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A DOMINO THEORY OF REGIONALISM

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ABSTRACT

Regional liberalization sweeps the globe like wildfire while multilateral trade talks proceed at a glacial pace. Why are countries eager to liberalize regionally but reluctant to do so multilaterally? The answer of the GATT-is-dead school is that multilateralism is too cumbersome for contemporary trade issues. This paper proposes a very different answer. Recent regionalism is caused by two idiosyncratic events multiplied by a domino effect. The triggering events - the U.S.-Mexico FTA and the EC's 1992 programme - had nothing to do with GATT's health. The domino effect is simple. Political equilibria, which balance anti- and pro-membership forces, determine governments' stances on regional liberalization. Domestic exporters to regional blocs are a powerful pro-membership constituency. An event that triggers closer integration within an existing bloc harms the profits of nonmember exporters, thus stimulating them to boost their pro-membership political activity. The extra activity alters the political equilibrium, leading some countries to join. This enlargement further harms nonmember exporters since they now face a disadvantage in a greater number of markets. This second round effect brings forth more pro-membership political activity and a further enlargement of the bloc. The new political equilibrium is marked by larger regional trading blocs. In the meantime regionalism appears to spread like wildfire.

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## I. Introduction<sup>1</sup>

Regional liberalization is sweeping the world trading system like wildfire while the multilateral GATT talks proceed at a glacial pace. This conspicuous contrast is curious enough in itself, but it becomes even more remarkable when one considers specific issues. Despite more than a half-decade of talks, all proposals to liberalize agricultural trade, to grant equal treatment for foreign service firms and to cut tariffs along the lines of the US's "zero-for-zero initiative" have so far failed in the Uruguay Round. In sharp contrast more than a dozen countries are pounding on the EC's door, volunteering to make essentially these same concessions. In fact EC membership would require them to open their agriculture, services and goods markets to EC firms to a far greater extent than would be required under current Uruguay Round proposals. It is interesting that in many cases, the potential EC members offered to open these markets with limited internal debate; it was simply decided that EC accession was a "must." Surely some would-be members may be motivated by the EC's generous handout schemes, but Austria, Finland, Norway, Sweden and Switzerland would be net financial contributors.<sup>2</sup>

This stark contrast between regional and multilateral liberalization raises the question: "Why are countries eager to open markets regionally but reluctant to do so multilaterally?" Many conclude that the fault lies in the multilateral trading system. This GATT-is-dead school of thought views

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<sup>2</sup> CEPR (1992) estimates that the EFTAs combined net financial contribution would be approximately 3.5 billion ecu.

multilateral trade negotiations as outmoded and too cumbersome to deal with the complexities of contemporary trade issues. While there may be something to this line of thought, this paper proposes a very different answer. The stark contrast does not reflect a GATT failure -- GATT Rounds have always been long, have always been slow and have always been difficult. Indeed it does not even reflect a systemic phenomenon. I propose that the current wave of regionalism stems from two idiosyncratic events -- one in the New World and one in the Old -- that have been multiplied many times over by a domino effect.

### *Domino Effect in the Americas*

In the Western Hemisphere, the US and Mexico announced their intentions of forming a free trade area in 1990 for reasons that were largely geopolitical (the desire to foster stability in Mexico by boosting growth and by locking in pro-market reforms) and philosophical (the Bush and Salinas administrations were both pro-free trade). The entire Mexican economy is smaller than that of the Los Angeles basin, while European and Japanese markets account for more than half the world's economic activity. It seems highly unlikely that the US views this politically exacting, yet commercially unimportant, initiative as substituting in any way for global trade liberalization.

Announcement of the US-Mexico Free Trade Agreement (FTA) destroyed the political economy *status quo* in the Americas, thereby touching off a domino effect. Other North, Central and South American nations, which are heavily dependent on the US market, faced what appeared to be a *fait accompli*. Mexico-based producers would gain preferential access to the US market. This could be expected to harm the profits and market shares of firms based in third countries. Moreover, the preferential access to the US could be expected to divert foreign investment to Mexico at the expense of third countries. Canada, which depends very heavily on the US market, decided

that it had to be at the negotiating table and the North American Free Trade Agreement was born. This choice was made despite continuing domestic opposition to its first regional liberalization -- the US-Canada FTA. Other countries in the Hemisphere, such as Chile, Brazil, Argentina, Uruguay and Paraguay, formally or informally approached the US to begin bilateral FTA talks. Moreover, interest in President Bush's Enterprise for the Americas Initiative boomed in 1991 with 26 countries signing so-called Framework Agreements (these require the countries to make unilateral concessions on trade and investment to the US in exchange for the promise of closer US relations leading eventually to an FTA).

