

WORLD TRADE ORGANIZATION

RESTRICTED

WT/WGTI/W/7

18 September 1997

(97-3735)

Working Group on the Relationship between Trade and Investment

THE RELATIONSHIP BETWEEN TRADE AND FOREIGN DIRECT INVESTMENT

Note by the Secretariat¹

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I. INTRODUCTION AND SUMMARY

1. At the meeting of the Working Group on the Relationship between Trade and Investment of 2 and 3 June 1997, the Working Group took note of a Checklist of Issues Suggested for Study (WT/WGTI/M/1, Annex 2). With regard to Item II of this Checklist - the economic relationship between trade and investment - the Working Group requested the Secretariat to prepare a paper on the two first indents (the degree of correlation between trade and investment flows and the determinants of the relationship between trade and investment flows) and, to the extent that time permitted, on the two indents concerning the impact of trade policies and measures on investment flows and of investment policies and measures on trade (WT/WGTI/M/1, paragraph 11). This note has been prepared in response to this request.

2. The note begins in Section II with an overview of modern economic theory regarding the determinants of foreign direct investment (FDI) as a background to an analysis of the relationship between trade and investment in Section III. The following Sections focus on the policy dimension of the relationship between trade and investment: the impact of trade policies and measures on FDI (Section IV), the impact of investment policies and measures on trade (Section V) and the impact of regional trading arrangements on FDI (Section VI). The paper draws upon, and attempts to set out, the main points emerging from studies on these subjects.²

3. The main findings of the note can be summarized as follows.

4. FDI tends to occur as a result of three interacting circumstances. First, the firm owns intangible assets that can be profitably exploited on a comparatively large scale, including intellectual property, organizational and managerial skills, and marketing networks. Second, there must be some location advantages in dividing production across countries compared to producing in and exporting from the home country exclusively. Third, the profits of exploiting the assets in-house must be greater than from licensing the assets to foreign firms, and the benefits must be sufficient to make it worthwhile for the firm to incur the added costs of managing a large, geographically dispersed organization in different legal and cultural settings.

5. In analysing the cause and consequences of FDI, including the trade effects, it is useful to divide FDI into different types.

6. *Horizontal FDI* refers to investment in production units in different countries that produce essentially the same line of products, e.g., brand name soft drinks. This type of investment tends to occur when export is a relatively expensive mode of supplying a market because of high transport costs or high trade barriers. As a general rule, scale economy considerations tend to favour location in countries with large domestic markets that can more easily support production units of sufficient scale. However, smaller countries may serve as an export platform for the adjacent region if the infrastructure is adequate. In terms of the trade effect, horizontal FDI displaces exports of the product that is now produced locally. However, the reduction in exports is offset by trade in intermediate goods that the foreign subsidiary needs in order to produce locally. In addition, local production of one line of products may facilitate the sales of other product lines of the parent company. The net-effect on exports of the home country of outward FDI may therefore be positive.

7. *Vertical FDI* refers to investment in production units in different countries that produce different stages of a product (e.g., textiles used in the manufacturing of wearing apparel). The location of each

²It may be noted that the UNCTAD World Investment Report 1996 examines the relationship between trade and FDI and, in so doing, also draws upon the literature in this area. The relationship between trade and FDI is also discussed in the WTO Annual Report 1996, Volume 1, Chapter 4.

stage is chosen so as to minimize the overall production costs. For example, extraction of raw material is for natural reasons located wherever the raw material is bountiful and easily extractable; energy-intensive processing wherever energy costs are low; labour intensive stages in countries with low labour costs; human capital stages in countries with an abundance of skilled labour, and so on. Vertical FDI is by its very nature trade-generating. By sub-dividing the production process in vertical stages between countries, trade is obviously created between the different production units.

8. *Distribution FDI* refers to investment abroad in local sales offices, distribution networks and services facilities. The reason for such investment may be to ensure a sufficient number of sales and services outlets. Such investment facilitates exports from the home country.

9. The *correlation between outward FDI and exports of the home country* has been investigated in many empirical studies. The main findings from these studies are the following. First, local production displaces exports of final goods at the same time as it creates trade in intermediate products used by the foreign affiliate. Second, local production of one product line seems to feed back into increased demand for the other product lines of the parent company that are still being exported. Third, the exports of the parent company to third markets that are now served by the foreign affiliate are reduced. Different studies conflict with regard to the net-effect on home country exports, the majority suggesting a complementary relationship between home country exports and outward FDI and the minority suggesting a substitute relationship. All studies agree that the net-effect on home country exports of outward FDI is not very pronounced. It should be noted, however, that these studies focus on average effects across industries and that the effects of outward FDI on exports may vary significantly among individual firms and industries, depending upon the nature of the investment (e.g. whether it is market- or efficiency-seeking).

10. Regarding the *correlation between inward FDI and exports of the host country*, the note focuses on the role of inward FDI for the export performance of developing countries. The empirical studies indicate that inward FDI contributes to the export performance of developing countries both *directly* through MNEs' own export activities and *indirectly* by reducing the costs and informational obstacles for domestic firms to start or expand exporting. In short, the overall correlation seems to be positive.

11. Regarding the *impact of trade policies and measures on FDI flows*, the following picture emerges: both high and low trade barriers can attract FDI, but of different types. FDI attracted to protected markets tends to take the form of stand-alone production units geared to the domestic market. In contrast, low trade barriers, especially on intermediate goods, are conducive to vertical FDI attracted by the fundamental advantages of the host country. On average, countries with an open trade regime seem to attract more FDI than countries with a closed trade regime. Moreover, the gains from luring FDI through high trade barriers seem to be limited. One study found that inflows of FDI have a significant positive effect on the GDP growth for outward-oriented countries whereas no effect can be discerned on the GDP growth for inward-oriented countries. This supports the view that FDI attracted by fundamental location advantages is more productive for the host country than FDI attracted by protectionist policies. The latter may simply induce FDI for which the host country does not have a comparative advantage, thereby drawing production factors from less distorted to more distorted sectors to the detriment of the development process.

