respect to its partner, leaving all other tariffs unchanged; *chained discriminatory* liberalization involves, *e.g.*, *A* exporter i liberalizing only with respect to *B* exporter j who liberalizes only with respect to *A* exporter k who liberalizes only with respect to *B* exporter l who liberalizes only with respect to i; *regional* liberalization has the countries dividing into subgroups, each of which practices bilateral, chained, or nondiscriminatory multilateral liberalization. I've deliberately set up the model so that there are many potential ways to go: *I want it crystal-clear to every reader that the following results are not simple reflections of my objective function or of the assumed axioms that produced it.*

Nondiscrimination

Suppose that Carolina, with a comparative advantage in *A*, has received an offer from Domina, who has a comparative advantage in *B*, for a reciprocal reduction of 20% in their tariffs on each other's goods. It matters not whether this is in bilateral negotiations between these two countries or part of a broader multilateral effort: It would be part of the overall T, however reached. The government of Carolina believes the implied exchange of market access would be a net benefit. But Carolina would fear that Domina might subsequently offer a reciprocal concession of, say, 21%, to some other country, Euboea, with a comparative advantage in *A*. This would enable Domina to obtain access to the Euboean market simply by diverting to that country the access it had previously granted to Carolina, leaving the latter with nothing to show for its concession. I call this *concession diversion*. It motivates the following test for whether a proposed negotiated equilibrium T might actually be adopted.

> **Definition 2** *A proposed vector* T *of tariff reductions is potentially implementable* if *there exists no pair of countries,* i *and* j*, that can make themselves better off by increasing* τ_{ij} *and* τ_{ji}*, holding all other components of* T *fixed.*

To see how serious concession diversion might be, suppose that T is an optimal reciprocal liberalization, and consider any *B* exporter Domina and *A* exporter Euboea such that neither country is a unique maximal liberalizer to the other.[15] Suppose Domina and Euboea now agree to increase τ_{DE} and τ_{ED} a small amount δ above the levels $\tau_D^M = \tau*$ and $\tau_E^M = \tau*$ called for by T, holding all other reductions unchanged. Consider the implications for the objective functions of the governments of Domina and Euboea. Domina will experience a small increase in ΔR_x, a small decrease in ΔR_m, a small increase in the demand for importables, and, because of concession diversion from the n_E^M (other) country(s) to which Euboea was the maximal liberalizer, a large *direct* increase $[(\tau* + \delta)\epsilon M]$ in foreign demand for its exportables. Thus ΔMA must be significantly positive and must dominate the effect on the government's objective function. Euboea is influenced similarly, so the two countries will find the maneuver tempting. The only effect on the objective function of the government of the other countries to which Domina and Euboea were maximal liberalizers, on the other hand, are direct decreases in the demands for their exports. With enough concession diversion, those other countries' liberalizations would become in effect unilateral, which by Proposition 2 those governments do not want. Of course, they can play the same game, but that only emphasizes further the fragility of the proposed T.

> **Proposition 6** *No optimal reciprocal liberalization is potentially implementable.*

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[15]There will always be many such possible pairs.

Liberalizing all the way to universal free trade is potentially implementable, but no country wants to do that. Doing nothing, T = {0}, though not optimal, is not potentially implementable either, because it is susceptible also to concession diversion. Quite a bind!

The basic problem is that governments do not care, *per se*, for the *tariffs* that they levy on each other's goods, but for their *expected effects*. The latter is determined by the tariffs they each levy on the goods of *all* countries, not just on each other. Meaningful negotiations cannot be limited to the tariffs countries levy on each other's goods: The partners must also be constrained in some way with respect to future agreements. But the constraints should not be too tight, or they will prevent future negotiations entirely.

The MFN clause is a natural candidate for such a constraint because it is very simple and offers direct insurance against concession diversion, the heart of the problem. But the insurance is only partial: Including MFN in a trade agreement assures a country that the market access it has bargained for will not be turned over entirely to some other country, but it offers no assurance that this access will not have to be shared. So one might expect inclusion of MFN status to be insufficient to deal with the problem. Surprisingly, it can be sufficient, if its use is sufficiently widespread. The reason is that MFN clauses confer *indirect* insurance in addition to the above direct insurance.

