

Ethier, Wilfred

Working Paper

Regionalism in a multilateral world

Diskussionsbeiträge - Serie II, No. 314

Provided in Cooperation with:

Department of Economics, University of Konstanz

Suggested Citation: Ethier, Wilfred (1996) : Regionalism in a multilateral world, Diskussionsbeiträge - Serie II, No. 314, Universität Konstanz, Sonderforschungsbereich 178 - Internationalisierung der Wirtschaft, Konstanz

This Version is available at:

<https://hdl.handle.net/10419/101770>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

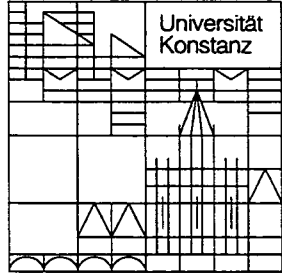
Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Sonderforschungsbereich 178
„Internationalisierung der Wirtschaft“

Diskussionsbeiträge

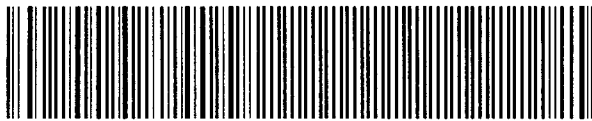
Juristische
Fakultät

Fakultät für Wirtschafts-
wissenschaften und Statistik

Wilfred J. Ethier

Regionalism in A Multilateral World

W 113 (314)



24. JAN. 1997 Weltwirtschaft
Kiel

W 113 (314) mi 95 sig 54

Postfach 5560
D-78434 Konstanz

Serie II — Nr. 314
Oktober 1996

Regionalism in A Multilateral World

Wilfred J. Ethier

728900

Serie II - Nr. 314

Oktober 1996

Wilfred J. Ethier
Department of Economics
University of Pennsylvania
Philadelphia, PA 19104-6297
USA

TEL.: 1-215-898 5105
FAX: 1-215-573 4217
E-MAIL: ETHIER@ECON.SAS.UPENN.EDU

Preliminary version
(First version: April 6, 1995
This printing: August 25, 1996)

*A first version of this paper was presented at the **Workshop on International Trade and Factor Movements between Distorted Economies**, organised by the "Sonderforschungsbereich 178 Internationalisierung der Wirtschaft" in Konstanz, July 4 - 6, 1996.*

Abstract: Recent regional initiatives have been addressed from a Vinerian perspective of regional integration as a combination of trade creation and trade diversion. This is true both of policy-oriented economists, who tend to be critical of the initiatives, and of theorists, who have added dynamic and game-theoretic elements to the Vinerian structure. This paper describes the stylized facts of much recent regional integration, and develops an alternative model. The analysis suggests the possibility that regional integration, far from threatening multilateral liberalism, may in fact be a direct consequence of the success of past multilateralism and an added guarantee for its survival.

Keywords: Direct investment, regionalism, multilateralism, policy reform

JEL Classification Codes: F15, F13, F23

Contents:

1. Introduction	1
2. What The New Regionalism Is	3
3. The Model	5
Developed Countries (5)	
Less Developed Countries (9)	
4. Multilateralism	11
Unilateralism (11)	
Multilateralism (14)	
5. Regionalism	16
Multilateralism and the Less Developed Countries (17)	
Regionalism (21)	
6. Concluding Remarks	28
References	31

Regionalism in A Multilateral World

Wilfred J. Ethier*
University of Pennsylvania

I. Introduction

REGIONALISM RULES. This was not true until recently: With the notable exception of Western Europe, the numerous regional initiatives of the 1950s and 60s eventually amounted to virtually nothing. But the late-1980s attempt of the European Community to complete the internal market by the end of 1992 has induced (or preceded) a new global wave of regional integration. Most notably:

- The U.S.–Canada Free Trade Agreement and the subsequent incorporation of Mexico in the NAFTA,
- The accession of Austria, Finland and Sweden into the European Union,
- The Europe Agreements between the European Union and several former communist states of central Europe,
- The Mercosur agreement between Brazil, Argentina, Paraguay and Uruguay for a customs union.

These are prominent examples. But dozens of other initiatives—whether negotiation, sincere intention, or vague aspiration—have appeared in most parts of the world. More

*This paper has benefitted from comments received at the University of Nottingham, the Konstanz Workshop on International Trade and Factor Movements between Distorted Economies (July 1996), the International Economic Association Round Table Conference on International Trade Policy and the Pacific Rim (held in Sydney in July 1996), and the IEFS 1996 International Conference on International Trade, Finance and Economic Development (held in Taichung, Taiwan). I am grateful to Andreas Haufler and Alan Winters for helpful comments.

than a hundred regional arrangements, accounting for well over half of world trade, now exist.

Trade theorists have not been slow to respond. Responses have centered on two questions. (i) Would the division of the world economy into regional trading blocs be expected to raise or lower welfare? So far, answers have been mixed.¹ (ii) Will regionalism help or hamper multilateral efforts for trade liberalization? Answers to this question have basically been negative, though with some qualifications.² Common to all responses has been the treatment of regional integration as exogenous. Also common to all has been a Vinerian perspective on regional integration as a combination of trade creation and trade diversion.

By contrast, economists concerned with trade policy have been much less ambiguous in their response. The dominant view is strongly negative: the increase in regional arrangements reflects frustration with the process of multilateral liberalization (e.g., the prolonged pains of the Uruguay Round negotiations) and poses a serious threat to the continued existence of the liberal trade order that has been achieved.³

The Vinerian perspective was developed in response to the emergence of the “old regionalism” after World War II. But the international environment greeting the “new regionalism” that has emerged since the late 1980s differs from that experienced by the old regionalism in two critical ways.

- Multilateral liberalization (at least of trade in manufactures among the industrial countries) is much more complete now.
- Scores of economically less advanced countries have abandoned their former basically-autarkic, anti-market policies and are now actively trying to join the multilateral trading system.

As a result one can also make a *qualitative* distinction between the old regionalism and the new. For example, the Vinerian paradigm of trade creation versus trade diversion drove analysis of the former, but it is by no means clear that it should drive analysis of the latter. Yet it *has*—this is central to the ambiguity noted above. This paper attempts

¹See Bhagwati and Panagariya (1996) and Krugman (1991).

²See Chichilnisky (1994), Bond and Syropoulos (1995) and Bagwell and Staiger (1993a, 1993b).

³I have the impression that, in North America at least, the general public believes professional economists to be much more in favor of regional arrangements than they in fact are. Perhaps this is because the highly visible debate over NAFTA degenerated into (or was elevated into) a debate over the merits of liberal trade.

to develop an idea of what the *qualitative* new regionalism should⁴ be.

The next section describes the salient characteristics of the new regionalism, and how they differ from those of the old regionalism that motivated the Vinerian perspective. Section 3 then presents an elementary model of trade and trade policy incorporating these characteristics—or capable of doing so—and section 4 contributes a rudimentary theory of multilateralism. Section 5 then investigates the potential role of regional arrangements in such a framework.

The analysis suggests a radically different interpretation of regionalism (bilateralism): a theoretical structure quite far removed from the Vinerian perspective, and a possible policy implication quite at odds with the common negative view. In particular, two possible points emerge. (i) Regionalism is an endogenous response to the development of the multilateral trading system, and treating it as exogenous is misleading. (ii) The primary purpose of regionalism is not to foster regional integration and trade diversion. Rather it is a response to such integration that allows the region to adapt to multilateral developments. Thus the paper suggests a presumption that regional integration facilitates multilateral liberalization.

2. What The New Regionalism Is

The following characteristics do not apply to all current regional initiatives, which are quite diverse, but they do apply to most of the more important ones.

- Contemporary regionalism typically involves one or more small countries linking up with a big country.