12. Regarding the *impact of investment policies and measures on trade and FDI flows*, it has not been possible within the limited time available for the preparation of this note to undertake an analysis of general investment policy measures aimed at attracting FDI through reducing barriers to FDI and providing greater security for such investments. Instead, the note focuses on two specific aspects, the relationship between investment incentives and performance requirements, on the one hand, and

trade, on the other. However, the effects on imports and exports of such general investment policy measures will obviously depend on the nature of the investment attracted.³

13. Surveys undertaken on the motivation for FDI indicate that fundamental factors, such as market size, production costs, availability of natural resources, etc., play a more important role than investment incentives and tax breaks. Nevertheless, when the fundamental determinants are attractive enough for an investment to be profitable, and the profitability is more or less similar across alternative FDI locations, incentives appear to have an effect on investors' decisions, especially for projects that are cost-oriented and mobile. Moreover, if one country offers incentives and another country does not, then, all other things being equal, foreign investors could be influenced in their location choice between countries. Performance requirements such as domestic content and export performance requirements, have obvious trade effects. Domestic content rules, to the extent they are binding, force foreign affiliates to source a higher share of the inputs from local sources than that motivated by cost and quality considerations. In addition to reducing imports of such inputs, this will also have negative repercussions on exports since production costs go up and/or quality down, making products less competitive in the world market. Export performance requirements, to the extent they are binding, force foreign affiliates to export a larger share of the local output than that motivated by profit and cost considerations. A complicating factor is that performance requirements are often combined with (paid for by) incentives. For example, a foreign affiliate that subscribes to stricter domestic content requirements may be granted a longer tax holiday. Depending on how different incentives and performance requirements are bundled, the trade effects may differ from those suggested above.

14. The final Section considers the *impact of regional trade agreements on FDI flows*. Four reasons may be given why regional trade agreements could induce higher levels of FDI. First, market size is critical to the decision to invest in a country. Regional integration is tantamount to an effective "enlargement" of market size, which encourages FDI because it allows foreign firms to set up production units of sufficient size to benefit from scale economies. Second, to the extent that a regional agreement is expected to spur growth, it will increase the (future) market size yet further, thereby adding to the attractiveness of the location. Third, the removal of internal trade barriers between partner countries, keeping external trade barriers constant, will divert some trade from outsiders to insiders. The prospect of losing customers provides a defensive reason to change from exporting to local production in the region. Fourth, regionalism is sometimes expected to lead to deteriorating trading conditions for outside countries. Such fears, well-motivated or not, can provide an additional defensive reason to move production into the region.

15. Empirical evidence largely confirms these predictions. The higher the pre-existing barriers to trade and investment flows, and the stronger the locational advantages, the stronger the impact of intraregional liberalization. Yet, the role of regional agreements as a magnet for FDI should not be exaggerated. For example, as shown by a case study of the MERCOSUR agreement, domestic macroeconomic and market-oriented reforms are at least as potent factors for countries seeking to attract FDI. In other words, regional trade agreements are not a panacea that replaces the need for domestic reforms. However, as was pointed out in the case study of NAFTA, regional agreements may add credibility to the domestic reform process (as in the case of Mexico), thereby adding further momentum to inflows of FDI.

³See the discussion in paragraphs 6-8 of the relationship between different types of FDI (horizontal, vertical and distribution FDI) and trade.

II. THE ECONOMICS OF MULTINATIONAL ENTERPRISES AND FOREIGN DIRECT INVESTMENT

16. FDI occurs when an investor in one country (the home country) acquires or expands its ownership of a business entity in another country (the host country) and the equity participation is sufficiently large to give the investor management control.⁴ The latter qualification is important: it is the management dimension that distinguishes FDI from portfolio investment in foreign stocks and other financial instruments. Foreign direct investors are predominantly multinational enterprises (MNEs).⁵ Indeed, direct investment is the vehicle by which enterprises go multinational. Just exporting to another market does not suffice for the label "multinational", nor does portfolio investment abroad or contractual supply or production arrangements with foreign firms. It is the establishment of foreign affiliates that form an integral part of the network of production and trade activities under the control of a central decision-maker (the parent company) that is the hallmark of MNEs.⁶

17. The close relationship between MNEs and FDI is reflected in the academic literature which treats the two as twin sisters. The following questions have proven critical to the development of the theory of MNEs, FDI, and trade involving MNEs: Why do firms invest abroad instead of exporting to the market from the home base (or importing from the market if the objective is to secure raw material or other intermediate goods)? Or, if the investment is based on some asset controlled by the parent company, such as a patented technology or product design, why not license the technology or product design to a local firm and profit from the royalties instead of exploiting the asset in-house?

18. There is now a degree of consensus that FDI (and hence the existence of MNEs) is the outcome of three interacting circumstances. First, the firm owns assets that can be profitably exploited on a comparatively large scale, including intellectual property (such as technology and brand names), organizational and managerial skills, and marketing networks. Second, there must be some location advantages in dividing production across countries compared to producing in and exporting from the home country exclusively. Third, the profits of exploiting the assets in-house must be greater than from licensing the assets to foreign firms, and the benefits must be sufficient to make it worthwhile for the firm to incur the added costs of managing a large, geographically dispersed organization in different legal and cultural settings. This paradigm is known as the "eclectic" theory of FDI, also

⁴For a more extensive treatment of the subject matter of this note, see the books by Hood and Young (1979), Dunning (1993) and Caves (1996), or the shorter surveys by Agarwal (1980) or Rayome and Baker (1995).