To see this, suppose that the use of MFN is universal and consider the optimal symmetric negotiation T = {τ*}. Suppose again that T implies that Carolina, with a comparative advantage in *A*, and Domina, with a comparative advantage in *B*, will make a reciprocal reduction of τ* in their tariffs on each other's goods. Suppose Domina were to then consider a reciprocal τ* + δ tariff reduction with *A* exporter Euboea. If Euboea is bound by MFN status with all *B* exporters, this would simply amount, from Domina's point of view, to a further reciprocal liberalization. Since τ* was optimal, this would not be welcome. Carolina, understanding this, knows that concession diversion by Domina is not a threat, and will therefore agree to T.

Proposition 7 *The symmetric reciprocal optimal liberalization* T = {τ*} *is potentially implementable with MFN.*

Crucial to this result is not the partial *direct* insurance that Carolina, by virtue of its MFN status with Domina, receives of some access to the latter's market. Rather it is the *indirect* insurance that, because of the MFN relation of each of Carolina's trade partners (such as Domina) with all of its competitors (such as Euboea), none of the former will be tempted to try concession diversion.

MFN and multilateralism

Since I do not model the bargaining process itself, I must define multilateralism as a property of a potential outcome of such bargaining.

> **Definition 3** *The result of trade negotiations will be described as multilateral if each country's agreement to that result is contingent upon every other country's agreement.*

The symmetric optimal reciprocal liberalization is the expected multilateral, nondiscriminatory result. But Proposition 7 doesn't require multilateralism: Simultaneous bilateral agreements could achieve the same result. But there are two compelling reasons why, if MFN status is what makes trade agreements possible, those agreements will, sooner or later, be multilateral.

First, in the above argument, MFN is important to Carolina *not* because it receives such status, but because each of its competitors has conceded such status to each of its potential trade partners. This is a classic externality. Bilateral negotiations cannot be expected to acknowledge it; multilateral negotiations can.

> **Proposition 8** *Multilateralism can internalize the crucial externality that allows MFN status to make international trade negotiations possible.*

This can explain why, in Article I, the GATT imposes MFN as a general operating principle, instead of allowing countries to negotiate how to treat each other.

The second reason is that outstanding agreements featuring MFN constrain the ability to find further beneficial bilateral reciprocal tariff reductions, and the more agreements there are, the more limiting the constraint. So MFN renders bilateralism impractical.

Suppose that some *A* exporter has reached trade agreements with several exporters of *B*, calling for a common tariff, and that the agreements all feature MFN status. Consider the implications of another agreement with one of these partners, calling for a further reciprocal tariff reduction of τ. Because of the MFN status provided by the earlier agreements, this reduction would extend to all the countries from which the *A* exporter actually imports *B*.

Starting from an initial $\tau = 0$, the effect on the home government's objective function of introducing such a marginal bilateral agreement with some partner, who has m MFN agreements in effect, is

$$\left. \frac{d\phi}{d\tau} \right|_{\tau=0} = \left\{ \frac{dR_x}{d\tau} - \left(-\frac{dR_m}{d\tau} \right)^{1+r} \right\} + \mu \bar{A} \left(\frac{1}{m} - 1 \right) \tag{6}$$

Thus, given the Corden and market access sensitivities, $d\phi/d\tau < 0$ for m sufficiently large. The world economy will be in a *saturation state:* If all countries have at least m MFN agreements, there will not exist any pair of countries for which a mutually beneficial reciprocal tariff reduction is possible.

> **Proposition 9** *For sufficiently large Corden and market access sensitivities, mutually beneficial bilateral negotiations will eventually become impossible, if outstanding agreements all embody MFN.*

Note that I have defined multilateralism as a property of a trade agreement itself, not of the negotiations that produce that agreement. Because I introduce no bargaining model, I can not rule out the possibility that a multilateral agreement might result from a process that involves a lot of bilateral negotiation. (Since this does in fact happen, it's a good thing that I can't rule it out).

Odds and Ends

I have assumed relentless symmetry between all countries and perfect substitutability between all *A* goods and between all *B* goods. These assumptions put my arguments into sharp relief. What happens if they are relaxed?

