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DIRECT INVESTMENT AND LOCAL CONTENT RULES IN THE EUROPEAN COMMUNITY

by

Thomas Andersson

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Thomas Andersson
The Industrial Institute for Economic and Social Research
Box 5501, 114 85, Stockholm
Sweden

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Abstract:

This paper analyses the behaviour of competing governments in the EC with respect to inflows of direct investment. Solving a non-cooperative sequential bargaining game in which host countries gain from direct investment through tax revenue or imposition of forced local subcontracting, it is concluded that a successful 1992 program does not allow discrimination of direct investment. As they bid against each other for the attraction of projects, the EC countries will give away rents generated by protectionism. Hence, multinational firms may temper the emergence of trading 'blocs' through their ability to play individual countries against each other.

DIRECT INVESTMENT AND LOCAL CONTENT RULES IN THE EUROPEAN COMMUNITY[1]

1. Introduction

The established principles of free trade are today in for severe challenges, and there is a tendency away from multilateralism towards liberalization on a regional basis. The European Community (EC) has decided to remove all remaining economic barriers between the member states by 1992, the United States and Canada have formed a free-trade area, and the Asia-Pacific region has cautiously agreed to form a 'non-treaty organization'. There is a widely spread fear that the world economy will be segmented into 'blocs' of countries which pursue protectionist policies vis-à-vis each other.

There is a common perception that the path chosen by the EC greatly influences whether the future will lean towards multilateralism or bilateralism. The EC will not only comprise the world's largest single market, but it will also be the world's largest trader, and the completion of the common market by 1992 represents the first process ever through which a great number of heterogeneous and formerly sovereign countries voluntarily join within one borderless entity. While its external policy post-1992 has not yet been defined, private firms around the world are not passively awaiting a possible 'Fortress Europe'. Together with the attraction of a sizeable, uniform market, the risk of export barriers contributes to making outside firms undertake direct investment in the EC, particularly from Japan. The EC countries are ambivalent as, on the one hand, domestically owned firms are outcompeted but, on the other hand, there is an infusion of desirable capital and technology.

The inherent tension between foreign investors and a host country is well-known since Vernon (1971) and Moran (1974). Doyle and van Wijnbergen (1984) and Andersson (1990) have added by analyzing the implications for taxation and nationalization policies in countries which compete among each other for the attraction

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of direct investments. The EC presents a further complication, as it consists of heterogeneous countries with at least partly integrated markets. In order to explore what policies prevail under such circumstances, this paper models the behaviour of two countries vis-à-vis firms with potential profits from direct investment in either of them. The countries and firms interact within a sequential game which is solved for subgame perfect equilibria. A country that attracts direct investment is taken to acquire parts of the rents either through tax revenue or from the imposition of local content rules, which force foreign investors to subcontract locally. Subsequent to the undertaking of direct investment, however, firms can reallocate their production apparatus, which must be taken into account by the countries when designing their policies.

As the trade policies presently pursued by the member countries of the EC cannot be understood as motivated by concern for social welfare, and following the realization that governments respond to political pressures (Buchanan and Tullock, 1965, Olson, 1965), it is further assumed that governments' objective functions take full account of government revenue and producer surplus, but neglect consumer welfare. This construction is not entirely representative of the real world, but it is worth while to consider how policies might develop in this extreme case.

Section 2 discusses the undertaking of direct investment in the EC. The model is introduced in Section 3 and a 'local' condition given for when local content rules pay. Section 4 extends the model with interaction between competing host countries and, taking taxes as given, determines a subgame perfect equilibrium for this 'regional' case when there is sequential bargaining. The role of host countries' ability to alter taxes and provide investment incentives is considered in Section 5. Section 6 discusses the implications of the model results for the EC's trade and investment policy in connection to the 1992 program. Section 7 concludes.

2. Direct Investment in the EC

By 1992, when all flows of goods and factors become completely free between them, the EC countries must decide a common external policy. Various trading partners are

already dealt with differently, which will continue post 1992. Japan and the Newly Industrialized Countries in East Asia belong to those that are especially restricted in their access to the common market. Various non-tariff barriers, including quotas, voluntary export restraints and the threat of antidumping proceedings reduce import volumes and raise prices, so that large rents are created. By setting up local production, particularly Japanese firms seek a way to price and sell more freely. In 1986-88 alone, Japanese firms invested more in the EC than during the previous 35 years. With continued restrictions on imports, and given some other factors such as a remaining strong yen, Dunning and Cantwell (1989) estimate that the output of Japanese firms in Europe may be 20-25 times higher in the mid 1990s than it is today.

Japanese subsidiaries are producing mostly within the EC and focusing on activities in which they have a marked technological advantage vis-à-vis European firms. Most have gone to service industries, including finance and insurance, and electrical and transport equipment. In order to retain control, they tend to be completely foreign owned. Moreover, Table 1 shows that the stock of Japanese direct investment is now much more diversified across many countries than previously. The British share declined from 85.1 per cent to 31.3 per cent between 1960 and 1980. Luxembourg, the Netherlands and West Germany had all acquired shares of 9 per cent or more in 1987. The locational advantages reported by Japanese investors for each country are given in Table 2. As can be seen, the size of the domestic market was the crucial factor for some 9 per cent of all firms only, while the quality of the distribution system, the level of infrastructure and the quality of the labour force were relatively important.