In terms of our earlier examples, Mexico and Canada are each a small fraction, economically, of the United States; the new members of the EU are tiny relative to the EU itself; the same is true of the central European adherents to the Europe Agreements; Brazil is likely to play a dominant role in Mercosur.

- Typically the small countries have recently made, or are making, significant

⁴ We cannot expect that the temporal and qualitative distinctions will correspond exactly to each other. Presumably some of the characteristics of the (qualitatively) new regionalism are relevant to the earlier regional initiatives, and—more importantly, for present purposes—features of the (qualitatively) old regionalism remain relevant today. But I am interested here in the nature of the new (qualitatively) regionalism.

unilateral reforms.

This is most dramatically true of the central European countries, who had abandoned communism, and of the members of Mercosur and of Mexico. But it also characterizes, to a lesser degree, the small industrial country participants in the above examples. Canada had turned away from Trudeau-style economic nationalism, and the Scandinavian applicants to the EU (except for Norway, which declined to join) had made significant reforms in some sectors (e.g. agriculture). Mercosur differs from the other examples in that the large country, Brazil, is also attempting unilateral reform.

- A dramatic move to free trade between members is *not* what it's all about: The degree of liberalization is typically modest. Thus the Vinerian paradigm is not a natural starting point.

For example, NAFTA actually provides only modest liberalization: US tariffs were already low and NAFTA hedges sensitive sectors in all sorts of ways. Canada and Mexico have done somewhat more, but the most significant measures (largely Mexican) were unilateral and not part of NAFTA. The accession of new members to the EU is even more glaring: because of their membership in the EA, the trade relations of Austria, Finland and Sweden with the EU are virtually identical to what they would have been had they decided not to join! The Europe Agreements provide for little in the way of concrete liberalization. Mercosur appears more ambitious in this regard, but even here the liberalization involved is small relative to the unilateral liberalizations of the members.

- The liberalization that is achieved is due primarily to concessions by the small countries, not by the large country: The agreements are quite one-sided.

The moderate liberalization achieved in NAFTA is due much more to "concessions" by Mexico and Canada than by the United States (Ross Perot notwithstanding). In negotiations over enlargement, the EU has been flexible with regard to financial responsibilities and periods of adjustment, but has always maintained a take-it-or-leave-it attitude regarding the nature and structure of the EU itself. The Europe Agreements involve virtually no "concessions" by the EU: Indeed the EU instituted antidumping measures against some of its new partners even as the initial agreements were coming into effect! Mercosur does not appear to display this asymmetry (perhaps because its big country is also a reformer?).

More typically the small countries get only small tariff advantages—often because the large countries have small tariffs to begin with. More important to the small

countries is exemption from future acts of contingent protection—antidumping law, safeguards, etc. But usually they don't get much here either: the Europe Agreements were mentioned above; NAFTA does not give Canada and Mexico exemption from US administered protection; as members of the EA, Austria, Finland and Sweden would not have been subject to EU administered protection in any case.

In summary, quite often *regional integration involves reform-minded small countries "purchasing," with moderate trade concessions, a link with a large country that confers relatively minor trade advantages.*

3. The Model

The first building block of this paper is a simple trade model to serve as a vehicle for the subsequent analysis and in which to embed the stylized facts described above. I use a modified version of the familiar, many-country, specific-factors model.

Suppose, first, N (almost) identical industrial countries, each endowed with H units of human capital, L skilled labor and U unskilled labor. Second, assume M (almost) identical less developed countries.

Developed Countries

Each developed country i can produce one output, x_i (which I refer to as a *good*), using human capital and skilled labor, and another output, z_i (which I refer to as a *commodity*), requiring skilled labor and unskilled labor. The goods produced by the respective countries are imperfect substitutes for each other. Goods are tradeable but commodities are nontraded.

Production. Production of each good is a two-stage process, with one stage, using only human capital, necessarily performed at home. The other stage, using only skilled labor, can be performed anywhere; that is, the home firm can employ labor located in any country (foreign direct investment) to perform this stage. If this stage is conducted abroad, the resulting unfinished goods must be exported from the foreign subsidiary. If a and b denote⁵ the levels of operations of the respective stages, final output is given

⁵Henceforth I dispense with the commodity/country subscript i whenever this generates no confusion.

by:

$$x = f(a, b) \quad (1)$$

where f is a conventional neoclassical production function. Stage operations are given by

$$a = H \quad (2)$$

and by

$$b = kL_b \quad (3)$$

where H denotes the stock of human capital, L_b the skilled labor allocated to stage b ,

and $k = k' \left(\sum_{i=1}^N L_{bi} \right)$ with $k' > 0$ and with L_{bi} denoting the skilled labor allocated to

stage b of good i . Operation of the b -stage thus entails increasing returns to scale that depend upon the size of global second-stage activity for all N goods. I assume that these are external to the individual firm, and that goods are produced in perfectly competitive markets. Furthermore, these scale economies are international in origin, that is, they depend on the global size of the labor employed in producing all b , not the labor employed in a single country.⁶

Production of the nontraded commodity, z , is by competitive firms operating under constant returns to scale:

$$z = g(U, L_z) \quad (4)$$

Here g is also a standard neoclassical production function, U denotes the stock of unskilled labor and L_z the amount of skilled labor allocated to commodity production. Thus

$$L = L_b + L_z. \quad (5)$$

⁶For international economies of scale, see Ethier (1979, 1982). As argued there, the presence of such economies is likely to require trade in intermediate goods: trade in inputs to the various b_i themselves, in the present case. But consideration of such trade would complicate the model to no purpose, so I abstract from it.

Consumption. I suppose that each country behaves as though it has a utility function of the form

$$u = N^{-\epsilon} \sum_{i=1}^N \frac{\epsilon}{\epsilon - 1} y_i^{\frac{\epsilon - 1}{\epsilon}} + z \quad (6)$$

where y_i denotes consumption of the good produced by country i and z consumption of the local commodity. The above function will be used to measure the social welfare of developed countries. The implied demand for good i in each country is

$$y_i = \frac{1}{N} p_i^{-\epsilon} \quad (7)$$

where p_i denotes the relative price of y_i in terms of z . All additional income is spent on the commodity, z .

Free-trade equilibrium for the developed countries. To fix ideas, consider briefly a free-trade equilibrium between N identical developed countries. In a symmetric equilibrium, all goods are produced in the same amount, sell for the same price, and are consumed in equal amounts by all countries. Each country performs total b -stage production equal to the total production of precisely one good, and the allocation of b -stage activity among countries is indeterminate (so cross-penetration of direct investment may take place) but inconsequential. So assume, without loss of generality, that each x_i is produced by integrated firms located entirely in country i .

From (1), (2), and (3), the integrated production function for each country's good is

$$x = f(H, kL_b) \quad (8)$$

Designate z as numéraire and let ω denote the wage of skilled labor. Since skilled labor is paid the value of its marginal product⁷ in each use

$$\omega = pf_L(H, kL_b)k \quad \text{and} \quad \omega = g_L(U, L_z) \quad (9)$$

where subscripts denote partial differentiation. Thus

⁷The term k is treated as a parameter by b producers, since the economies of scale are external to the firm.

$$pf_L(H, kL_b)k - g_L(U, L_z) = 0. \quad (10)$$

Equations (5), (8) and (10) determine the supply function for each good:

$$x = x(p, L; L_b(N-1)), \quad (11)$$

where $L_b(N-1)$ denotes the total labor allocated to b -stage production by the other $N-1$ countries. I assume that the response of the integrated production function to the second-stage input is sufficiently curved, relative to the degree of economies of scale in the b -stage, that

$$\sigma_f > \frac{\frac{\sigma_k}{N}}{1 + \frac{\sigma_k}{N}}, \quad (A1)$$

where

$$-\frac{kL_b f_{LL}}{f_L} \equiv \sigma_f \quad \text{and} \quad \frac{NL_b k'}{k} \equiv \sigma_k.$$

This will ensure that $x_p > 0$.