⁵Other commonly used terms included multinational corporations, multinational firms, transnational corporations (which is the U.N. terminology), or simply multinationals. There is no clear indication in the literature of what distinguishes one from the other.

⁶The equity share needed to gain management control over a local affiliate is an empirical issue. A minority equity stake may suffice in some cases while majority share may be required in other cases. This suggests, perhaps, that each investment should be judged on its own merits for the purpose of distinguishing between direct and portfolio investment. Does it lead to control, or does it not? However, for the sake of facilitating international comparability of FDI flows, the IMF has issued a set of guidelines (Balance of Payment Manual, fifth edition, 1993) that draws the line between portfolio and direct investment at an equity capital stake of 10% of the ordinary shares or voting power in an incorporated enterprise, or the equivalent in an unincorporated enterprise. Provisions are made for well-motivated derogations if it is apparent that lower equity share gives effective control, or vice versa. These guidelines have not yet gained universal acceptance, however. Countries deviate both upward and downward from the 10% rule.

known as the "OLI" theory after three interacting components: (O)wnership, (L)ocation and (I)nternalization advantages.⁷ The three elements are outlined below.

II.1 The OLI (eclectic) theory

II.1.1 *(O)wnership*

19. FDI differs from portfolio investment in that it involves a sufficiently large equity stake to give the parent company management control. If we consider an acquisition FDI, the question arises why the investor would take an active role in the operations rather than being a passive stake holder. The answer to this question is that the parent company can enhance the profitability in various ways by employing the assets at its disposal. For example, it may bring in superior management and marketing skills, new technologies, or it may exploit synergy effects with the other activities of the parent company.

20. On a more general level, MNEs base their activities on the ownership of various assets that can be exploited in many markets at the same time. Surveys have shown that MNEs regard technology advantages as their most potent competitive advantage vis-à-vis domestic firms, followed by marketing and managerial assets.^{8,9} It has also been observed that MNEs are particularly common in industries with high outlays on R&D and advertizing, which are expenditures that are incurred to create and enhance the market value of intangible assets.¹⁰ Other studies have shown that the value of MNEs' intangible assets (as approximated by the difference between the market value of the firm minus the book value of the tangible assets) tends to be large, relative to purely national firms.¹¹

II.1.2 *(L)ocation*

21. The second element of the OLI paradigm deals with the *location* of various production activities within a multinational firm, and hence the pattern of FDI and related trade. What determines the location of various activities is of course the advantages offered by different locations in relation to the purpose and characteristics of the investment project under consideration.

22. For many services industries, cross-border transaction costs may simply disqualify other modes of supply than a commercial presence in the consuming country. A case in point is hotel services. Other types of services could theoretically be located outside the consuming country although at a considerable competitive disadvantage. For example, while new communication technologies enable cross-border supply of some banking services, foreign banks may still find it necessary to establish a local network of offices to compete efficiently with domestic banks (and foreign banks already established in the host country). Trade in some types of services and FDI are thus intrinsically linked.¹²

⁷The different bits and pieces of the theory were first put together by Dunning (1977). He referred to his approach as "eclectic" as it drew together different disjointed elements into a coherent framework.

⁸Bertin and Wyatt (1988, pp.25-29)

⁹Note that these are the sort of benefits that make FDI attractive for many host countries, especially considering the scope for domestic firms to learn from interaction with foreign multinationals.

¹⁰See Caves 1996, chapter one, for details and references.

¹¹Morck and Yeung (1991)

¹²For a treatment of FDI and multinational firms in services, see, e.g., UNCTC (1989).

23. To minimize production cost, MNEs often place different stages of the production process in different countries. For example, labour intensive production stages tend to be located in countries with low labour costs; human capital intensive stages in locations with an abundance of skilled labour, and so on. The associated FDI is often referred to as *vertical* FDI because of the subdivision of the production process in vertical stages.

24. It is also common to locate similar or identical production activities in more than one country. The associated FDI is referred to as *horizontal* FDI. The motivation for horizontal FDI may be to avoid high transportation costs associated with a central production unit servicing geographically dispersed markets around the world. Local production may be especially profitable for products with a high weight/value ratio (such as cement). The motivation may also be to "jump" (bypass) a high tariff wall or other trade barriers that render exports unprofitable or impossible. Horizontal FDI may also be undertaken for other proximity reasons. For example, a market presence may help firms to observe and respond to changes in consumer demands as well as to provide necessary after-sales services. Moreover, consumers may sometimes be more prone to accept foreign products if they are produced locally. However, fragmentation can only be taken so far. Duplication of production units comes at the cost of foregone scale economies. Consequently, the number of locations must be limited. As a general rule, scale economy considerations tend to favour location in countries with large domestic markets that can more easily support production units of sufficient scale. Indeed, as shown in many empirical studies, market size is a critical consideration in the location of FDI.¹³ However, smaller countries may serve as an export platform for the adjacent region if the infrastructure is adequate.