Direct investment which is driven by artificial barriers to trade is not necessarily socially efficient as the host country might have done better to import. Given barriers to imports, however, it is welfare-increasing for the host country. Not only consumers gain, but there is also a spurt in tax revenue, and possibly producer gains as well. Host countries generally seek to improve their outcome through various kinds of performance requirements. Table 3 reports on the proportion of Japanese firms in the EC which are subject to different kinds of requirements within four different industries. As can be seen, the creation of employment opportunities was the most

important, followed by exports and technology transfers. Within process and assembly industries local content was an important target. These measures try to make local agents, whether workers, the government or local suppliers, acquire a greater share of the rents generated from direct investment. At the same time, the investing firm is forced to undertake a suboptimal restructuring. In the case of local content rules, for example, the local suppliers are less efficient than the original ones, damaging the quality of output and reducing the profits. The level of a rule can be set arbitrarily, so that it can be adapted to the capacities of local industry. However, each host country must balance the desires of attracting investments and appropriating the gains. In order to explore what policies can be expected under these circumstances, the next section sets up a model which is tailored to illustrate particularly the interaction between EC-countries and Japanese firms, but which is also of a more general interest for analyses of regionalism and the response of multinationals.

3. The model

Consider two economies, A and B, which have adopted a common external tariff as well as a binding non-tariff barrier to imports of certain goods from a third country. Firms in the third country are assumed to enjoy competitive advantages in production of these goods relative to firms in A and B due to differences in ownership-specific factors. These factors are treated as inherent to their organizations, so that they are most efficient when internalized. In consistency with the eclectic approach (Dunning, 1977), the foreign firms may therefore gain from setting up subsidiaries abroad, i.e. undertaking direct investments. The firms are assumed to maximize their profits net of tax, while governments use objective functions that take full account of producer surplus and tax revenue, but neglect consumer surplus.

The degree of market integration of A and B, $\alpha \in [0, 1]$, determines to what extent a firm can sell not only in the country where it is established, but also in the other one. This is influenced by trade costs, public barriers, differences in product standards, etc. See Table 4 for a list of the notation used. To begin with, we view the level of

profit, π, as given. Moreover, we take the firm's production function and the scale of its operations for granted, as this need not be considered for the analysis at stake here. A country that attracts direct investment obtains part of the profit through tax revenue. In addition, it may impose a performance requirement to enhance the outcome for the local economy, which is thought of as a local content rule. Requirements for more employment opportunities or greater export earnings affect firms somewhat differently, but would not lead to different conclusions in the present framework. By forcing the foreign investor to use domestic suppliers, a local content rule makes domestic firms share the rents while, at the same time, weakening the quality of output and reducing the profit. Countries are viewed as able to discriminate local content rules ($\gamma \in [0, 1]$) between firms, so that host country policy can be studied vis-à-vis one firm at the time. Imposition of γ is assumed to diminish a firm's profit linearly, from 0 per cent ($\gamma = 0$) to 100 per cent ($\gamma = 1$). The tax rate, ϕ, is limited according to $\phi \in [0, 1/(1+\alpha))$. The upper boundary, which is not part of the set, is necessary for a solution to be obtained. Thus, ϕ is fixed at an optimal level which is the same in A and B. This assumption is relaxed in Section 5.

To keep things simple, consider a firm, F, from the third country, which faces the choice whether to invest in country A or B, or export restrained by their non-tariff barrier. As the supply of firm-specific assets is limited, it is assumed that F can set up a subsidiary only in one country at the time. The firm's maximization problem is

$$(1) \qquad \underset{\text{export/in}_i}{F \max} \; u_F = \max \{0, (1-\phi)(1+\alpha)\pi(1-\gamma_i) - s\} \qquad ; i = A, B.$$

where u_F is the gain of the firm, i is the country in which direct investment is undertaken, and s is a sunk cost required for the set-up of a subsidiary. Throughout, subscript denotes 'player', while superscript is reserved for time periods. The gain in the case of exports is normalized to zero, although this alternative in itself may correspond to a handsome profit due to the rents created by non-tariff barriers. Note that A and B are identical ex ante direct investment has been attracted.[2] In the absence of a local content rule, F generates the profit π in the country where it invests, and $\alpha\pi$

2 See Andersson (1990) for an analysis of competition between dissimilar host countries.

in the other one.

Concerning the countries, A and B also earn zero unless direct investment is attracted. The undertaking of direct investment renders the host country the gain

(2) $u_i = \phi(1+\alpha)\pi(1-\gamma_i) + (1+\alpha)(\pi-c)\gamma_i$; i = A, B.

where the first term represents tax revenue, and the second producer surplus in domestic firms that acquire rents due to the imposition of a local content rule. Due to the domestic firms' inferiority, however, there is an efficiency loss, c, which is defined as the reduction in profit that follows from switching from foreign to domestic suppliers. c takes a non-negative number, with the size inversely related to the technological capacity of the domestic firms and their amount of slack resources, but (π - c) is taken to be positive, meaning that A and B have an option to foster domestic firms.