### *Domino Effect in Europe*

In Europe, the political leaders of the EC-12 decided in 1985 to create a Single Market as a means of renewing their drive towards monetary and political unity in Europe. Again the primary motives were geopolitical and philosophical, rather than commercial. Regardless of its *raison-d'etre*, the EC 1992 project posed a threat to non-EC exporters who depended heavily on the EC market. In particular cheaper and easier intra-EC trade was expected to reduce the relative competitiveness of non-EC firms, thereby harming their sales and profits. Non-EC exporters throughout the region recognized the threat and called for their governments to counter the losses. Moreover since non-EC firms could be expected to react by shifting manufacturing to the EC, many non-EC industrial labour unions echoed the call for action. The EFTA governments' original solution, the European Economic Area arrangement, was quickly eclipsed by a drive for full membership.<sup>3</sup> In 1989 and 1991 respectively, Austria and Sweden decided to join.

Now again the domino effect began to operate. The pending EC

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<sup>3</sup> Baldwin (1992).

enlargement made the potential loss of competitiveness even more threatening. That is, each EFTA nation individually faced the prospect of losing out in the EC-12 markets and in the markets of those EFTAs acceding to the EC. This effect was especially important for Finland and Norway due to their heavy dependence on the Swedish market. Since the combined EC and EFTA markets on average account for three-quarters of EFTA exports, the pressure on the holdouts mounted. Finland, Norway and Switzerland requested EC membership in 1992.<sup>4</sup> Note that accession would force all these countries to liberalize radically their agriculture and services markets as well as adopting a zero-for-zero reduction of remaining EC-EFTA trade barriers.<sup>5</sup>

#### *Asymmetric Lobbying Effort: Gaining Gains v Avoiding Losses*

The political economy forces driving these domino effects are strengthened by a peculiar tendency of special interest groups; they usually fight harder to avoid losses than they do to secure gains. In this light it is important that joining the regional integration in Europe and North America would allow countries to avoid damage as well as to gain new commercial opportunities. While there may be many explanations for this asymmetric phenomenon, I would propose a simple economic interpretation based on sunk cost.

Entry into most industries and markets involves large unrecoverable investments in product development, training, brand name advertisement and production capacity. In such situations, established firms can earn positive profits without attracting new firms only in as far as these profits constitute a

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<sup>4</sup>The Icelandic government, which is giving much thought to joining, has so far been deterred by the EC's common fishery policy.

<sup>5</sup> The domino effect caused by the Single Market Program continues. Turkey, Cyprus, some Magreb countries and virtually all of the Central and East European countries have expressed interest in joining.

fair return on the entry investments. Another way to say this is that sunk costs create quasi-rents. In such industries, consider the incentive to lobby. If a country's exporters obtain additional access to foreign markets, their sales and profits will typically rise. The increase in pure profit, however, will attract new competition, so the size of the gains must be limited. In the extreme, entry continues until all pure profit disappears. Correspondingly, the incentive to lobby for new export opportunities will be limited, and in the extreme will disappear altogether. Next consider the reaction of an established firm to an unanticipated policy change (such as the 1992 program, or the US-Mexico FTA) that would reduce its relative competitiveness and profitability. To be concrete, suppose that the change would wipe out half of its quasi-rents. Since it would not actually be losing money, the firm would not shut down. More to the point, the firm should be willing to spend up to half its quasi-rents on lobbying for membership, if doing so would reverse the loss of relative competitiveness.

The paper has three sections after the introduction. The next section presents the basic economic and political economic model. The third section discusses how the domino effect operates in the model, and the last section contains concluding remarks and suggestions for future research.

## II. Basic Model

Formalization of the domino effect presented in the introduction requires a model that first shows how closer regional integration affects the fortunes of industries based in nonmember countries and then connects these changing fortunes to the political decision-making process. The economic framework adopted is closely related to the setup used by Krugman (1991) in examining economic geography issues. The political economy model employed is related to Grossman and Helpman (1992).