International equilibrium is determined by the requirement that world supply x of each good equal the world demand implied by (7):

$$y = p^{-\epsilon}. \quad (12)$$

Note that

$$\frac{L}{p} \frac{\partial p}{\partial L} \Big|_x = -\frac{L}{p} \frac{x_L}{x_p} = -L \frac{g_{LL}}{-pf_L k} = -\frac{\sigma_g}{\lambda_z} < 0. \quad (13)$$

where

$$\sigma_g = -\frac{L_z g_{LL}}{g_L} \quad \text{and} \quad \lambda_z = \frac{L_z}{L}.$$

Thus an increase in the available supply of skilled labor shifts the supply curve to the left, raising equilibrium x and lowering p . This change in output in one country will generate international spillovers, and consequent changes in foreign production will in turn generate repercussions in the original country.

Protection in the industrial world. I assume that each developed country levies an ad valorem tariff, t , on the imports of each foreign good (and its own b -stage output, if that stage is performed abroad). I assume all developed countries are identical, and I shall confine attention to symmetric equilibria, so t will be the same for all countries and all goods. The tariff revenue is distributed to the public in lump-sum fashion (and so spent on z).

I assume that the commercial policy of each industrial country is the outcome of a political process in which unskilled labor attempts to secure rents. This will not be modeled explicitly. Instead I simply assume that the political process operates as if the country were maximizing a social welfare function that trades off labor's wage against aggregate welfare:

$$V = rw + (1 - r)u \quad (14)$$

where $w = g_U(U, L_2)$. The parameter r thus reflects the influence unskilled labor has over the political process. Detail concerning the constraints under which V is maximized will be supplied below, when I consider explicit international commercial systems.

Less Developed Countries

Each less developed country implements a commercial policy which is the outcome of a political process in which special interests attempt to secure rents. As with the industrial countries, this process will not be modeled explicitly. I am concerned not with marginal changes in protection, but in the possibility of fundamental economic reform. For this reason, I assume that the government of each less developed country must choose between just two possible policies: autarky or reform. With autarky, the special interests secure their rents. But if the social welfare benefit R of reform is expected to be sufficiently great, the government will attempt reform; let r^* denote the minimum the expected value of R must attain for the government to be tempted to forsake autarky for reform. The parameter r^* thus reflects the influence special interests have over the political process.

The only aspect of the less developed countries that I need model explicitly for what follows is the potentially open sector, where R is generated. This potentially open

sector contains a stock L^* of skilled labor which, in autarky, can be used to produce, for local consumption, a rudimentary good:

$$x^* = k^*(L^*)L^*, \text{ where } k^*(L^*) \equiv \alpha k(L^*), \alpha < 1. \quad (15)$$

The function $k(\cdot)$ is the same as that pertinent to the developed countries, but is evaluated as a function of local input alone, since the less developed country is in autarky and not part of the multilateral trading system. Finally, $\alpha < 1$ represents the fact that local production of the rudimentary good, undertaken without benefit of the sophisticated a stage, is less productive.

If the less developed country undertakes a successful reform, firms from the developed countries will establish subsidiaries there which employ some quantity, F , of skilled labor for their own b -stage production. This production will then be exported for final assembly, and some portion of that will be paid to F as wages. To capture the notion that final output has not been customized to meet the needs of the less developed countries, I assume that the latter regard their own rudimentary goods as perfect substitutes for the finished goods of the developed countries. The direct investment involves the transfer of global technology, so the subsidiaries' output will be $b^* = kF$, where k depends upon the total amount of labor allocated to b -stage production by developed country firms, including that of their subsidiaries in the less developed countries. In addition, with the less developed country now part of the multilateral trading system, global technology spills over to the production of rudimentary goods: $y^* = \alpha(L^* - F)k$, with k given by its international value.

If w^* denotes the wage, in terms of rudimentary goods, paid by the foreign subsidiaries, the value R of successful reform, also in terms of rudimentary goods, is simply $y^* + w^*F - x^*$. If the labor market is competitive, $w^* = \alpha k$. Thus R is determined by

$$R(k) = \alpha L^* [k - k(L^*)]. \quad (16)$$

The less developed country will be tempted to undertake reform if and only if the global economy is sufficiently productive that $\rho R(k) \geq r^*$, where ρ equals the probability that reform will succeed. Reform is successful if and only if the country succeeds in attracting foreign direct investment.

I assume that the less developed countries differ from each other in only one way: the propensity r^* to favor special interests. There are distinct classes of less developed countries, and I denote the value of r^* pertinent to class j by r_j^* , number the classes from 0 to 1, and rank them so that r_j^* rises as j rises. Let $M(j)$ denote the number of (identical) less developed countries in class j , that is, the number of countries for whom $r^* = r_j^*$. I will simplify the following analysis by assuming a continuum of classes:

the more relevant case of a finite number of classes is straightforward but tedious.

Let $M_R^*(\rho, k)$ denote the number of less developed countries that, given ρ and k , would attempt reform. Then

$$M_R^*(\rho, k) = \int_0^i M(j) \quad \text{where} \quad r_i^* = \rho R(k). \quad (17)$$

$M_R^*(\rho, k)$ is clearly increasing in each of its arguments.

4. Multilateralism

This section develops a simple theory of multilateralism, the second basic building block of this paper.

Unilateralism

First I describe an international equilibrium in which r and r^* are sufficiently large that $F = 0$ in each less developed country, and in which each developed country sets some arbitrary (but equal) t . Then I proceed to the Nash equilibrium in which the choice of t is optimal, given that every other developed country chooses the same t and that the less developed countries all choose autarky. This characterizes unilateralism.

A symmetric protectionist equilibrium. Suppose each developed country levies a common ad valorem tariff t on imports of each of the $N - 1$ foreign goods. Then equilibrium for each good is given by

$$f(H, k(NL_b)L_b) = \frac{p^{-\epsilon}}{N} + \frac{N-1}{N} [p(1+t)]^{-\epsilon} = \frac{p^{-\epsilon}}{N} [1 + (N-1)(1+t)^{-\epsilon}]. \quad (18)$$

An increase in t shifts the demand curve down, moving equilibrium along the supply curve, with x and p both falling. But the supply curve itself will also shift due to changes in b -stage production by the remaining $N - 1$ countries. Differentiate (18) and (10) to obtain the final effects:

$$\hat{L}_b = -\epsilon X \frac{\lambda_z}{\Delta} \frac{dt}{1+t}$$

$$\hat{p} = -\epsilon X \frac{\left(\lambda_b \sigma_g + \lambda_z (1 + \sigma_k) \left[\sigma_f - \frac{\sigma_k}{1 + \sigma_k} \right] \right)}{\Delta} \frac{dt}{1+t}, \quad (19)$$

where

$$\Delta \equiv \epsilon \lambda_b \sigma_g + \lambda_z (1 + \sigma_k) \left[\theta_{Lx} + \epsilon \left(\sigma_f - \frac{\sigma_k}{1 + \sigma_k} \right) \right],$$

$$\theta_{Lx} \equiv \frac{wL_B}{px}, \quad X \equiv \frac{x - \frac{p^{-\epsilon}}{N}}{x}.$$

Suppose the following condition is met.

$$\sigma_f > \frac{\sigma_k}{1 + \sigma_k} \quad (A2)$$

Then an increase in the tariff does lower both p and L_b . Note that **(A1)** does not imply **(A2)**, so that, with **(A1)** alone, global protection could conceivably raise L_b and influence p in either direction. But, with **(A2)**, which does imply **(A1)**, p falls proportionately less than the tariff itself: the domestic price of imported goods rises. In a symmetric equilibrium there are no terms of trade effects, and the reduction in L_b worsens the distortion due to the presence of an externality, so the welfare of each country is reduced, relative to free trade.