The optimal local content rule is determined by two limitations on policy. The first, which is here label 'local', applies ex post investment has been undertaken within a certain country given that there is no other potential location. Given that a firm is known to produce in a country, the derivative of (2) with respect to γ_i shows whether an increase in γ_i is beneficial for the host country. The condition for this is

(3) $\pi > c / (1-\phi)$

which says that there must be sufficiently large profits, low taxes and efficient domestic firms if fostering the latter through local content rules is to be rewarding. If (3) is not fulfilled, we get $\gamma_i = 0$. The interesting situation appears when (3) is fulfilled, in case the first limitation does not stop short of $\gamma_i = 1$. Because F is left with no compensation for its sunk cost, direct investment is not undertaken in the first place in case $\gamma_i = 1$ is foreseen. However, there is also a second 'regional' limitation on γ_i, because firms have the option to move production from one country to the other. This is addressed in the following section.

4. Sequential bargaining

Assume, as in the preceding section, that F can earn π by producing and selling in country A, and the same in country B, but only in one time period.[3] If the opportunity is not taken, the potential gain is reduced with the discount factor, $\delta \in [0, 1]$. Moreover, F is taken to be able to set up only one subsidiary each time period, as the establishment of projects must draw on its firm-specific factor. Thus, the discount factor reflects a firm's ability to diversify its production apparatus between countries. After a subsidiary has been set up, but before production takes place, F and the host country bargain over the imposition of a local content rule. Bargaining is instantaneous and costless, so that any number of offers can be exchanged and production still occur within a time period. When production has taken place, the game is over. Finally, assume complete information, so that the whole game structure is known to all players.

See Figure 1 for an illustration of the game in extensive form. F first chooses whether to export or undertake direct investment in A or B (the set-up of a subsidiary is marked by a dark rectangle). Given that direct investment has been undertaken in, say, country A, the government in A offers a local content rule. We need not consider counter-offers by F within the first period, since its opportunity cost is known to begin with. F then chooses between q_A, which makes F and A gain as specified in (1) and (2), and postponing production and instead set up an additional subsidiary in B as t=2 begins. In case B obtains a subsidiary, it then offers a local content rule, after which F either produces in B or asks A for a new offer. The game can go on any number of time periods but, as will be seen, we need to consider only the first two periods.

To put this formally, the action spaces of the players can be defined as

(4) $D_F^0 = \{in_A, in_B, export\}$, $D_{FA} = \{q_A, in_B, export\}$, $D_{FB} = \{in_A, q_B, export\}$, $D_{FAB} = \{q_A, q_B, export\}$, $D_A = D_B = [0, 1]$

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3 This construction with only one period of production for a subsidiary singles out the ex ante and ex post stages of investment in the simplest possible way. A gradual spending of costs which are to become sunk as well as a gradual increase in revenues would render a more realistic model, but not alter the major conclusions.

where D_F^0 refers to the single period action space of F before any investment has been undertaken. D_{FA} is the action space of F when it has set up a subsidiary in A, D_{FB} when it has done so in B, and D_{FAB} when in both A and B. D_A and D_B are the action spaces of the countries. Again, F makes the discrete choices in what country to undertake direct investment and produce, or whether to export. The countries set their local content rule, which is a continuous variable taking a value between zero and one.

Building on the previous section, we know that a local content rule may be imposed if (3) is fulfilled. Given that it is fulfilled, i.e. $\pi > c / (1-\phi)$, what is the equilibrium γ_i? In order to determine this, we apply the solution concept of subgame perfect equilibrium (Selten, 1975). In contrast to the Nash equilibrium, this does not allow incredible threats in our model. When the time horizon is infinite, backwards induction can normally not be used to determine a subgame perfect equilibrium since there is no last time period to start from. In our case, however, backwards induction can be used from period t=2. The reason is that, in case the game goes on to t=2, F has set up subsidiaries in both A and B and can make them bargain with each other, using γ, for any gain from direct investment. In t=2, Walras law ensures that we get $\gamma_i = 0$.

Thus, a country that attracts direct investment in t=1 knows that F is sure to acquire $u_F = \delta[(1-\phi)(1+\alpha)\pi - s]$ if production is not chosen in this period. Maximizing (2) with respect to γ_i, either country is consequently restricted by

$$(5) \qquad (1-\phi)(1+\alpha)\pi(1-\gamma_i) \geq \delta[(1-\phi)(1+\alpha)\pi - s]$$

where the left side is the firm's net gain from producing in the first period, and the right side is its gain from postponing production to the next period. If (5) is not fulfilled, F will gain from setting up an additional subsidiary in the other country. Treating (5) as an equality, and rearranging, we obtain