### II.A The Economic Framework

Consider a world of "g" countries, "h" of which are members of the regional trade bloc. Without loss of generality, we refer to the trade bloc as the EC. Each country has two sectors: a differentiated-products sector (referred to as manufacturing) which is marked by increasing-returns and imperfect competition, and a perfectly competitive, constant-returns sector (referred to as the A sector). Technology and preferences over goods are identical in all countries. There are two classes of workers, labourers and firm owners. The preferences of the firm owners are:

$$U^F = C_A^{1-\phi} C_M^\phi, \quad C_M = [ \sum_i c_i^{(\sigma-1)\gamma\sigma} ]^{\sigma/(\sigma-1)}, \quad (1)$$

$$\sigma > 1, \quad 0 \leq \phi \leq 1$$

where the summation is over goods that are actually available,  $\sigma$  is the elasticity of substitution between any two varieties and  $c_i$  is the consumption of good  $i$ . The income of firm owners derives solely from profits. The preferences of labourers are given by:

$$U^L = C_A^{1-\lambda} C_M^\lambda, \quad C_M = [ \sum_i c_i^{(\sigma-1)\gamma\sigma} ]^{\sigma/(\sigma-1)}, \quad (2)$$

$$\sigma > 1, \quad 0 \leq \lambda \leq 1$$

Utility maximization by the representative consumers, subject to budget constraints, yields a typical country's demand function for a typical variety of manufactured good. This is:

$$c_j = \left( \frac{p_j}{P} \right)^{-\sigma} E, \quad P = [ \sum_i (p_i)^{-(\sigma-1)} ]^{-1/\sigma} \quad (3)$$

where  $E$  is the total expenditure of consumers on manufactured products. Labourers and firm owners spend a fraction  $1-\lambda$  and  $1-\phi$  on A, respectively,



so the demand for the "A" good is:

$$A = [(1-\lambda)E^L + (1-\phi)E^F] / p_A \quad (4)$$

where  $p_A$  is the price of A, and  $E^L$  and  $E^F$  are the total expenditures of labourers and firm owners.

The labour input requirement for a typical manufactured variety is:

$$l_i = \alpha + \beta x_i \quad \alpha, \beta > 0 \quad (5)$$

where  $x_i$  is the output of variety  $i$ . Alpha is a fixed cost. The cost of introducing a new variety is zero, so as usual, there will be only one firm producing each variety. Entry is ruled out, so the number of active firms is exogenous and equal to  $k$  per country. Each firm is owned entirely by the residents of the country in which it produces.

Two very strong assumptions on trade costs are made for tractability. Trade in the A good is costless while trade in manufactures is costly with the costs being of the "iceberg" type.<sup>6</sup> That is, shipping of manufactured goods between any two countries melts a fraction of the shipment. These trade costs are lower for intra-EC trade than for all other international trade. An EC-based firm that wants to sell a unit of manufactured goods in another EC country must ship  $\mu > 1$  units. All other trade, that is all non-intra-EC trade, requires that  $\tau > 1$  units be shipped for every unit sold. The essence of EC membership in this paper is that  $\mu < \tau$ . There are no trade costs for domestic sales.

The production function of good A is linear homogeneous. Units of

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<sup>6</sup> As shall become clear below, these two assumptions facilitate calculation of the equilibrium since costless trade in the constant returns goods pins down the prices of labor in terms of A in all countries and iceberg costs allow consideration of trade costs without altering the homogeneity of the manufactures' first order conditions.

A are chosen such that A's unit labour input coefficient is unity. With perfect competition and costless trade prevailing, this choice of units implies that the price of A is equal to the wage rate. As long as all countries produce in both sectors, competition in the A good equalizes the equilibrium wage in all countries. We take labour to be the numeraire.

Given the demand function, the typical manufacturer faces an iso-elastic demand curve.<sup>7</sup> For producers based in a non-EC country, the first order conditions are:

$$p(1 - \frac{1}{\sigma}) = \beta, \text{ for home sales,} \tag{6}$$

$$p(1 - \frac{1}{\sigma}) = \beta\tau, \text{ for export sales.}$$

where the p's are consumer prices, that is, cif prices. For a firm based in the EC, the first order conditions for sales to the home market and non-EC markets are the same as those for a non-EC firm, however for sales to other EC markets it is:

$$p(1 - \frac{1}{\sigma}) = \beta\mu, \text{ for EC export sales,} \tag{7}$$

Manufactured goods are measured in units that are chosen so that the unit input coefficient "beta" just equals  $(1 - 1/\sigma)$ . This implies that optimizing firms charge the same fob price (namely unity) for all sales regardless of destination. The cif prices for home sales are unity in all countries, for intra-EC sales price equals  $\mu$ , and all other exports are priced at  $\tau$ .