25. Another aspect with a bearing on where to locate various activities is risk diversification. In choosing among available projects, MNEs (like portfolio investors) are often believed to be guided by both expected returns and risk considerations. A project with a slightly lower expected return may be preferred to a project with a higher expected return if the former is less risky and/or serves as a hedge against other activities of the firm. For example, a counter-cyclical project may be undertaken for the purpose of counter-balancing pro-cyclical activities and thereby smoothing the cash flow (earnings) over the business cycle. If the returns on activities in different countries are not perfectly correlated, a firm could reduce the overall risk exposure by spreading its activities across countries. FDI could therefore be motivated by international risk diversification at the corporate level.¹⁴

II.1.3 (I)nternalization

26. The third and final element of the OLI paradigm deals with the *internalization* aspect of FDI, that is, the exploitation of the firm's assets in-house rather than through a contractual arrangement with a local entrepreneur.¹⁵ The advantage of the latter strategy is that it could reduce the costs of entering a new market with an unfamiliar legal and institutional setting, different business customs, a new language, and so on. By engaging a local firm, entry costs can be held down to a minimum, including the costs should the project fail. However, contractual arrangements are not without their

¹³See, e.g., Rowthorn (1992)

¹⁴Statistical evidence indeed confirms that MNEs enjoy diversification gains. (See Caves 1996, chapter 1, for references). However, it cannot be concluded from this evidence that risk diversification is the prime motivation for FDI. The ultimate diversification gain would accrue to the MNE if it acquired foreign subsidiaries diversified in product lines as well as geographical space, but such conglomerate (diversified) MNEs are less common than MNEs focusing on a few core activities. This suggests that there are certain costs of diversifying into unrelated business activities that may outweigh the potential diversification gains.

¹⁵This internalization aspect of FDI has been developed by, *inter alia*, Williamson (1975), Buckley and Casson (1976), Rugman (1980), and Horstmann and Markusen (1987).

own problems. For example, the owner of a new technology may show a certain apprehension in revealing all details to a potential licensee. After all, the licensee could reject the deal and develop a competing technology on the basis of the information received. Conversely, the licensee will hardly strike a deal unless all the information is on the table, so that the value of the asset can be assessed. In line with this argument, it has been observed that new technologies are predominantly exploited in-house whereas older technologies are often made available via contractual arrangements to independent firms.¹⁶ Another problem arises because the assets may be difficult to decouple from the staff of the MNE. For example, a complicated production process requires not just a blueprint describing how things work in theory. It also requires skilled personnel with the ability to handle problems as they occur. Transferring such assets is therefore a complicated process involving training and continuous support to the firm acquiring the asset.¹⁷ It may also be difficult to ensure that the licensee behaves properly so as not to undermine the reputation of the licensor. For example, if quality control in the manufacturing of a licensed medicine is lax, this may not just have serious consequences for patients, but the reputation of the licensor may be undermined even in other markets, even if poor quality control was a clear breach of contract. Finally, the judicial system to enforce contracts may be weak in the host country, and few companies may take the risk of revealing business secrets or license technologies if they have no judicial recourse in case of misconduct. Contractual and enforcement costs may then tip the balance towards in-house exploitation (internalization) of the assets owned by MNEs.

27. The internalization aspect of FDI is intrinsically linked to the theory of the firm developed by Coase (1937). The existence of large integrated firms rests on the foundation that internal transactions costs are lower than external (market-based) transaction costs between independent firms. That is, while a complex production process could in principle be subdivided between different independent firms, the associated coordination and transaction costs may sometimes be prohibitive. Empirical evidence suggests that transaction costs are particularly high in vertically integrated process industries, high-tech industries, and quality (reputation) sensitive industries.¹⁸ Industries with high transaction costs tend also to be dominated by multinational firms.¹⁹

II.1.4 Summary

28. To summarize, FDI tends to occur as a result of three interacting circumstances. First, the firm owns intangible assets that can be profitably exploited on a comparatively large scale, including intellectual property, organizational and managerial skills, and marketing networks. Second, there must be some location advantages in dividing production across countries compared to producing in and exporting from the home country exclusively. In services industries there may be no viable alternative to a commercial presence. In other cases, commercial considerations may dictate a subdivision

¹⁶Cheng (1984)

¹⁷Teece (1986)

¹⁸There is ample evidence that actors in vertically integrated process industries do not feel comfortable relying entirely on short-run contracts for inputs. For example, to be cost efficient refineries need to operate on full capacity and this requires a constant flow of crude oil. Backward integration that reduces uncertainty about oil supply can save refiners large investments in storage capacity (Greening, 1976). Moreover, it can be costly to rely on the market mechanism because of high switching costs. For example, alumina refining facilities are optimized for bauxite of a certain quality and the switching of suppliers because of a stalemate over prices means costly adjustments of the production process (Stuckey, 1983). It has also been observed that Japanese process industries have become involved in extractive activities as a consequence of suppliers reneging on long-terms supply contracts (Tsurumi, 1976).

¹⁹Buckley (1988)

of the production process in vertical stages, putting labour intensive stages in locations with low labour cost, human capital intensive stages in location with an abundance of skilled labour, and so on (vertical FDI). In yet other cases it may be beneficial to produce the same line of products in many countries to bypass trade barriers or save on transport and marketing expenditures (horizontal FDI). Third, the profits of exploiting the assets in-house must be greater than from licensing the assets to foreign firms, and the benefits must be sufficient to make it worthwhile for the firm to incur the added costs of managing a large, geographically dispersed organization in different legal and cultural settings. A summary of the determining factors of various kinds of FDI is provided in Table I.

29. As a final word, there is no presumption that all industries will choose the same mode of supplying a market, or only one of the modes. Indeed, the prevalence of FDI differs considerably between sectors. FDI is especially common in industries where transaction costs between independent parties are deemed to be high, such as vertically integrated process industries, high-tech industries, and quality and reputation sensitive industries.