$$(6) \qquad \gamma_i^* = 1 - \delta[1 - s/(1-\phi)(1+\alpha)\pi]$$

as the equilibrium local content rule which is imposed in t=1. Equation (6) says that γ_i^* is larger the less F can gain by establishing a subsidiary in the other country. With γ_i restricted between 0 and 1, we know that it must be zero if $\delta[1 - s/(1-\phi)(1+\alpha)\pi] \geq 1$, and one if $\delta[1 - s/(1-\phi)(1+\alpha)\pi] \leq 0$. Within these limits, (6) represents a unique subgame perfect equilibrium when direct investment has been undertaken in a country, and given that (3) holds. Any $\gamma_i^{**} < \gamma_i^*$ means less host country earnings, and any $\gamma_i^{**} > \gamma_i^*$ means that F sets up a subsidiary in the other country as well, rendering $\gamma_i=0$ in the second period. Likewise, F cannot do better than to produce at γ_i^*. As seen from (6), γ_i^* is negatively related to the discount factor, the level of market integration and the profit level, while the sunk cost and the tax rate exert a positive impact. With a great deal of discounting, low profits and high taxes, for example, a firm has little to gain from setting up an additional subsidiary in the other country, and a host country can afford to impose a demanding local content rule.

Again, direct investment is undertaken in the first place only if the sunk cost can be covered. By inserting (6) in (1) and rearranging, this is seen to require

$$(7) \qquad \delta[(1-\phi)(1+\alpha)\pi] \geq s(1+\delta)$$

In words, direct investment is undertaken given that the discounted value of the profit net of tax *in the second period* is larger than the discounted value of setting up one subsidiary in each country. Thus, projects with profits that are too small to fulfill (7) are prevented by the prospects of local content rules. This is an example of dynamic inconsistency (Kydland and Prescott, 1977) in the optimal plan of host countries. When (3) and (7) are satisfied, (6) represents a unique subgame perfect equilibrium. F cannot do better than to invest in a country in the first place, and then accept γ_i^*. There is no way any player can gain by deviating from this equilibrium.

With a positive γ_i, local industry is enabled to thrive, although this infers an efficiency loss. This loss is driven by the discrepancy between the distribution and efficiency effects of allowing direct investment.

5. Tax policy and investment incentives

In the previous sections there have been no consideration of players' ability to make side-payments. In principle, such payments can be made through taxes or investment incentives. If taxes are flexible it can be seen from (2) that a country prefers a raised tax to a local content rule. To demonstrate the implications, adjust the set-up in the previous section with a ϕ which can be discriminated between firms, with $\phi \in [0, 1)$. The upper limitation is again necessary to obtain a well defined solution. A country that has attracted direct investment in t=1 still maximizes (2), but this time with respect to ϕ_i as well as γ_i. Equilibrium is in this case characterized by

$$(8) \qquad \phi_i^* = 1 - \delta[1 - s/\pi(1+\alpha)]$$
$$\gamma_i^* = 0$$

and by production in period 1. Because the countries are free to bargain with taxation, Walras law ensures $g_i = 0$ if subsidiaries have been set up in both countries, meaning that both ϕ_i^2 and γ_i^2 are zero. As before, a country that has attracted direct investment in the first period exactly compensates F for its best alternative, but it now prefers to tax the firm rather than impose a local content rule. No $\phi_i^{**} \neq \phi_i^*$ can make the host country better off, since $\phi_i^{**} > \phi_i^*$ will make F set up a subsidiary in the other country as well, and $\phi_i^{**} < \phi_i^*$ will make the country earn less tax revenue than is possible. At ϕ_i^*, any $\gamma_i^* > 0$ will make F invest in the other country as well. Clearly, F cannot do better than produce at ϕ_i^* and γ_i^*.

Inserting (8) in (1), the requirement for direct investment to be undertaken is

$$(9) \qquad \delta(1+\alpha)\pi \geq s(1+\delta)$$

which differs from (7) in that $(1-\phi)$ is missing on the left-hand side. Direct investment hinges on whether the total profit in the second period covers the cost of setting up two subsidiaries. There is now a greater chance that direct investment pays relative to the case when taxes are fixed, because there is sharper host country competition.

Thus, flexibility in taxation prevents local content rules from paying, meaning that competition between potential host countries does not put a ceiling on taxation that motivates local content rules. If such rules are observed, there must be a limitation on taxation for *other reasons*. Such other reasons may, of course, exist. There may, for example, be administrative difficulties in discriminating taxes between companies, costs through negative reputation effects or a possibility for firms to escape taxes through transfer pricing. Even as it is quite plausible that a country cannot raise taxes on a completely discriminatory basis, however, it is unclear why it could not lower them, e.g. by providing selective subsidies. To account for this, we view the tax rate as fixed, as in the previous section, but allow A and B an option to provide firms with a non-negative investment incentive or side payment, k, along with the setting of γ.