A Nash equilibrium in policy: unilateralism. Consider next the conduct of trade policy in a single developed country, given the policies of the remaining $N - 1$ countries. I assume that N is sufficiently large that the single country behaves as though its actions have no effect on the world prices of traded goods or on the global size of

b -stage production.⁸ Then the equilibrium of such a country corresponding to a choice of t is described by

$$f(H, kL_b) = \frac{p^{-\epsilon}}{N} + \frac{P}{p} \frac{N-1}{N} [P(1+t)]^{-\epsilon} \quad (21)$$

$$pf_L(H, kL_b)k - g_L(U, L - L_b) = 0.$$

Production of the national good equals domestic demand plus the exports required, at world prices, to pay for imports. P denotes the relative price, in terms of home commodities, of each of the $N-1$ foreign goods. The small-country assumption is that the home government proceeds as though k and P/p are exogenous. Then (21) gives:

$$\hat{L}_b = -\epsilon X \frac{\lambda_z}{\Delta'} \frac{dt}{1+t} \quad (22)$$

$$\hat{P} = \hat{p} = -\epsilon X \frac{[\lambda_z \sigma_f + \lambda_b \sigma_g]}{\Delta'} \frac{dt}{1+t}$$

where $\Delta' \equiv \lambda_z \theta_{Lx} + \epsilon [\lambda_z \sigma_f + \lambda_b \sigma_g]$. Thus an increase in t lowers both p and L_b . The reductions in p and P constitute a rise in the price of nontraded commodities relative to traded goods. Protection deflects spending from imported goods to commodities, raising their price and drawing skilled labor away from the production of goods. This in turn raises the reward of unskilled labor:

$$\hat{w} = \epsilon X \frac{\lambda_b \sigma_{gx}}{\Delta'} \frac{dt}{1+t}, \quad (23)$$

where

$$\sigma_{gx} \equiv L_z \frac{g_{UL}}{g_L}.$$

⁸Each country conducts trade policy by separately choosing $N-1$ import constraints, symmetry assuring that the $N-1$ choices are all the same; no deliberate export policy is chosen. This is important: while the small country assumption can be appealed to as justification for each country perceiving no influence in each of its import markets or on global economies of scale, the country is nonetheless the sole supplier of its own good.

With terms of trade effects and external scale effects both absent, the effect of a tariff change on utility, measured in terms of the numéraire, is simply the change in import volume multiplied by tp , the excess of the social value of a marginal import over its social cost:

$$\frac{du}{dt} = (tp) \frac{d\left(\frac{N-1}{N} [(1+t)p]^{-\epsilon}\right)}{dt} \quad (24)$$

The effect on the government's objective is $\frac{dV}{dt} = r \frac{dw}{dt} + (1-r) \frac{du}{dt}$. Note that $\frac{dV}{dt} > 0$ if $t = 0$: The government will always wish to institute some protection

because, with t initially zero, protection will produce a first-order increase in the wage of unskilled labor with no first-order effect on utility. Using (23) and (24), $\frac{dV}{dt} = 0$

when:

$$t^2 + \Lambda t - \frac{r}{1-r} \frac{x}{L_z} = 0, \quad (25)$$

with $\Lambda \equiv X\Delta' + \Delta' - X$. The positive solution to this quadratic equation defines the optimum (unilateral) tariff:

$$t^U = \frac{\left(\Lambda^2 + 4 \frac{r}{1-r} \frac{x}{L_z}\right)^{\frac{1}{2}} - \Lambda}{2} \quad (26)$$

The symmetric noncooperative equilibrium is given by (10), (18) and (26), which simultaneously determine L_b , p and t .

Multilateralism

I now consider the possibility of multilateral trade liberalization by the developed countries. In such a multilateral equilibrium, each developed country adopts the policy

that is optimal, if all other developed countries adopt the *same* policy, given the policies adopted by the less developed countries. That is, the developed countries jointly choose a common t . The less developed countries do not participate in the multilateral process, and I continue to assume that each has chosen a policy of autarky.

Multilateral equilibrium. Let t^M denote the optimal multilateral tariff, and let t° denote what this tariff would be if the developed countries ignored all terms of trade effects and scale effects of a tariff reduction, but otherwise took account of the fact that equations (19), rather than (22), indicate the effects on L_b and p when a tariff reduction is multilateral rather than unilateral. Because of the symmetry there will, in fact, be no terms of trade effects. If (A2) is met, however, a reduction in t will raise the common L_b , producing a positive scale effect. Since a small reduction of t below t° will have a zero first order effect on each government's objective function other than the positive scale effect, it must be that $t^M < t^\circ$ as long as (A2) holds.

Next, t° is, by definition, given by formula (26) with Δ' replaced by Δ . Thus $t^\circ < t^U$ if $\Delta > \Delta'$, and, given (A2), a sufficient condition for this is

$$\theta_{L_x} > \frac{1}{1 + \sigma_k}. \quad (\text{A3})$$

Thus (A2) and (A3) provide sufficient (but by no means necessary) conditions that multilateralism produce a common tariff lower than that resulting from unilateral tariff setting.

Multilateralism: summary. Proposition 1 summarizes the results of this section.

Proposition 1 (Multilateralism). *Suppose that (A2) and (A3) hold, and that each less developed country chooses a policy of autarky. Then, if a symmetric unilateral equilibrium among the developed countries is replaced by a symmetric multilateral equilibrium,*

- *The common tariff falls,*
- *B-stage production of each good rises, enhancing scale effects,*
- *The welfare of each developed country increases.*

Remarks. This section has developed, as a basic building block of my model, a rudimentary theory of multilateralism. To be useful for the model, the theory must mimic, in a stylized and transparent way, the essentials of post World War II experience. I now try to indicate the distinctive features of this theory.

First, no country attempts to manipulate the terms of trade to its advantage. The model justifies this by abstracting from export policy and by imposing a small country

assumption, but it really reflects a belief that such attempts have just not been important in practice.⁹ This implies a critical role for special interests: countries would otherwise adopt free trade unilaterally.

Second, national concern for social welfare also plays a key role. Countries would have no incentive to enter into multilateral arrangements otherwise.

Third, the purpose of multilateralism in this model is to internalize an externality: The development of a multilateral trading system confers benefits of technological spillovers, external economies of scale, and so forth, on all participants. Jointly setting their commercial policies allows countries collectively to address this.

Fourth, the theory assumes, unlike much recent literature,¹⁰ that individual countries can in fact credibly commit themselves to the multilateral policy even though, *ex post*, each government will not be doing the best it can—according to its own objective function—given the policies of the other governments. In practice, this has simply not been a significant problem with respect to the GATT-sponsored rounds of multilateral tariff reductions by the industrial countries.¹¹ When these countries have retreated from liberal trade, they have done so not by repudiating the tariff bindings they have undertaken, but by utilizing other, internationally accepted tools (safeguards, anti-dumping duties, etc.) or by stepping outside the GATT structure (voluntary export constraints). Consideration of these latter possibilities is not needed for the purposes of this paper, and I want to keep the model of multilateralism as simple as possible.¹²

5. Regionalism

The previous section assumed both that r_i^* was sufficiently large that $R(k) < r_i^*$ for the k determined in the unilateral equilibrium, and that the less developed countries did not

⁹For an alternative view, see Bagwell and Staiger (1996).

¹⁰For example, Bond and Syropoulos (1995) distinguish multilateralism from regionalism by assuming that in the former countries cannot precommit.

¹¹It has sometimes been a problem in other contexts, such as China and intellectual property protection.

¹²An earlier version of this paper did in fact contain administered protection not determined multilaterally, but I deleted it because it had no fundamental effect on the theory of regionalism developed below.

participate in the multilateral process. These assumptions in effect excluded the latter from the model. Now I bring them back in. I assume the following sequence of moves. Initially, the developed countries are in a unilateral equilibrium and the less developed countries have each chosen autarky. Then the developed countries, without participation by the less developed, negotiate the multilateral equilibrium and implement it. Next, the less developed countries observe t^M and the multilateral equilibrium value of k and *individually* decide whether to reform or not, taking t^M and k as given. Finally, the reform efforts are made, they succeed and/or fail, and a new international equilibrium emerges, with t still fixed at t^M but k determined endogenously.