Table I

Types of International Production: Some Determining Factors

Types of international production	(O) Ownership advantages (The 'why' of MNE activity)	(L) Location advantages (The 'where' of production)	(I) Internalization advantages (the 'how' of involvement)	Strategic(s) goals of MNEs	Illustration of types of activity that favour MNEs
Natural resource seeking	Capital, technology, access to markets; complementary assets; size and negotiating strengths.	Possession of natural resources and related transport and communications infrastructure; tax and other incentives.	To ensure stability of supplies at right price; control markets.	To gain privileged access to resources vis-a-vis competitors.	(a) Oil, copper, bauxite, bananas, pineapples, cocoa, hotels (b) Export processing, labour intensive products or processes.
Market seeking	Capital, technology, information, management and organizational skills; surplus R&D and other capacity; economies of scale; ability to generate brand loyalty.	Material and labour costs; market size and characteristics; government policy (e.g. with respect to regulations and to import controls, investment incentives, etc).	Wish to reduce transaction or information costs, buyer ignorance, or uncertainty, etc; to protect property rights.	To protect existing markets, counteract behaviour of competitors; to preclude rivals or potential rivals from gaining new markets.	Computers, pharmaceutical, motor vehicles, cigarettes, processed foods, airline services.
Efficiency seeking (a) of products (b) of processes	As above, but also access to markets; economies of scope, geographical diversification, and international sourcing of inputs.	(a) Economies of product specialization and concentration. (b) Low labour costs; incentives to local production by host governments.	(a) As for second category plus gains from economies of common governance. (b) The economies of vertical integration and horizontal diversification.	As part of regional or global product rationalization and/or to gain advantages of process specialization.	(a) Motor vehicles, electrical appliances, business services, some R&D. (b) Consumer electronics, textiles and clothing, cameras, pharmaceutical.
Strategic asset seeking	Any of first three that offer opportunities for synergy with existing assets.	Any of first three that offer technology, markets and other assets in which firm is deficient.	Economies of common governance; improved competitive or strategic advantage; to reduce or spread risks.	To strengthen global innovatory or production competitiveness; to gain new product lines or markets.	Industries that record a high ratio of fixed to overhead costs and which offer substantial economies of scale or synergy.
Trade and distribution (import and export merchanting)	Market access; products to distribute.	Source of inputs and local markets; need to be near customers; after-sales servicing, etc.	Need to protect quality of inputs; need to ensure sales outlets and to avoid under performance or misrepresentation by foreign agents.	Either as entry to new markets or as part of regional or global marketing strategy.	A variety of goods, particularly those requiring contact with subcontractors and final consumers.
Support services	Experience of clients home countries.	Availability of markets, particularly those of 'lead' clients.	Various (see above categories).	As part of regional or global product or geographical diversification.	(a) Accounting, advertising, banking, producer goods. (b) Where spatial linkages are essential (e.g. airlines and shipping).

Source: Reproduced from Table 4.2 in Dunning (1993).

III. THE RELATIONSHIP BETWEEN FOREIGN DIRECT INVESTMENT AND TRADE

30. Against the background of the review in the previous Section of the determinants of FDI, this Section examines the relationship between FDI and trade. Is increased trade associated with less or with more FDI, or, conversely, is increased direct investment associated with less or with more trade? In short, are trade and investment substitutes or complements?

III.1 The traditional view

31. The traditional view holds that direct investment and trade are alternative ways of supplying a market, i.e., trade and FDI are substitutes. This view was developed in the mid-1950s when FDI was still perceived as a special case of portfolio investment. No particular role was assigned to MNEs in this analysis. The argument was formalized by Mundell (1957) who investigated the consequences of international factor movements using the standard factor-endowment model of trade associated with two Swedish economists, Heckscher and Ohlin. The Heckscher-Ohlin model views trade in goods and services as essentially *indirect* trade in factor endowments. Allowing for factor movements would then naturally reduce trade, as observed by Mundell. The salient features of the argument are provided in Box 1.

32. The Heckscher-Ohlin-Mundell model is useful for explaining the broad picture of inter-industry trade and international factor movements. For example, it provides a useful framework for explaining the basic trade pattern between developed and developing countries where the former tend to export (human) capital intensive products and import labour intensive products and raw material. It is also useful for explaining why capital abundant developed countries are the main source of outward-oriented FDI - the developed countries are currently home to some 92% of the world's FDI stock and host to 73% of the world's FDI stock (WTO, 1996) - and why labour migration tends to go in the direction from developing to developed countries. However, it does not shed much light on the trade and investment flows between countries with similar factor endowments, technological capabilities and income levels. In terms of sheer volume, such flows dominate over trade and investment flows between countries with different factor endowments.

33. Moreover, the Heckscher-Ohlin-Mundell model does not assign any role to MNEs. Yet, UNCTAD (1995) estimates that roughly one third of world trade is intra-firm trade between related parties and another third is trade between MNEs and unaffiliated firms. That is, roughly two thirds of world trade involve MNEs in one way or the other. Furthermore, a large part of world trade is in intermediate products, for which the Heckscher-Ohlin model provides little explanation. According to Wyckoff (1993), the ratio of intermediate imports to total imports ranges from some 50% in Canada, Germany, the United Kingdom and the United States to almost 60% in France and perhaps 70% in Japan. Much of the imports of intermediate goods are done by vertically integrated MNEs that undertake different stages of the production process in different countries. All this suggests that the relationship between trade and FDI may be far more complex than the substitute relationship suggested by the traditional factor endowment model. The next subsection examines how this more complex relationship is explained in the modern literature that seeks to account explicitly for the role of MNEs as vehicles for FDI.