Again, backwards induction can be used from t=2. If subsidiaries have been set up in both countries, these exhaust all their gains when bargaining with γ and k to obtain production. A country that has attracted direct investment in t=1 maximizes

$$(10) \qquad \max_{\gamma_i,\, k_i} g_i = \max\{0,\ \phi(1+\alpha)\pi(1-\gamma_i) + (1+\alpha)(\pi-c)\gamma_i - k_i\} \qquad ;\ i = A, B.$$

$$\text{s.t. } (1-\phi)(1+\alpha)\pi(1-\gamma_i) + k_i \geq \delta[(1+\alpha)\pi - s)]$$

where the left side of the constraint is F's net gain from producing in the first period, and the right side is its gain from postponing production. Viewing the constraint as an equality and rearranging, we have a unique subgame perfect equilibrium with production in the first period and the policies

$$(11) \qquad \gamma^* = 1 - [\delta/(1-\phi)][1 - s/\pi(1+\alpha)]$$

$$k^* = 0$$

where γ^*, as before, is subject to the limitation $0 \leq \gamma^* \leq 1$. Now, a local content rule pays in the first period because the host country cannot raise its tax. In analogy with the

previous section, F cannot do better than to invest in a country in the first place, and then accept γ^* and k^*, and a country cannot do better than to make these offers. No investment incentives are actually observed, but the possibility to offer them weakens a host country's bargaining position as it makes the alternative of setting up subsidiaries in both countries more favourable for a firm.[4]

Inserting (11) in (1), the requirement for direct investment to be undertaken is again obtained as (9). The host countries' ability to provide side-payments allows investment to be undertaken to the same extent as when taxes are completely flexible. Because the tax cannot be *raised* on a discriminatory basis, however, local content rules pay in accordance with (11), given that (3) holds. Thus, when host countries can provide investment incentives, the level of local content rules is positively related to the sunk cost, while the profit, tax, degree of market integration and discount factor exert a negative influence. Compared with (6), which applies to the case when taxes are fixed and no side-payments are possible, all effects are the same except for those exerted by the tax rate. In the previous case, a higher tax means that the option of setting up an additional subsidiary in the other country is less attractive for a firm, which makes it worthwhile to impose more demanding local content rules. In the present case, that effect is neutralized by the use of investment incentives. A higher tax simply means more tax revenue, and therefore less rationale for local content rules.

To sum up, it has been determined what local content rules are imposed by competing host countries that take account only of tax revenue and producer surplus, and when this discourages direct investment in the first place. We have seen that local content rules can be explained only by other limitations than host country competition on host countries' ability to tax direct investment. The next section discusses what trade and investment policies in the EC may represent a viable strategy to boost domestic industry in connection to the 1992 program.

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4 If A and B are allowed to offer firms investment incentives ex ante the undertaking of direct investment, such payments will be observed in a non-cooperative equilibrium given sufficiently sharp host country competition. See Andersson (1990).

6. Implications for EC policy

The EC countries have not yet decided on a common policy in regard to inward direct investment, and each country may provide incentives to foreign firms. Taxes can hardly be raised on a completely discriminatory basis, however. Given these circumstances, Table 5 sums up the model results obtained. The probability that local content rules pay at all, and the level imposed to the extent that they do pay, are written as functions with the signs of the derivatives given. As can be seen in the left column, there is a greater probability that the EC countries would impose local content rules on direct investment the larger the profits, the lower the taxes, and the less behind the domestic firms are in terms of efficiency or the greater their slack capacity. These effects stem from their bearing on the attractiveness of local content rules relative taxation given that a firm is known to produce in a country. As can be seen in the right column, the level of the local content rules is higher the lower the profits, the lower the tax level, the less integrated the two markets are, the greater the discounting of the future, and the larger the sunk cost. These effects derive from their association with a firm's option to set up an additional subsidiary in the other country. Comparing the two columns, the only factor that exerts an ambiguous influence is the level of profits.

The 1992 program to complete the internal market in the EC, with its removal of public barriers, corresponding to real trade costs, as well as the abolition of bureaucratic barriers that today prevail even when the transfer of goods is nominally free (see Krugman, 1988), will enhance the possibilities to sell across the borders of the member countries. This increased market integration suggests less demanding local content rules. Another desired effect is the elimination of geographical price discrimination. This will reduce prices and profits, as well as inter-country trade, as the current bias towards sales on the other countries' markets is eliminated (Smith and Venables, 1988). As seen from the right column in Table 5, lower profits may initially lead to a sharpening of the local content rules, as the fierceness of competition declines between the individual EC countries. At the same time, as seen in the left column, there will be a diminished probability that local content rules pay at all. This ambiguous

influence is illustrated in Figure 2. As long as $\pi > c / (1-\phi)$, a lower profit means less fierce host country competition, and therefore greater room for local content rules. However, when $\pi \leq c / (1-\phi)$ a local content rule is not preferable for a host country, since it is at least as good to stick to tax revenue. From this point on, local content rules cease to pay altogether, and direct investment flows freely into the EC.

That a successful 1992-program will eventually prevent local content rules altogether is further supported by the negative relationship between a declining amount of slack resources, and hence a growing efficiency loss, and the probability that local content rules pay. Regarding the other determinants, it is difficult to foresee any definite impact of the 1992 program. The results consequently suggest that non-tariff barriers to imports and imposition of local content on direct investment do not represent a viable policy to discriminate against foreign firms in the EC. Depending on how the market integration and profit level develop, there may initially be some sharpening of the local content rules. Provided that the program continues successfully, however, their viability should disappear altogether.