Multilateralism and the Less Developed Countries

Implications of multilateralism for the less developed countries. With **(A2)** and **(A3)**, multilateralism will produce a lower tariff, and this could affect the less developed countries' unilateral choices of policy. From **(19)**, the lower tariff will increase L_b , causing k to rise. Since $R(k)$ is increasing in k , R also increases: Multilateralism increases the motivation for the less developed countries to reform. Interest centers on the case in which R rises enough so that some countries do indeed embark on reform. So make the following assumption.

$$R(k^U) < r_1^* < R(k^M), \tag{A4}$$

where k^U and k^M respectively denote the value of k in the unilateral equilibrium and in the multilateral equilibrium. **(A4)** ensures that all less developed countries choose autarky in the unilateral equilibrium, and that some will attempt reform in the multilateral equilibrium if the probability of success ρ is sufficiently high.

An attempted reform in a less developed country will succeed if and only if some firms from the developed countries undertake direct investment there, so turn to this question next. Direct investment will introduce trade in b -stage products, so developed country barriers to such trade must now be considered. Suppose that imports of b into the developed countries are subject to protection at the rate t_b . I postpone discussion of how t_b is determined.

If there is no direct investment, the cost, in terms of b of obtaining a marginal unit of z by production in the home developed country is $\omega/pk = f_L(H, kL_b)$, and the cost of obtaining it by establishing a foreign subsidiary in some less developed country is $\omega^*(1 + t_b)/k = \alpha(1 + t_b)$. Thus direct investment will be undertaken—and a reform attempt by some less developed country will be successful—if, in the multilateral equilibrium with no direct investment, $f_L(H, kL_b) > \alpha(1 + t_b)$.

Proposition 2. Suppose **(A2)**, **(A3)** and **(A4)** hold. Then if the developed countries shift from a unilateral equilibrium to a multilateral equilibrium, some less developed countries will attempt reform if the probability of success is high enough. Such an attempt would be successful in some countries if, in the multilateral equilibrium, $f_L(H, kL_b) > \alpha(1 + t_b)$.

International equilibrium. Next, consider a symmetric equilibrium in which the developed countries undertake direct investment in a set of reformed less developed countries. Let m denote the total employment of skilled labor by the foreign subsidiaries of each developed country. Assume an interior solution in which the developed countries transfer some, but not all, b -stage employment of skilled labor abroad, and not all of the skilled labor of the reformed less developed countries is employed by foreign subsidiaries. Equilibrium for each good is described as follows.

$$\begin{aligned}
 f(H, k(N(L_b + m))(L_b + m)) &= \frac{p^{-\epsilon}}{N} [1 + (N - 1)(1 + t)^{-\epsilon}] + \alpha k(N(L_b + m))m \\
 f_L(H, k(N(L_b + m))(L_b + m)) &= \alpha(1 + t_b) \\
 pf_L(H, k(N(L_b + m))(L_b + m)) &= g_L(U, L - L_b)
 \end{aligned} \tag{27}$$

The first equation of **(27)** requires that the supply of each good equal the total of demand at home, demand from other developed countries and demand from less developed countries; the second that direct investment proceed until the cost of skilled labor to the firm is the same abroad as at home; the third that the value of the marginal product of skilled labor be equated across alternative uses at home.

If, instead of an interior solution, each developed country shifts all b -stage production abroad, $L_b = 0$ and the third equation of **(27)** is dropped. If, on the other hand, all the skilled labor of each reformed less developed country is employed by foreign firms, $m = M_R^*L^*/N$, where M_R^* denotes the number of countries undertaking successful reform, and the first equation of **(27)** is dropped.

Equations **(27)** determine p , m , and L_b , given N , t , t_b , and the endowment of each developed country. Note that **(27)** is independent of the number of less developed countries that undertake (M_R) or successfully implement (M_R^*) reform, and that **(27)** does not determine how the total direct investment Nm is distributed among the reformers. A symmetric equilibrium would allocate Nm among all M_R in equal amounts $F = Nm/M_R$, thus ensuring that $M_R = M_R^*$. But there is no reason to expect this outcome because, from the viewpoint of the investing firms, all less developed countries are identical. So I assume that, when all potential hosts are equivalent, investing firms decide where to invest, among all potential hosts, by some random process.

If $Nm > (M_R - 1)L^*$, at least some investment must go to each potential host, so $\rho = 1$ and $M_R = M_R^*$. But otherwise distributions of Nm that leave some potential hosts without foreign subsidiaries do exist. With the location of direct investment determined at random,

$$\rho(M_R^*, m) = \Phi\left(\frac{Nm}{(M_R^* - 1)L^*}\right), \tag{28}$$

where Φ reflects the random process by which investment is allocated. Assume that $\Phi = 0$ if $m = 0$, $\Phi = 1$ if $Nm > (M_R^* - 1)L^*$, and $\Phi' > 0$ otherwise. Clearly ρ is decreasing in M_R^* and increasing in m whenever its argument is less than unity.

Equations (27) determine k and m , and (17) and (28) then simultaneously determine ρ and M_R^* , and thus $M_R = \rho M_R^*$ as well. Since ρ and M_R^* are positively related in (17) and negatively related in (28), the solution is unique. Thus a switch from unilateralism to multilateralism induces some (M_R) less developed countries to reform successfully, some $(M_R - M_R^*)$ to attempt reform and fail, and some

$\int_i^{i'} M(j)$ where $r_i^* = \rho R(k)$ and $r_{i'}^* = R(k)$] to wish to reform but to refrain from

trying because of the fear of failure. The condition for this is the following.

$$\begin{aligned} \text{With multilateralism and no investment: } & f_L(H, kL_b) > \alpha(1 + t_b); \\ \text{with multilateralism and investment: } & Nm < (M_R^* - 1)L^*. \end{aligned} \tag{A5}$$

Summarizing,

Proposition 3 (Unilateral reform). *Suppose (A2), (A3), (A4) and (A5) hold. Then if the developed countries shift from unilateralism to multilateralism, some less developed countries will attempt reform and succeed, some will attempt reform and fail, and some will wish to reform but not attempt it.*

Implications of reform for the multilateral system. Successful reform by some less developed countries will influence the international equilibrium and thereby have an impact on the developed countries. To obtain an idea of what this impact is, suppose that $m = 0$ initially and ask what effect an introduction of direct investment (dm) will have on L_b . This can be deduced by differentiating the first and third

equations of (27), solving, and evaluating at $m = 0$:

$$dL_b = - \frac{\lambda_z \theta_{Lx} \left(\sigma_k + 1 - \frac{w^*}{w} \right) + \epsilon \lambda_z [\sigma_f (1 + \sigma_k) - \sigma_k]}{\lambda_z \theta_{Lx} (\sigma_k + 1) + \epsilon \lambda_z [\sigma_f (1 + \sigma_k) - \sigma_k] + \epsilon \lambda_b \sigma_g} dm. \quad (29)$$

It thus follows from (A1) (or from (A2)) that $dL_b < 0$ but $dL_b + dm > 0$. Reform causes the developed countries to lose second-stage jobs for skilled workers, but it creates such jobs worldwide. As a consequence, k rises.

Proposition 4. *Suppose (A2), (A3), (A4) and (A5) hold. Then if the developed countries shift from unilateralism to multilateralism, the successful reforms by some less developed countries that follow will lower developed-country employment in b -stage production and increase world employment.*

There are two important implications. *First*, reform raises the social welfare of the developed countries and the income of unskilled workers: both components of the government's objective function rise. *Second*, the implied increase in k means that the benefit of being part of the multilateral system increases. Presumably this would enhance the strength of the commitment to that system.¹³

Thus far I have treated t_b as an arbitrary parameter, but in what follows it will prove convenient to know something of its magnitude. Also, the emergence of positive direct investment in this section suggests the possibility that the developed countries' objective function be modified to reflect the fact that direct investment has long been a contentious policy issue.