To simplify calculations of the general equilibrium demand patterns,

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<sup>7</sup> Actually the elasticity is only approximately constant, with the approximation improving as the number of varieties increases.

we assume  $\phi$  to be unity and  $\lambda$  to be strictly between unity and zero. By carefully choosing the units with which to measure national workforces, we can take  $E^L$  to be unity. Given manufactured goods prices are determined by profit maximization, it is easy to calculate sales in the various markets using the demand curve. With a constant demand elasticity of  $\sigma$ , operating profits (i.e. profits gross of fixed costs) in manufacturing equal  $(1/\sigma)$  times sales. In what follows, a crucial quantity will be the difference between equilibrium operating profit earned by typical firm when it is based in a member nation versus when it is not. This difference equals:

$$\Pi^{in} - \Pi^{out} = \lambda \frac{h(\mu^{1-\sigma} - \tau^{1-\sigma})}{\sigma} P_{ec}^{\sigma} + \frac{\lambda}{\sigma} (P_{ec}^{\sigma} - P_{non}^{\sigma}) \quad (8)$$

where,

$$P_{ec} = (k[1 - \mu^{1-\sigma} + h(\mu^{1-\sigma} - \tau^{1-\sigma}) + g\tau^{1-\sigma}])^{-\frac{1}{\sigma}}, \quad (9)$$

$$P_{non} = (k[1 + (g-1)\tau^{1-\sigma}])^{-\frac{1}{\sigma}}$$

The first term in (8) is positive and represents the increase in profits the firm would experience in all incumbents' markets. The second term, which shows the change in profits earned on home market sales, is negative. The profit earned on sales to third nations is unaltered by EC membership and therefore cancels out.

### II.B.1 General Political Economy Modelling Considerations

*Pressure Group Model vs Median Voter Model* The median-voter model (see Mayer [1984]) is a popular and elegant framework much used in the political equilibrium literature. However, it does not seem to capture the principal aspects of the policy formation process affecting EC membership. Indeed, one of the most remarkable facts about the trend towards regionalism

is the gap between the positions of governments and the positions of their electorates (as portrayed by public opinion polls). Both in Europe and North America, governments tend to espouse the views of pro-integrationist business leaders (and labour leaders as well in most of Europe), while the populace tends to be more wary. Thus it would appear unreasonable to adopt a model of the political process in which the government was simply a mouthpiece for the people. In fact direct democracy is not the usual way in which a country's government decides whether it wants to join a regional trade bloc.<sup>8</sup> Even if a referendum is held on the final negotiated accession treaty, the decision to engage in the negotiations is usually taken in the setting of representative democracy. Thus, the decision is influenced by pressure groups.

Both Hillman (1989) and Baldwin (1985) point out that under realistic assumptions, elected officials may not be fully aware of the economic interests of their constituents. And their constituents may not be familiar with all the policies (and their economic consequences) championed by their elected representatives. Consequently, Baldwin (1985) notes, groups of voters "may have to engage in time-consuming and costly lobbying activities to bring its viewpoint to the attention of legislators. Similarly office-seekers need funds to inform the voters of how they have served them or will do so in the future." The so-called pressure group model, or lobbying model, developed by Olson (1965) and others, focus on the costs and benefits of lobbying and its impact on policy. Grossman and Helpman (1992) provide a modern, rigorous treatment of the lobbying model.

*Grossman-Helpman Approach to the Pressure Group Model* The basic political influence technology adopted in this paper is similar to the Grossman

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<sup>8</sup> In the one country where direct democracy is the political norm, viz Switzerland, the governments demand for membership was effectively overturned by a referendum on the European Economic Area agreement.

and Helpman (1992) approach to the pressure group model. Two assumptions in the Grossman-Helpman approach are crucial to tractability: the policy maker's objective function is linear in campaign donations and social welfare, and interest groups can make donations contingent on the actions of the policy maker. Grossman and Helpman (1992) provide several justifications of the fixed-weight-linear objective function. First, it can be taken as a reduced form for a political process where politicians' true objective is reelection and the odds of survival increase linearly in aggregate campaign donations and utilities of individual voters. Alternatively, they conjecture that it can be interpreted as a reduced form of a broad class of political process models in which, "politicians may value donations not only for the marginal effect that advertising and other campaign expenditures have on voter behaviour, but also because the funds can be used to retire campaign debts from previous elections (which many times are owed to the politician's personal estate), to deter competition from quality challengers, and to show the candidate's abilities as a fund raiser and thereby establish his or her credibility as a potential candidate for higher political or party office." Regardless of the justification, this fixed-weight linear objective function allows us to think of campaign donations as direct payments to risk neutral policy makers.