7. Concluding remarks

The formulation of an external policy in the European Community is of great importance for the struggle between a multilateral or bilateral world trade regime. The risk of external protectionism presently stimulates direct investment particularly from Japan, which is the one of the probable targets whose industry has a great potential for undertaking it. Korea is already following, however, and firms from other countries in East Asia can be expected to develop the capacity to do the same if the non-tariff barriers continue to spread. Of course, the common market attracts direct investments for other reasons as well, such as closeness to a vast market, economies to scale and technological spillovers, but investments attracted for these reasons are less explosive as they do not exploit the kind of scarcity rents as those created by protectionism.

Analyzing the interaction between two potential countries and foreign investors in terms of a non-cooperative game, this paper has argued that direct investment will not be discriminated in the EC. Not only are consumers and overall social welfare hurt,

but there will be a mounting pressure on the individual EC countries to compete among themselves for inward direct investment to boost government revenue and producer welfare. Although the 1992 program may at first lead to sharpened local content rules as profits start to fall, additional cuts in profits and increased market integration make them less likely and less demanding respectively. The member countries will give away rents generated by protectionism to the foreign investors, and direct investment will flow freely into the single market.

Of course, it can be expected that the EC countries will seek to coordinate their policies with regard to inward direct investment as costs of their competition become obvious. It is likely that there will be a pressure to, for example, standardize local content rules across the EC. As discussed in Andersson (1990), however, countries can extract larger gains from investment attracted by cooperating, but they may not be able to attract it in the first place. In case protectionist trade policies are coupled with common restrictive policies with regard to direct investment, there would be an increasing incentive for the individual member countries to cheat on the collective. The tensions would risk tearing the EC apart from the inside.

Thus, it is suggested that discriminatory trade and investment policies would turn out very costly for the EC itself, and that it will therefore eventually abstain from creating a "Fortress Europe". Incidentally, it is the heterogeneous character of the EC, and the expected difficulties to establish or keep up a common policy with regard to inward direct investment, which lays the basis for this conclusion. It can be noted that Bhagwati (1988) maintains that multinational firms should counteract protectionism because they gain from trade both as buyers and sellers. The findings made here suggest that multinational firms should temper a tendency towards trading 'blocs' due to their ability to play individual countries against each other.