The multilateral negotiations cannot be thought of as determining t_b , since any nonnegative value is consistent with the multilateral equilibrium with all less developed countries in autarky. Also, setting $t_b = t^M$ is not satisfactory: As will be clear below, this will in general give each developed country an incentive unilaterally to reduce t_b . Instead I proceed as follows.

First, add to each developed-country government's objective function a third component, non-positively related to m .¹⁴ Second, suppose that t_b is at its symmetric Nash equilibrium value in the equilibrium described by (27). That is, t_b maximizes each developed country's objective function, in (27), given the multilateral solution $t =$

¹³This latter statement should be regarded as speculative since this paper does not model any commitment mechanism.

¹⁴Note that this is inconsistent with a zero weight, that is, with continuing to use (14).

t^M and given that every other developed country has implemented the same t_b .¹⁵

Since reform affects the international equilibrium, it will induce the developed countries to renegotiate the multilateral tariff, and this would in turn induce a reconsideration in some less developed countries of whether to reform, and so on. One could analyze the outcome of such a sequence of events, or, equivalently, reanalyze the multilateral process on the assumption that the developed countries correctly forecast the response of the less developed countries and take this into account. But such an exercise can be left to the reader, because my interest is only in the nature of the link, as revealed in this section, between multilateral liberalization by the developed countries and policy reform in the less developed countries.

Regionalism

I next introduce the possibility of regional arrangements between developed countries and less developed countries. I assume that such arrangements can be initiated after the developed countries switch from the unilateral equilibrium to the multilateral one, and while the less developed countries are considering whether to reform or not. I define such an arrangement as follows.

Definition (Regionalism). *A regional arrangement is an agreement between one developed country and one less developed country in which:*

The less developed country agrees—

- ◆ *To attempt reform,*
- ◆ *To levy a tariff of t^L on imports of goods from all developed countries other than those of its partner, whose goods will not be subject to duty;*

The developed country agrees—

- ◆ *To make a marginal reduction, $dt_b < 0$, in the duty applicable to b -stage output imported from its partner country.*

Note that a less developed country which attempts reform without entering into a regional initiative in effect sets $t^L = 0$ without discrimination. Thus a less developed country is now allowed to choose between two roads to reform: unilateral, nondiscrim-

¹⁵This does not require that $t_b > 0$. This can be assured by giving significant negative weight to m in the government's objective function, or by adding other components to that function reflecting the welfare of human capital or of skilled labor. I do not assume this, however.

inatory free trade, or bilateral preferential trade.¹⁶ Assuming that $t^l > 0$ only with regionalism avoids stacking the deck in the latter's favor.

A regional initiative. The first task is to enquire whether any such regional arrangements will be negotiated. Suppose, then, that the developed countries have moved from a unilateral to a multilateral equilibrium and that **(A4)** and **(A5)** hold. Then some less developed countries will want to attempt reform, but $\rho < 1$. Consider how a regional arrangement would affect such a country.

Such an arrangement would commit the country to undertaking reform. This is a big commitment, but the country wants to do it anyway. The trade preference implies that all imports will come from the partner country, so that t^l will be prohibitive—regardless of its positive level. This might cause the country's trade pattern to differ greatly from what it would be without a regional arrangement, but, again, this is of no consequence since the less developed country regards all goods as perfect substitutes. But the preferential reduction in t_b , though only marginal, is much more significant. From the point of view of firms considering direct investment to produce b -stage output for the partner country's good, all less developed countries choosing reform are completely equivalent, except for this marginal preference. Thus it serves to attract all such investment.¹⁷ This ensures that the reform effort will succeed: in effect ρ becomes equal to unity when the country signs the regional arrangement because of the "investment diversion" that the latter implies.

There will also be "investment creation." Distinguish variables pertaining to the developed country entering the regional arrangement by a "°". Then equilibrium is described by:

$$\begin{aligned}
 f(H, k((N-1)(L_b + m) + L_b^\circ + m^\circ)(L_b^\circ + m^\circ)) &= \frac{(p^\circ)^{-\epsilon}}{N} [1 + (N-1)(1+t)^{-\epsilon}] \\
 &\quad + \alpha k((N-1)(L_b + m) + L_b^\circ + m^\circ)m^\circ \quad (30) \\
 f_L(H, k((N-1)(L_b + m) + L_b^\circ + m^\circ)(L_b^\circ + m^\circ)) &= \alpha(1 + t_b^\circ) \\
 p^\circ f_L(H, k((N-1)(L_b + m) + L_b^\circ + m^\circ)(L_b^\circ + m^\circ)) &= g_L(U, L - L_b^\circ)
 \end{aligned}$$

¹⁶It is easy to see that a nondiscriminatory $t^l > 0$ will not in general be consistent with a Nash equilibrium for the less developed countries. Thus consideration of a nondiscriminatory protective policy would require that the model be given more structure.

¹⁷Provided, of course, that L^* is large enough to accommodate all such investment. Boundary solutions will be left to the reader.

$$f(H, k((N - 1)(L_b + m) + L_b^\circ + m^\circ)(L_b + m)) = \frac{p^{-\epsilon}}{N} [1 + (N - 1)(1 + t)^{-\epsilon}] + \alpha k((N - 1)(L_b + m) + L_b^\circ + m^\circ)m \quad (31)$$

$$f_L(H, k((N - 1)(L_b + m) + L_b^\circ + m^\circ)(L_b + m)) = \alpha(1 + t_b)$$

$$pf_L(H, k((N - 1)(L_b + m) + L_b^\circ + m^\circ)(L_b + m)) = g_L(U, L - L_b)$$

Equations (30) describe equilibrium for the developed country that is entering into a regional arrangement, and (31) describes the equilibrium of each of the remaining $N - 1$ developed countries. To see the effect of a regional initiative, suppose that (30) and (31) are initially identical, and differentiate them, with $dt_b^\circ < 0 = dt_b$. From the second equation of (30) and the second equation of (31):

$$\frac{d(L_b^\circ + m^\circ)}{L_b^\circ + m^\circ} = - \frac{N + (N - 1)\sigma_k}{\sigma_f N(1 + \sigma_k)} \frac{dt_b^\circ}{1 + t_b} > 0$$

$$\frac{d(L_b + m)}{L_b + m} = \frac{\sigma_k}{\sigma_f N(1 + \sigma_k)} \frac{dt_b^\circ}{1 + t_b} < 0 \quad (32)$$

$$\frac{N - 1}{N} \frac{d(L_b + m)}{L_b + m} + \frac{1}{N} \frac{d(L_b^\circ + m^\circ)}{L_b^\circ + m^\circ} = - \frac{1}{\sigma_f N(1 + \sigma_k)} \frac{dt_b^\circ}{1 + t_b} > 0.$$

Thus the total labor allocated, worldwide, to production of the good of the partner developed country increases and the labor devoted to production of all other developed countries' goods falls, but the former effect dominates, so that k increases, with the international spillovers this implies. The first and third equations of (30) imply that this will come about via an increase in m° and a smaller fall in L_b° . These effects will not be large—we're talking about marginal changes here—but the direction is unambiguous.