Grossman and Helpman (1992) also assume that organized special interest groups can specify donation contracts, or "contribution schedules" that stipulate how large a donation will be made for each possible policy stance chosen. In the first of the two stages in the Grossman-Helpman model, contracts are announced by private groups and in the second, the government sets policy and collects donations. It is useful to think of these schedules as enforceable employment contracts where special interest groups "employ" policy makers to do their bidding in exchange for performance-related compensation. Note that the donations are "ex post" in the sense that they are

paid after the policy has been chosen by officials that have already been elected. Each group chooses the donation contract that maximizes its own welfare, taking the contracts of other special interest groups as given.

Plainly one does not observe formal, enforceable contracts between policy makers and special interest groups (except when they are entered as evidence by the prosecution). It is, therefore, worth justifying the assumption in more depth. Even if not all real-world donations are made on this "contractual" basis, one can think the donation contracts as a simple way of capturing the potentially very complicated real-world compacts struck between special interest donors and policy makers. After all, regardless of the actual details of the informal agreements between policy makers and interest groups, the practical intent of these agreements is to reward the policy makers if and only if they choose policies that benefit the donating special interest group.

It would seem that the enforceability assumption could be dropped in a more complex model. For instance, using a repeated game setup and the Folk theorem, I conjecture that *ex ante* donations would have the same effect as enforceable donation contracts. The equilibrium would involve politicians faithfully sticking to the bargain in order to avoid an off-equilibrium punishment consisting of the donors backing the politicians' opponents. It would be very interesting to model such a situation explicitly.

*Principle-Agent Interpretation* The fixed-weight linear objective function together with performance-contingent donation contracts, makes it easy to frame the political process as a principle-agent problem where the government is the "agent" and competing interest groups are the "principles." This, in turn, allows direct access to the well-developed literature on principle-agent problems. Grossman and Helpman (1992) draw on the very general analysis of Bernheim and Whinston (1986a,b), which enables them to consider an extremely broad class of "contracts" between special interest groups and policy

makers. This high level of generality makes it difficult to say very much about the nature of the resulting political equilibrium apart from the fact that it exists. To characterize further the political equilibrium, Grossman and Helpman (1992) impose more structure on the problem in two steps. First they consider all donation contracts that are differentiable around the equilibrium. Second they focus on the Bernheim-Whinston notion of a "truthful Nash Equilibria," which restricts the contracts to a very specific form.<sup>9</sup> Namely, the donation of any special interest group equals the group's gross welfare minus a fixed amount that is chosen optimally. Bernheim and Whinston defend this concept by showing that such contracts would never be sub-optimal and that equilibria supported by truthful contracts and only these equilibria are stable to non-binding communications among the players.

### II.B.2 Specific Political Influence Technology

The government of the typical country chooses whether to join the EC or not. We capture this choice with the variable "u," which equals unity if they decide to join and zero otherwise. The choice is taken to maximize political support, which in turn depends positively upon the level of donations by industry, the level of social welfare net of donations, and on a third term "R" which reflects the support of groups that oppose EC membership on non-economic grounds. Thus, the government's problem is to choose u in order to maximize:

$$u[(1-a)D^{ln} + aW^{ln}] + (1-u)[(1-a)D^{ow} + aW^{ow} + R]$$

where "a" is a parameter that lies between zero and one, the D's and W's are

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<sup>9</sup> The adjective "truthful" comes from the fact that in the principle-agent set up, these contracts imply that the principles pay the agent her full marginal product minus some fixed amount. This, of course, means that the incentives of the agent to change her behavior on the margin truthfully reflects the worth of such changes to the principles.