Box 1The Relation between Trade and Factor Movements in the Heckscher-Ohlin-Mundell Model

To show the point made by Mundell that factor movements substitute for trade, consider first the extreme case of autarky, that is, where there is no trade in goods and services, nor any factor movements between countries. Assume that consumer preferences and production technologies are similar across countries at the same time as the endowments of production factors differ. The theory then holds that capital intensive goods would be relatively cheap to produce in capital abundant countries, and labour intensive goods would be relatively cheap to produce in labour abundant countries. If countries would now open up for trade, while retaining restrictions on capital and labour movements, the model predicts that capital abundant countries will export capital intensive goods in exchange for labour intensive goods from labour abundant countries. In a sense, countries trade factor endowments indirectly through the factor contents of their exports and imports.

If the countries instead reduce the barriers on international capital flows, while retaining restrictions on trade and labour migration, capital would tend to flow from capital abundant to capital scarce (labour abundant) countries because of higher returns on the margin in locations where capital is relatively scarce. (A relaxation of the restrictions of labour migration would induce a flow of labour in the opposite direction.) In the extreme, international capital and/or labour flows would tend to equalize the capital-labour ratio across countries and thereby eliminate the incentives to trade on the basis of differences in factor endowments. Thus, in *this* model, international movements of production factors (capital and/or labour) substitute for traditional "comparative advantage" based inter-industry trade.

III.2 The modern view

34. The FDI theory outlined in Section II (the OLI theory) has quite recently been integrated with modern trade theory that emphasizes intra-industry trade in differentiated goods (two-way trade within the same industry classification), scale economies, and imperfect competition.²⁰ There are essentially two strands in the literature. One strand considers the determinants and effects of horizontal FDI and associated trade, and the other strand considers vertical FDI and associated trade.²¹

III.2.1 *Horizontal FDI and trade*

35. Horizontal FDI refers to investment in duplicative production units in different countries that produce essentially the same line of products. The theoretical literature has demonstrated that horizontal FDI tends to occur when exporting is a relatively expensive mode of supplying a market because of high transport costs or tariffs (or other trade barriers).²² Firms are faced with the intricate problem of choosing the optimal number of production units and their best locations, subject to the basic trade-off between scale economies of centralized production and proximity advantages (low trade costs) of

²⁰For a relatively simple treatment of the new strand of FDI and trade literature see Markusen (1995).

²¹These models do not treat the "internalization" aspect of the OLI theory; it is simply assumed that the licensing alternative is not profitable. The decision is whether to export to the market or serve the market through local production.

²²See, for instance, Horstmann and Markusen (1992), Brainard (1993a) and Markusen and Venables (1995).

geographically dispersed production. The cost-minimizing solution for each industry depends on the degree of scale advantages, transport costs and the trade barriers that apply. As a general rule, scale economy considerations tend to favour location in countries with large domestic markets that can more easily support production units of a sufficient scale.²³ However, smaller countries may serve as an export platform for the adjacent region if the infrastructure is adequate. Location considerations also favour countries in which production conditions (factor endowments) are similar to those of the home base, as this allows firms to duplicate the production process with minimum adjustments.

36. An attractive feature of these models is that they predict two-way direct investment between countries with similar factor endowments, which is well supported by empirical evidence, such as the two-way flow of direct investment between developed countries.²⁴

37. There is an interesting difference between analytical models that include MNEs as major players and trade models where firms are purely national. The trade models with purely national firms predict that the volume of intra-industry trade will increase as countries become more similar over time in terms of their factor endowments.²⁵ At the same time, inter-industry trade will become less important.²⁶ In contrast, the models with horizontally integrated MNEs suggest that the volume of intra-industry trade will decrease relative to local sales by foreign affiliates as countries converge in relative factor endowments and income, unless trade costs (such as tariffs and transport costs) are falling at the same time. Markusen and Venables (1995) present some data that support this hypothesis. They point to the fact that from 1966 to 1991, two-way trade between the United States and Europe rose 12.8 times in nominal value, while the value of FDI stocks (United States owned in Europe and European owned in the United States) rose 20.3 times in value. During this period, Europe was gradually catching up with the United States in terms of GDP per capita.

38. The horizontal trade and FDI models find strong empirical support. In the perhaps most comprehensive empirical study to this date, Brainard (1993b), using bilateral data between United States and 27 partner countries in 64 different industries, found strong empirical evidence that the share of total sales accounted for by foreign affiliates (i.e., the share of the multinational firms' sales that is produced locally) is greater the higher are the transport costs between the home market and the host market, the higher are the trade barriers, and the lower are plant scale economies and investment barriers. These are very much the predictions that are generated in the theoretical models. Other studies have confirmed the different elements of the theory. For example, Horst (1972) found that the ratio of United States MNEs exports to Canada in relation to local production by their Canadian affiliates was higher

²³As noted before, market size is a critical consideration for location because of economies of scale in production (Rowthorn, 1992).

²⁴In contrast, the old Heckscher-Ohlin-Mundell model predicts only one-way flows, whereas the portfolio approach can generate a certain amount of two-way flows for the purpose of risk diversification.

²⁵The concept of "factor endowments" is arguably a bit misleading since it suggests that production factors are given once and for all. This is questionable for natural resources that can be depleted, and even more so for labour and capital. The "quality" of the workforce can be augmented by investment in human capital through schooling and on the job training, and capital "endowments" are augmented both in terms of quantity and quality through domestic and foreign investment. Indeed, there is a certain degree of "convergence" in factor endowments in the world among a subset of countries. For example, the saving and investment rates (as a percentage of GDP) in East Asia have by far exceeded those of the OECD countries over the last decades. As a consequence, East Asia has grown considerably faster than the European Union and the United States. As predicted by modern trade models, the trade has also shifted character from the previous emphasis of inter-industry trade based on differences in factor endowments to intra-industry trade in differentiated industrial products.