Now consider the effect of a regional arrangement from the point of view of a potential developed country partner. Such a country obtains a secure less developed country market for its good as a result of the preference it receives. But this may be of no real consequence: in equilibrium its export of goods to all less developed countries must equal the wage bill paid by its foreign subsidiaries, whether there is a regional arrangement or not. The developed country benefits from the agreement because of the investment creation it generates. This will produce a favorable effect on *social* welfare,

but the marginal change in t_b will have a zero first order effect on the government's objective function, since t_b has been assumed to have been optimally set. The principle gain to the government is merely the assurance that it will not find itself facing a tariff of t^L —and thus higher production costs for its good—in the event that all reforming less developed countries conclude regional arrangements with other developed countries. Thus the government of a developed country may see little to gain from a regional arrangement. But it has nothing at all to lose, and its potential partner has much to gain. Thus it is reasonable to expect that, if necessary, a side payment by the latter would produce such an agreement. For this reason I assume that developed countries would agree to enter into regional arrangements. Furthermore, other developed countries should not object to the regional arrangement, because the only effect on them will be the favorable rise in k .

But the regional arrangement will not be uniformly benign. Other less developed countries wishing to reform will be harmed. Suppose one less developed country enters into a regional arrangement, and suppose that this is a country that would undertake reform even in the absence of such an arrangement. Then the direct investment producing b -stage output for that country's partner will all be diverted there. Thus the numerator of the argument of ϕ in equation (28) falls by m ; the

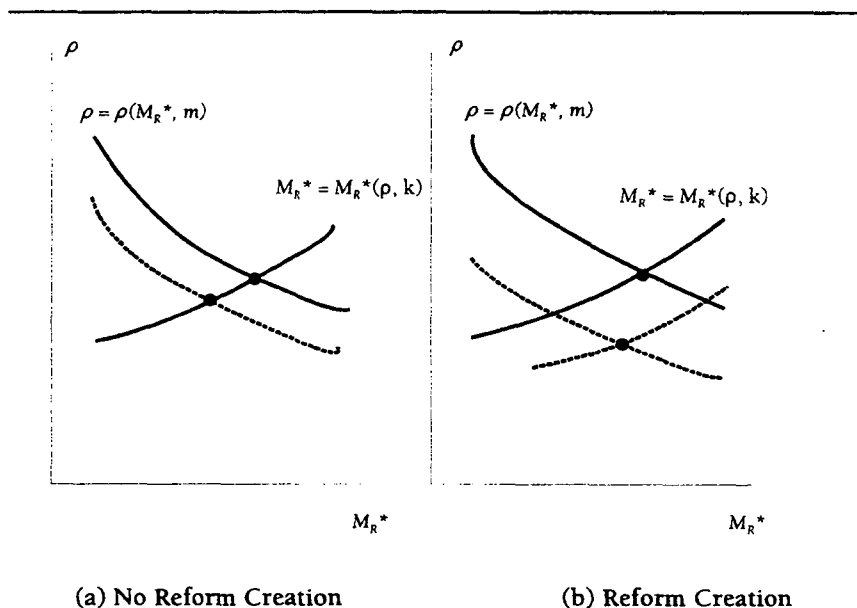


Figure 1 Reform Destruction

denominator is unaffected since the less developed country with the regional arrangement still remains a potential host for other direct investment. Therefore each value of

M_r^* now corresponds to a lower value of ρ in equation (28) than before: the function shifts down. See Figure 1(a). Equation (17) is unaffected. Accordingly, (17) and (28) now jointly determine lower values of both ρ and M_r^* than without the arrangement. Regionalism produces “reform destruction” by causing fewer countries to attempt reform and lowering the proportion of those who succeed.

Suppose now that the less developed country is one that, in the absence of the regional arrangement, would not have attempted reform at all. This can be termed “reform creation.” Then the numerator of the argument of ϕ in equation (28) still falls by m , but the denominator now also rises by L^* since the number of potential hosts increases by one. Thus (28) shifts down even more than before, tending to reduce both ρ and M_r^* more than before. But, in addition, (17) now shifts to the right by one, again because the number of potential hosts increases by one. This tends to nullify the fall in M_r^* but further accentuate that in ρ . See Figure 1(b). Thus the probability of success falls even more than before, but the number of countries attempting reform may either rise or fall, depending on the balance between reform creation and reform destruction.

Proposition 5 (Regionalism). *Suppose (A2), (A3), (A4) and (A5) hold. Then if the developed countries shift from unilateralism to multilateralism, both the developed countries and the less developed countries would each wish to enter into regional arrangements. If such an arrangement takes place,*

- *The less developed participant will successfully implement its reform by attracting all direct investment intended to supply b -stage output to its partner (investment diversion);*
- *The opportunity to enter into the arrangement may induce a less developed country to reform that would otherwise not have attempted to do so (reform creation);*
- *The arrangement will induce the developed country partner to invest more abroad (investment creation);*
- *Equilibrium k will rise, conferring spillover benefits on all developed countries and on all less developed countries that successfully reform;*
- *The number of less developed countries—other than the participant—that attempt reform will fall, as will their probability of success (reform destruction).*

Regional equilibrium. Proposition 5 describes the consequences of a single regional arrangement. But all developed countries would be willing to participate in such an arrangement, and all less developed countries that attempt reform will wish to do so. Furthermore, the reduction in ρ brought about by one initiative would, if anything, strengthen the resolve of the other less developed countries to do the same

thing, and individual developed countries would also become more tempted as more less developed countries link up with other developed countries. So consider the international equilibrium that would emerge if all countries are allowed freely to enter into such arrangements.

I have defined a regional arrangement as one between a single developed country and a single less developed country. But I do not mean to exclude the possibility that one country might enter into several arrangements with different partners, thus, in effect, allowing larger groupings. Then, regardless of the relative number of developed and less developed countries, all can potentially participate in some arrangement. But there are some possible constraints.

The first is that, if many less developed countries enter into arrangements with a single developed country, these arrangements may not guarantee the success of their reform efforts. This is because, although the arrangements will divert investment from nonparticipants to participants, there is nothing to guarantee that it will be distributed among all participants. Suppose that M_{RR} less developed countries establish regional arrangements with one developed country. For these arrangements to guarantee the success of each country's reform effort, it is necessary that $m > (M_{RR} - 1)L^*$. A less developed country will never enter into a regional agreement that violates this condition if an agreement with some other developed country would not violate it. Thus regional groupings would emerge in such a way as to satisfy the requirement, if that is possible. The number of less developed countries that would wish to undertake reform if they could be certain of its success is $M_R^*(1, k)$. Then the condition that guarantees that it is possible to accommodate all less developed countries that wish with regional arrangements that guarantee the success of their reforms is the following.

$$N \left(\frac{m}{L^*} + 1 \right) > M_R^*(1, k). \quad (\text{A6})$$

The second possible constraint concerns whether a country which has already entered into one regional arrangement would be willing to enter into another arrangement as well. Consider first the decision of a developed country. If its partner is not large enough to supply fully its need for b stage goods from abroad, this country will have every reason to take on another partner. But with an interior solution, the developed country has nothing to gain from a second arrangement. It has nothing to lose either, and its potential partner has much to gain. Thus it is again reasonable to expect that a side payment by the latter would produce such an agreement, and I accordingly assume that developed countries would agree to enter into multiple arrangements.

Now consider whether a less developed country would be willing to undertake

additional arrangements. These would attract more investment, but, with the success of its reform effort already guaranteed by one arrangement, there is no benefit to this. The less developed country has nothing to gain from additional arrangements, but nothing to lose either. The developed country, on the other hand, now has much to gain. With all less developed countries linked to developed countries through regional arrangements, the developed country without such a link will find its exports of goods required to pay for the labor employed in its foreign subsidiaries subject to the tariff of t^L , even though it must pay the same wage as everyone else. Since one party has much to gain and the other nothing to lose, I again assume that such an arrangement would be negotiated.

The nature of the regional equilibrium should now be apparent. With **(A6)**, all developed countries, and all less developed countries that wish to reform if $\rho = 1$, will be involved in regional arrangements that guarantee the success of all the reform efforts. Reform destruction will not take place, but reform creation will.