the levels of donations and social welfare when the country is "in" or "out" of the EC respectively, and  $R$  is the support from anti-EC groups that the government receives if it decides not to join the EC.  $R$ , which measures the country's general resistance to membership, varies across countries. The parameter "a" measures the extent of the political distortion. If "a" equals unity, the government acts as a social-welfare maximiser. The further "a" is from unity, the greater is the political distortion. In this model, greater political distortion leads to the interests of exporters receiving greater weight in the policy making process. We take social welfare to be the sum of utilities, that is  $W = U^L + U^F$ , so:

$$\begin{aligned} W^{in} &= (1-\lambda)^{1-\lambda}(\lambda)^\lambda P_{ec}^{\lambda\sigma/(1-\sigma)} + k\Pi^{in} \\ W^{out} &= (1-\lambda)^{1-\lambda}(\lambda)^\lambda P_{non}^{\lambda\sigma/(1-\sigma)} + k\Pi^{out} \end{aligned} \quad (11)$$

Following Grossman and Helpman (1992), the donation contracts in this paper are restricted to be "truthful" in the Bernheim-Whinston jargon and actual donations to be nonnegative. All manufacturing firms in a country are organized into a lobbying group. The group's truthful donation contract is:

$$D^{in} = k\Pi^{in} + B, \quad D^{out} = k\Pi^{out} + B \quad (12)$$

where  $B$  is a scalar and  $k$  is the number of manufacturing firms per country.

Given the donation contract, a typical government decides to join the EC if and only if:

$$R \leq (1-a)k[\Pi^{in} - \Pi^{out}] + a[W^{in} - W^{out}] \quad (13)$$

Which can be rewritten as:

$$R \leq k[\Pi^{in} - \Pi^{out}] + a(1-\lambda)^{1-\lambda}(\lambda)^\lambda [P_{ec}^{-\lambda\sigma/(\sigma-1)} - P_{non}^{-\lambda\sigma/(\sigma-1)}] \quad (14)$$



*Membership: The Supply Side* The model so far only describes the demand for membership. We now turn to the "supply" of memberships. As was mentioned in the introduction, the truly remarkable fact is that the demand for membership in regional trading blocs has spread rapidly. The actual enlargement of the blocs has proved much slower. In fact as of the middle of 1993, neither the North American Free Trade Area nor the EC enlargement has yet been completed.

To focus on why so many countries wish to join trading blocs, as opposed to focusing on how many actually get in, we assume that the supply of membership is perfectly elastic. That is to say, that the EC is an open club; any one who requests membership is admitted. Of course this assumption does quite a bit of violence to the reality of EC politics. In future research, it would be quite interesting to specify a more realistic supply of membership schedule.

*Political Choices of Industry* Having restricted special interests to "truthful" donation contracts, the political choice of manufacturers is limited to the size of the constant term in the donation contract. Since there is only one organized donator, the level of  $B$  has no influence on the shape of policy, as long as the government is willing to accept the donation contracts. The way to tie down  $B$  in this simple principle-agent problem is to use the voluntary participation constraint.<sup>10</sup> That is if the agent (in this case the government) is to accept the contract offered, the level of its equilibrium "utility" must be at least as great as its reservation level. In our case, the government could refuse all contingent donation contracts. Thus if the lobbying groups are to have any influence over the government, they must choose a  $B$  such that the government is at least indifferent to refusing their donation contract.

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<sup>10</sup> Grossman and Helpman (1992) show how to find the equilibrium  $B$ 's when the problem is too complicated to use the participation constraint.

*Political Heterogeneity Among Nations* Although all countries are symmetric economically, we assume that they differ in terms of the degree of non-economic resistance to EC membership. Arranging the countries in order of increasing resistance, we can plot the degree of resistance against the number of EC members. In figure 1, this is shown as the RR. Clearly, we can think of there being a continuum of countries, so  $h$  is a continuous variable, or we can view RR as the line that connects the points representing individual countries. In the figure, we have assumed that there is negative resistance to membership in some countries. That is to say, the government loses political support for non-economic reasons, if it does not choose membership.

### III. 1992 and the Domino Effect

The political equilibrium, for a given  $\tau$  and  $\mu$ , can be found with the help of Figure 1. The locus EE plots the right-hand side of equation (14). Since  $P_{ee}$  is decreasing in  $h$ , and  $\Pi^{\text{in}} - \Pi^{\text{out}}$  is increasing in  $h$ , it is straightforward to show that right-hand side of (12) is upward sloping as shown in the figure. The equilibrium number of members will be below the maximum of  $g$ , if there are countries in which there is sufficient resistance to EC membership to ensure that the locus RR will eventually rise above the EE schedule. The equilibrium number of members,  $h_0$  in the figure, is given by the intersection of the EE and RR schedules. For all countries to the right of  $h_0$ , the non-economic resistance to membership exceeds the net economic benefit from switching from nonmember to member status. For all those to the left, the political support gained from being "in" versus "out" outweighs the political resistance to membership. More precisely, respecting the integer constraint, we can say that equilibrium  $h$  is the highest integer that is less than  $h_0$ .