1 Note first that my logic depends only on the assumed objective function and on significant—not necessarily perfect— substitutability between the goods of different countries; the higher the elasticity of substitution between competing products, the more debilitating the threat of concession diversion. My assumptions are a matter of degree, not of kind.

2 But degree also matters. I will not try here to generalize to broader circumstances, but I instead describe how I think my assumptions matter. First, if all goods are imperfect substitutes, the direct insurance aspect of MFN should offer relatively more significant protection against the relatively less debilitating concession diversion. This would be even more true if countries differ in size and if countries that trade a lot with each other first commence negotiations. (This is sometimes called the *principal-supplier* approach to trade negotiations). Both of these considerations suggest that multilateralism might be a delayed consequence of incorporating MFN into trade agreements.

3 Perhaps the analysis of this paper demonstrates: why MFN was common in bilateral European agreements before World War I; why, when the US followed a policy of high

protection and had little interest in negotiated tariff reductions, it was content to use a "conditional" MFN offering partners little real assurance of freedom from concession diversion; why the dozens of bilateral agreements the US reached, before GATT even existed, under the authority of the reciprocal Trade Agreements Act, all featured MFN; why the multilateral approach was adopted soon after these bilateral agreements had been reached.

VII. Concluding Remarks

The Received Theory of multilateral trade agreements, based on the idea that terms-of-trade externalities between governments are the sole reason for negotiating such agreements, has produced an enormous literature but is inconsistent with actual multilateral liberalization. The reason, I have argued, is that, by focusing *only* on terms-of-trade externalities, the Received Theory has arbitrarily excluded other, far more relevant intergovernmental linkages, notably what I call political externalitites. It's as though a classical physicist, assuming away gravity, were to assert that the planetary orbits must be determined by Brownian motion because that's the only available candidate.

I presented a multi-country model with high initial tariff barriers—a caricature of the world of half a century ago. Government officials with an objective function reflecting political externalities but with no individual ability to influence world prices negotiate with each other in a succession of periods. In the analysis I present no formal bargaining model but instead ask what should characterize *any* reasonable model, given the objective function. This approach gives immediate and transparent explanations of gradual liberalization, reciprocity, MFN, and multilateralism.[16] It allows us, in effect, to take seriously what policymakers have for over sixty years been saying that they are doing.

The picture painted by Propositions 2 – 9 corresponds nicely to actual historical experience. My point of departure has been a set of axioms about political-economy concerns producing the objective function **(5),** characterized by political externalities and consistent with how government negotiators actually seem to try to behave. The essential argument is summarized as follows.

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[16]This paper thus attempts to endogenize the basic features of multilateralism. Ethier (1998b, 2001) respectively endogenize regionalism and unilateralism in such a context, and Ethier (1998a) provides a nontechnical overview.

- If governments, sensitive to political externalities, conduct trade policy as they claim to be conducting it, they will not liberalize unilaterally but they will find reciprocal liberalization that does not go all the way to free trade desirable.

- If reasonably close substitutes for each country's products exist elsewhere, reciprocal trade negotiations of any sort, that do not intend to go all the way to free trade, require that negotiating governments' subsequent behavior toward third countries be constrained in some way.

- MFN status is a useful way, and the simplest way, to constrain negotiating governments' subsequent behavior toward third countries. And, if used enough, it works, *not* because of the direct insurance it offers individual countries, but because it functions as an externality.

- Multilateralism can internalize this crucial externality.

- If trade agreements do feature MFN, negotiations must, sooner or later, be multilateral in any event.

My next-to-the-last bottom line: The dominant Received Theory of multilateral trade agreements, developed over a half century and based squarely on terms-of-trade externalities, is irrelevant to actual multilateral trade agreements, which do not constrain terms-of-trade manipulation. An alternative approach, based on political externalities, is consistent with such agreements, mirrors what policy-makers have always claimed to be doing, and can explain the salient features of the multilateral trade order.

My last bottom line: If one accepts that government negotiators, because of political externalities, actually try to do what they say they are trying to do, and that reasonable substitutes exist for countries' exports, the explanation of gradual liberalization, reciprocity, MFN, and multilateralism immediately becomes transparent, elementary, and compelling. Concession diversion is the key.

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