Proposition 6 (Regional equilibrium). *Suppose **(A2)**, **(A3)**, **(A4)** and **(A5)** hold. Then if the developed countries shift from unilateralism to multilateralism and **(A6)** also holds, and if regional arrangements are freely allowed, a regional equilibrium with the following characteristics will emerge.*

- *The N developed countries will establish regional arrangements with $M_R^*(1, k)$ less developed countries;*
- *Relative to the equilibrium without regionalism, more less developed countries undertake reform and more (i.e., all) of these succeed (reform creation);*
- *Relative to the equilibrium without regionalism, more foreign direct investment takes place (investment creation) and k is greater;*
- *Relative to the equilibrium without regionalism, both social welfare and the value of each developed country's objective function are higher;*
- *Exports of goods from the developed countries to the less developed countries are free of duty.*

Remarks. Several distinct features of this approach to regionalism should be noted. *First*, the major role of regionalism in this model is to facilitate reform in the less developed countries. A secondary role (because it is done marginally) is to stimulate investment. *Second*, the relation between multilateralism and regionalism in this model is benign. Regionalism is the consequence of multilateral success, not failure, and it in turn strengthens rather than undermines the basis for a commitment to the multilateral order. *Third*, I have used the terms "investment creation" and "investment diversion" to acknowledge one way in which the present theory does parallel the Vinerian paradigm. But in fact the analogy is much more apparent than real. For

example, trade diversion is the major negative influence in the Vinerian world, but investment diversion is strongly positive here, as the force behind the major benefit of regionalism. *Fourth*, the results in this paper are obviously sensitive to the very special assumptions of the model I have used. But those assumptions were chosen neither at random nor with a view to obtaining the present results. Instead they are intended to reflect—accurately but in sharp relief—just those features that I argued do in fact define the new regionalism.

6. Concluding Remarks

This paper described the stylized facts of the new regionalism and then constructed a simple formal model suggested by those facts. Analysis of that model generated a theory of regionalism, quite different from the standard Vinerian perspective, with strong conclusions about the nature and implications of regional integration. Although the conclusions depend on the strong assumptions of the model, they do suggest a particular view of current integration which may (or may not) have a much broader application than the model itself.

The argument which is suggested consists of several components which give crucial roles to the success of post-war multilateralism, the role of direct investment, and policy reform in many countries.

- The small-country participants in regional arrangements have embarked on programs of policy reform intended, at least in part, to enhance the role of international trade.
- Direct investment has been surging since the late 1980s. This is a basic reflection of the success of multilateral liberalization: As companies develop extensive international sales, they both follow their customers to serve them better and also rationalize their productive activities globally.
- Reforming countries anxious to join the multilateral trading system as soon as possible see the attraction of foreign direct investment as a key step.
- Attracting foreign direct investment requires making the country attractive relative to other, similar potential hosts, not relative to source countries.

- Regional arrangements can give a small country a marginal advantage—over other, similar, small countries—in attracting direct investment because they obtain marginally more favorable access to a large market than other nonparticipating small countries.
- The regional arrangements help spread the benefits of the multilateral trading system around the globe and enhance its value to all participants, thereby reinforcing, rather than undermining, support for multilateralism.

This paper has equated the success of a reform effort with the ability to attract direct investment. In practice, the commitment of the government to its announced reform is also extremely important. Analysis of this would require additional modeling, but one suspects that such an analysis would complement and reinforce the present one. A regional arrangement establishes an external commitment to reform that (weakly) binds future governments, thereby making the future preservation of reform (slightly) more credible. This in turn makes the country more attractive for direct investment, relative to similar countries without such external commitments.

The formal model described the small-country participants as less developed, and modeled them differently than the “large” industrial countries, but only some of the small countries in the examples that motivated this paper can be described as less developed. I suspect that the present analysis applies, in whole or in part, to the other cases as well. For example, the former communist countries of central Europe are eager to attract direct investment, the ultimate success of their reform efforts remains both in doubt and dependent on their ability to attract such investment, and the Europe Agreements have given them a small advantage over other, similar, countries: not by trade preferences, but by a higher implicit likelihood of future integration into the EU. For small industrialized nations, joining the EU, the problem is not so much to attract new direct investment as to remain attractive sites, in an increasingly integrated world, for activities currently conducted there. The small advantage they obtain is not additional preference, but future participation in EU decision making.¹⁸

The approach of this paper suggests the following relation of regionalism to multilateralism.

- The new regionalism is a direct result of the success of multilateral liberalization.

¹⁸For more on this, see Baldwin and Flam (1994).

- Regionalism is the means by which new countries enter the multilateral system and a means by which small countries already in it exploit its success.
- Regionalism is creating new industrial groups with an interest in preserving the liberal trade order.

Of course, any changes—regional initiatives are no exceptions—offer protectionists new scope for their efforts. An argument that regional initiatives reflect causes much more benign than a desire to divide the globe into several highly protected blocs does not establish that the latter will not in fact be the ultimate result. But this paper suggests that the new regionalism reflects the success of multilateralism—not its failure.

References

- Anderson, K. and R. Blackhurst [eds.] (1993), *REGIONAL INTEGRATION AND THE GLOBAL TRADING SYSTEM* (New York: St. Martin's).
- Bagwell, K. and R. W. Staiger (1993a), *Multilateral Tariff Cooperation During the Formation of Regional Free Trade Areas*. Unpublished manuscript.
- Bagwell, K. and R. W. Staiger (1993b), *Multilateral Tariff Cooperation During the Formation of Customs Unions*. Unpublished manuscript.
- Bagwell, K. and R. W. Staiger (1996), *Reciprocal Trade Liberalization*. Unpublished manuscript.
- Baldwin, R. E. and H. Flam (1994), *Enlargement of the European Union: the Economic Consequences for the Scandinavian Countries*. CEPR Occasional Paper No. 16.
- Bhagwati, J. and A. Panagariya (1996), *Preferential Trading Areas and Multilateralism: Strangers, Friends or Foes?* University of Maryland Center for International Economics Working Paper No. 22.
- Bond, E. and C. Syropoulos (1995), *Trading Blocs and the Sustainability of Inter-Regional Cooperation*. Forthcoming in Canzoneri, M., W. J. Ethier and V. Grilli [eds.], *THE NEW TRANSATLANTIC ECONOMY* (Cambridge: Cambridge University Press).
- Chichilnisky, G. (1994), *Trading Blocks with Endogenous Technology and Increasing Returns*, unpublished manuscript.
- de Melo, J. and A. Panagariya [eds.] (1993), *NEW DIMENSIONS IN REGIONAL INTEGRATION* (Cambridge: Cambridge University Press).
- Ethier, W. J. (1979), *Internationally Decreasing Costs and World Trade*, *JOURNAL OF INTERNATIONAL ECONOMICS* 9 (1), February 1979, pp 1-24.
- Ethier, W. J. (1982), *National and International Returns to Scale in the Modern Theory of International Trade*, *AMERICAN ECONOMIC REVIEW* 72 (3), June 1982, pp 389-405.
- Ethier, W. J. and H. Horn (1984), *A New Look at Economic Integration*, in: H. Kierzkowski (ed.), *MONOPOLISTIC COMPETITION AND INTERNATIONAL TRADE*, (Oxford: Oxford University Press) pp 207-29.
- Krueger, A. O. (1995), *AMERICAN TRADE POLICY—A Tragedy in the Making* (Washington: The AEI Press).
- Krugman, P. (1991), *Is Bilateralism Bad?* In: E. Helpman and A. Razin [eds.], *INTERNATIONAL TRADE AND TRADE POLICY* (Cambridge: MIT Press).
- Motta, M. and G. Norman (1994), *Does Economic Integration Cause Foreign Direct Investment?* Unpublished manuscript.
- Panagariya, A. (1996), *The Meade Model of Preferential Trading: History, Analytics and*

Policy Implications. University of Maryland Center for International Economics
Working Paper No. 21.