²⁶See Chapter 8 in Helpman and Krugman, 1985.

the smaller was the Canadian market (for the particular product) relative to that of the United States, presumably indicating the deterrent effect of local production if scale economies are substantial. Buckley and Pearce (1979) also noted that MNEs active in industries with substantial scale economies tended to rely more on exports from a central production unit than on local production. Anderson and Fredriksson (1993) found that foreign affiliates export more the fewer the countries in which the parent company has affiliates, indicating the need to limit the number of production units for scale economy reasons. Moreover, many studies have confirmed that trade barriers (actual or potential) can tip the balance in favour of local production over export.²⁷

39. It is also clear that horizontal FDI displaces some exports of the home country. Increased local production reduces the need to export the product that is now produced in the host country. However, this does not necessarily mean that overall exports by the parent company (and its third country affiliates) to the host country will decline. Horizontal FDI, while arguably displacing trade in *final* goods, tends to generate offsetting trade in *intermediate* goods.²⁸ That is, the change in modes from exports to local production is often followed by increased trade in intermediate goods used in the production of the final good. This *vertical* aspect of horizontal FDI is only partially covered in the models above which do not identify any intermediate goods except for "headquarters services" (R&D, management, and marketing services). Yet, empirical evidence points to significant increases in the trade of physical intermediate goods following FDI. For example, Swedenborg (1985, pp. 233-236) showed that Swedish exports to foreign affiliates increased with the affiliates' production.²⁹

40. Whether the net value of trade will increase or decrease is difficult to say. On the one hand, if the volume produced locally is just equal to the volume that was exported to the market before, it is clear that the value of trade must decline. The value of imported intermediates must logically be lower than the value of displaced final goods unless the local value added is negative. On the other hand, there is no reason to believe that the sales would stay constant. The reason why the MNE started to produce locally in the first place is presumably that the total cost of supplying the market from a local production unit (including tariffs, which tend to be higher on final goods than on intermediates) is lower than for exports. If this saving is passed on to local consumers, sales will arguably be higher than before and this will increase the demand for imported intermediates. The latter effect may dominate, leading to more exports for the home country. The exports of the home country may also increase for other reasons. For example, establishing local production of one product, say, a specific car model, may spillover in increased demand for other products exported by the MNE (other car models). Indeed, foreign affiliates often serve the dual role of production unit and marketing arm for the parent company's product line. The net result on home country exports can therefore go up or down depending on the circumstances.

41. Related to the above point, it should be noted that the complementary relationship between horizontal FDI and trade in intermediate goods may weaken over time for two reasons: Firstly, it takes time for foreign affiliates to find suitable domestic partners to supply intermediate goods. The import content may then gradually decrease over time as the vertical supply linkages are established with the local economy. For example, McAleese and McDonald (1978), studying Irish manufacturing during the period 1952-1974, found that local purchases increased as foreign affiliates matured. Secondly, this tendency is sometimes reinforced by government measures, especially in developing

²⁷See Section IV.

²⁸With "final goods" we mean the good that is produced by the foreign affiliate. This good could in turn be an input in yet another higher stage of the production process.

²⁹See Section III.3.1 for a detailed discussion of the empirical evidence on the trade effects of outward FDI on home countries.

countries. For example, it is not uncommon that host governments impose local content requirements as a prerequisite for FDI, or, alternatively, grant more favourable investment incentives to firms that source more inputs locally. Such domestic content requirements are often phased in gradually after an initial grace period.³⁰ Thus, both for natural and policy related reasons, foreign affiliates tend to source more inputs locally as the investment matures. Hence, an initial complementary relationship between trade and FDI may eventually turn into a net substitute one.

III.2.2 Vertical FDI and trade

42. As discussed in Section II, MNEs often locate different stages of a production process in different countries in order to minimize production costs. The associated FDI is referred to as *vertical* FDI because of the subdivision of the production process in vertical stages. Vertical FDI is by its very nature trade-generating. By subdividing the production process in vertical stages between countries, trade is obviously created (compared to the situation where all stages are undertaken in one country).

43. To be worthwhile, the cost savings of a vertical subdivision of production between countries must outweigh the additional expenditures on tariffs and transportation costs. Each stage of the subdivision adds another tariff and transportation margin, and if the gains from each step of further subdivision are diminishing, the vertical division will eventually come to a halt. Trade barriers, or trade costs in general, thus discourage vertical FDI, whereas they may encourage horizontal FDI (as shown in the previous Section).³¹

44. However, it should be pointed out that the distinction made in the literature between vertical and horizontal FDI is not always clear-cut in reality. As mentioned previously, even horizontal FDI tends to generate a substantial amount of vertical trade of intermediate inputs from the parent company to its foreign affiliates.³² The difference between the two types of investment is perhaps more in the purpose of the investment than in the trade effects. Horizontal FDI is made for the purpose of bypassing trade barriers or economizing on transport and distribution costs. There may also be other advantages of being close to the final consumers, such as overcoming a resistance to buy foreign produced goods and services or facilitating the provision of after-sales services to the customers. The draw-back is forgone scale economies as central production is replaced by local production in each market. In the case of vertical FDI, the vertical trade is closely related to the purpose of the investment, namely, to exploit international cost differences for various stages of the production process. Vertical FDI is therefore by its very nature trade-creating while horizontal FDI generates trade in intermediate goods and services as a side-product, at the same time as it displaces some trade in final goods that are now

³⁰See Section V.2 for a discussion of the impact of such investment measures.