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FIGURE 1 - SEQUENTIAL BARGAINING, EXTENSIVE FORM

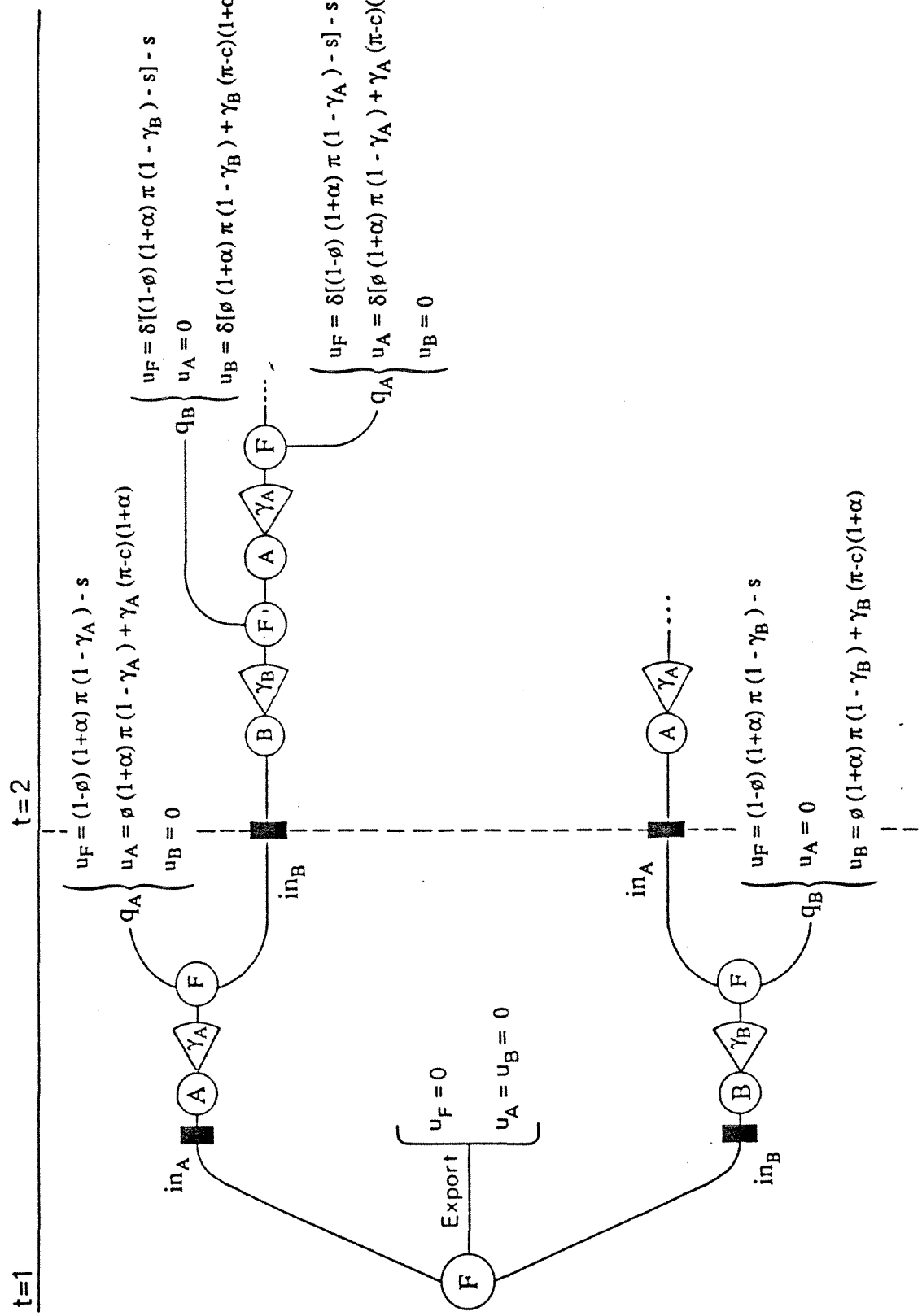

FIGURE 2 - ILLUSTRATION OF THE RELATIONSHIP BETWEEN π AND γ.

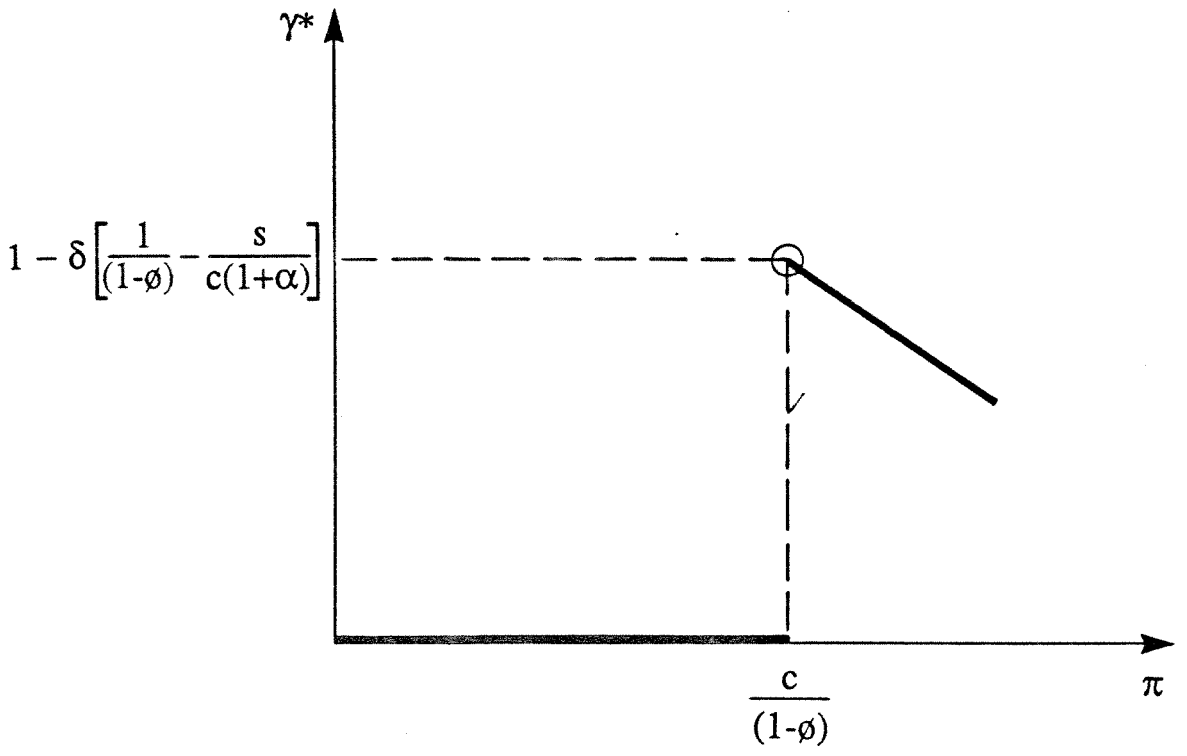

TABLE 1 - THE GEOGRAPHICAL DISTRIBUTION OF THE JAPANESE DIRECT INVESTMENT STOCK IN EUROPE, 1970-1987.