Given the economic and political economic components of the model, it is quite simple to see how a domino effect could occur. Consider the impact of a policy change, such as the Single European Act, that makes intra-EC trade cheaper. In our model this is reflected by a lowering of  $\mu$ . The impact of a reduction in  $\mu$  shows up in figure 1 as a rise in the EE schedule at all points except  $h=0$ . To show this, note that the derivative of the right-hand side of (14) with respect to  $\mu$  is:

$$a(\lambda)^\lambda(1-\lambda)^{1-\lambda}\left(\frac{-\lambda\sigma}{\sigma-1}\right)P_{ec}^{\frac{-\lambda\sigma}{\sigma-1}-1}(dP_{ec}/d\mu) + d(\Pi^{in} - \Pi^{out})/d\mu$$

Since the EC price index falls with  $\mu$  and the operating profit difference increases with  $\mu$ , the derivative is clearly positive. Of course at  $h=0$ , the price and operating profit differences are zero. The new equilibrium number of members is  $h_2$ . The difference between  $h_1$  and  $h_2$  is caused by the "domino" effect. Namely, falling trade barriers in one set of countries triggers a fall in the barriers of other countries. Although there are no formal dynamics in this model (see the discussion by Gylfason for a consideration of dynamics), it is useful to illustrate the domino effect by telling the story of the increase from  $h_0$  to  $h_2$  as if the increase in EC applications took place over time.

The initial shock of closer EC integration (lower  $\mu$ ) raises the political economic gains from membership enough to overcome the intrinsic resistance to membership in some countries. In particular in the first round of effects, the political economy support for membership rises from A to B in figure 1. Thus, in the first round, all countries whose resistance is between A and B would join, thus boosting membership from  $h_0$  to  $h_1$ . The rise in  $h$ , however, affects the choices of the remaining non-members. In particular, governments would judge that the political economy support for membership was equal to

C in the figure. This would prompt applications from all nonmembers whose resistance was between B and C. Of course this further rise in membership would provoke a fresh batch of membership applications and the process would continue until the new equilibrium was reached. Thus although the fundamental cause of enlargement is the exogenous deepening of EC integration, this initial shock is amplified by the way in which enlargement makes nonmembership even more costly.

#### IV. Concluding Remarks

This paper presents a simple model of how an idiosyncratic shock, such as deeper integration of an existing regional bloc, can trigger membership requests from countries that were previously happy to be nonmembers. The basic logic is simple. The stance of a country's government concerning membership is the result of a political equilibrium that balances anti-membership and pro-membership forces. Among the pro-EC forces are firms that export to the regional bloc. Since closer integration within a bloc is detrimental to the profits of nonmember firms, closer integration will stimulate the exporters to engage in greater pro-EC political activity. If the government was previously close to indifferent (politically) to membership, the extra activity may tilt the balance and cause the country to join the bloc. If the bloc enlarges, the cost to the nonmembers increases since they now face a cost disadvantage in an even greater number of markets. This second round effect will bring forth more pro-EC political activity in nonmembers and thus may lead to further enlargement of the bloc. The new political equilibrium will involve an enlarged regional trading bloc. In the meantime it would appear that regionalism was spreading like wildfire.

The actual model presented in this paper is highly stylized. In particular we ignore the organized opposition to membership based on

economic grounds. In both the New and the Old Worlds, this ignores the potentially important opposition of labour-intensive industries and agriculture (in some countries). More importantly, we did not model the supply side of membership. That is, we did not consider whether the incumbents would welcome the new entrants.

In future research it should be possible to develop a set of hypotheses based on this simple model that could be tested against the experience of the EC. Stepping away from the strong symmetry in the model, it should be possible to show that those countries that partake in the enlargement should depend rather heavily on exports to the EC (since their export profits would be greatly affected) and have a rather small home market (since the loss of profits on home sales due to the market opening would be small).

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Figure 1