Countries	Share of Japan's direct investment stock in Europe					
	1970		1980		1987	
	Value (US$)	Per cent	Value (US$)	Per cent	Value (US$)	Per cent
BELGIUM	20	3.1	291	6.5	863	4.1
FRANCE	22	3.4	354	7.9	1300	6.2
W. GERMANY	16	2.5	498	11.1	1935	9.3
LUXEMBOURG	8	1.3	105	2.3	4072	19.3
NETHERLANDS	3	0.5	298	6.6	3166	15.0
SPAIN	4	0.6	173	3.9	883	4.2
U.K.	544	85.1	2010	44.9	6598	31.3
OTHER EC	11	1.8	304	6.8	845	4.0
TOTAL EC 12	628	98.3	4033	90.2	19682	93.5
TOTAL EUROPE	639	100.0	4472	100.0	21047	100.0

Source: Dunning and Cantwell, 1989

Table 3–5 **Reasons for determining the location of business base by country and area of location (Plural answers allowed)**

	Total	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
[Country]														
Total	730	74	62	104	44	57	78	19	74	55	45	14	22	82
U.K.	251	31	19	34	16	20	40	13	27	20	13	2	2	14
France	62	6	7	10	3	4	1	2	5	2	1		4	17
F.R. Germany	141	20	20	17	12	19	3	2	17	1	5	9	2	14
Netherlands	65	4	1	15	5	5	13	1	5		3		3	10
Belgium	43	5		9	1	4	7		5	3	4	1	2	2
Luxembourg	1			1										
Ireland	40	2		3			10		5	7	7		2	4
Spain	69	3	8	8	6	4			7	12	7	1	4	9
Italy	17	1	3	1	1		2			3		1	2	3
Finland	3		2											1
Norway														
Sweden	1													1
Denmark	2	1		1										
Austria	11	1	1	2		1			2		1			3
Portugal	17		1	1			1	1	1	6	3		1	2
Switzerland														
Greece	7						1			1	1			2
Iceland														
[Area]														
Major three countries	454	57	46	61	31	43	44	17	49	23	19	11	8	45
Southern Europe	110	4	12	12	7	4	4	1	8	22	11	2	7	16
Northern Europe	46	3	2	4			10		5	7	7		2	6
Benelux	109	9	1	25	6	9	20	1	10	3	7	1	5	12
Others	11	1	1	2		1			2		1			3

Note: Major three countries: U.K., France and Federal Republic of Germany.
Southern Europe: Italy, Spain, Greece and Portugal.
Northern Europe: Finland, Norway, Sweden, Denmark and Ireland.
Benelux: Netherlands, Belgium and Luxembourg.
Other European countries: Austria, Switzerland and Iceland.

TABLE 2 - REASONS FOR DETERMINING THE LOCATION OF BUSINESS BASE BY COUNTRY AND AREA OF LOCATION

(1) Infrastructure is satisfactorily provided.
(2) The domestic market size of the country is big enough and attractive.
(3) Physical distribution environment is favorable from geographical point of view.
(4) Supporting industries including parts & components industries are established with satisfactory production capabilities.
(5) Transportation network including railways, highways and airlines in satisfactorily provided.
(6) English-speaking manager-level staff may be easily employed.
(7) Larger number of Japanese-manufacturing enterprises are located in the projected location of business base.
(8) Comparatively good and reasonable quality workers are obtainable.
(9) Labor cost is fairly reasonable.
(10) A pro-Japanese attitude is prevailing among local communities of the projected location of business base.
(11) Difficulties in children's education are comparatively relaxed, due to various reasons including but not limited to that Japanese school(s) is (are) set up in the vicinity.
(12) Materials and/or parts and components are obtainable under favorable terms and conditions.
(13) Other reasons.

Source: JETRO, 1989

TABLE 3 - REQUESTS BY GOVERNMENTS OF COUNTRY OF LOCATION FOR ESTABLISHING A PRESENCE, BY INDUSTRY

	Transfer of updated technologies	Increase of export ratio of products	Increase of local-content ratio	Creation of considerable amount of employment opportunities	Employment of local persons for management staff	Funding at local financial institutions	Others	No Request	Total
Processing/assembly industries	14 (10.4)	18 (13.4)	21 (15.7)	39 (29.1)	1 (0.7)	– –	7 (5.2)	34 (25.4)	134 (100)
Parts & components industries	9 (14.1)	5 (7.8)	4 (6.3)	25 (39.1)	1 (1.6)	– –	2 (3.1)	18 (28.1)	64 (100)
Material producing industries	12 (11.3)	9 (8.5)	2 (1.9)	22 (20.8)	1 (0.9)	4 (3.8)	8 (7.5)	48 (45.3)	106 (100)
Miscellaneous industries	2 (5.1)	6 (15.4)	2 (5.1)	11 (28.2)	– –	– –	1 (2.6)	17 (43.6)	39 (100)
Total	37 (10.8)	38 (11.1)	29 (8.5)	97 (28.3)	3 (0.9)	4 (1.2)	18 (5.2)	117 (34.0)	343 (100)

Source: JETRO, 1989

TABLE 4 - NOTATION

g = gain	π = potential profit net of tax in A or B
ϕ = income tax rate	s = sunk cost required for direct investment
γ = local content rule	α = degree of market integration between A and B
δ = discount factor	c = the domestic producers' inferiority in efficiency
q = production	in = undertaking of investment

TABLE 5 - SUMMARY OF THE MODEL RESULTS

Probability that any γ is imposed	Level of γ
π, ϕ, c	π, ϕ, α, δ, s
+ - -	- - - - +