³¹It should be noted that it is not just the trade barriers of the host country that affect vertical FDI: the trade barriers of the home country also matter. An example may clarify this point. Consider a product that is produced in two stages. Assume that both stages are initially undertaken in the home country (denoted A), which is also the country where the final product is consumed. The sum of the production costs of the two stages is $C_A^1 + C_A^2$. Assume now that a vertical FDI is undertaken in order to produce stage two in country B. Assume that B imposes a tariff t_B on the components produced in A during the first stage. The local value added in country B is C_B^2 . The processed product is then re-imported by country A, subject to a tariff t_A . The final cost of the product is then equal to $C_A^1 + C_B^2 + t_B + t_A$ (the tariffs are assumed to be specific). Comparing the two alternatives (with and without FDI), the investment is profitable if the cost-savings are larger than the incurred tariff expenditures: $C_A^2 - C_B^2 > t_B + t_A$. This example illustrates that the profitability of out-sourcing of production stages (through vertical FDI) depends both on the tariff structure of the host and home country.

³²For a unified treatment of horizontal and vertical FDI, see the paper by Markusen, Venables, Konan and Zhang (1996).

produced locally. Again, the net effect on trade of horizontal FDI may still be positive, especially if the trade cost for the final good is high so that the market was not served to its full potential before the establishment of a local subsidiary.

III.2.3 Distribution FDI and trade

45. MNEs do not just invest in production facilities abroad, but also in marketing, distribution and service-related activities. Some reasons to internalize such activities (as opposed to using local agents under contract) were given in Table I. For example, the reason may be to ensure a sufficient number of sales outlets and to maintain a certain standard of information and after-sales services to customers. There is little need to dwell on the trade effects of such investment. If foreign producers, for one reason or the other, cannot find suitable outlets of the necessary standard, there is little option but to invest and run an own network of outlets and services facilities. The alternative is not to serve the market at all, or only partially. These investments are therefore complementary to trade. It follows that government restrictions on a commercial presence of distribution and services facilities retard trade.

III.3 The trade effects of FDI for host and home countries

46. This subsection reviews the empirical literature on the trade effects of outward and inward FDI on home and host countries.

III.3.1 Home country trade and outward FDI

47. The relationship between outflows of FDI from the United States and exports from the United States has been examined in a number of studies. Early work, based on data from the 1970s, found a positive relationship between United States exports in 14 industries to 44 countries and the level of local production by United States-owned affiliates (Lipse and Weiss, 1981). In a subsequent study, Lipsey and Weiss (1984) sharpened the prediction by having access to firm level data (as opposed to industry level data). Dividing home country exports into final products and intermediate products they found the expected complementary relationship between production of foreign affiliates and exports of intermediate goods from the parent company. Interestingly, the United States exports of final goods also increased in a few industries, while they did not show any significant decline in other industries. The explanation given for this result was that local production of one product facilitates the sales of other products exported by the parent company. As mentioned before, local affiliates do not just serve as a production unit, but are often engaged in the marketing of the whole product line of the parent company. This will improve the competitive situation of the investing firm vis-à-vis local firms and exporters from other nations. In line with this argument, Lipsey and Weiss (1981) found that United States FDI tends to replace the exports of other nations rather than the own exports, underlining the importance of FDI in the competition for market shares.³³

48. A more recent study by Hufbauer *et al.* (1994) also found that United States exports are positively related to United States FDI stocks. Similar results were obtained for the regression between Japanese FDI stocks and exports, and between German FDI stocks and exports, although the estimated coefficients were somewhat lower and not always statistically significant. Graham (1996) also confirms a complementary relationship between United States exports and FDI flows to various parts of the world, with the notable exception of Latin America. Graham suggests that the Latin American exception was due to those countries' import substitution policies in the 1970s and early 1980s, which still had a chilling

³³In this context, it may be worth mention the observation of Knickerbocker (1973) that FDI by one firm is often followed by FDI of competing firms to restore the competitive balance.

effect on United States exports. A complementary relationship was also found by Blomström *et al.* (1988) on Swedish data, although the effect was statistically insignificant in some industries.

49. A study by Svensson (1996) adds another twist. Benefitting from exceptional micro-data on trade and FDI flows of Swedish multinationals, he establishes the following pattern: First, increased foreign production reduces the parent company's exports of *final* goods to the host country, i.e., the goods that the foreign subsidiary is now producing. Secondly, and at the same time, the exports of *intermediate* goods go up, but not quite enough to offset the reduction in exports of final goods. Thirdly, a point overlooked by the other studies, the exports of the parent company to third markets now served in "competition" with foreign subsidiaries are reduced. The net effect on Swedish exports, accounting for third market effects, was found to be somewhat negative.

50. In conclusion, while it seems clear that FDI can displace trade in final goods at the same time as creating trade in intermediate goods, the empirical evidence conflicts with respect to the net effect on home country exports. Studies based on more aggregate industry data seem to indicate an overall complementary relationship between outward FDI and home country exports, although this does not hold for all industry sectors. These studies suggest that increased local sales, and the demand that this generates for imported intermediates, compensate for displaced trade in final goods. One study even found that the export of final goods, albeit not the same as those produced locally, may increase with outward FDI. The reason is presumably that the foreign affiliate engages in the marketing of the whole product line of the parent company (Lipsey and Weiss, 1984). On the other hand, taking into account also that the foreign affiliates may replace some of the parent company's exports to third countries, Svensson (1996) found a negative relationship between home country exports and FDI by Swedish multinationals.

51. A final note of caution arises from the fact that it is not known what the parent company would have done with the funds at its disposal had it not invested in the foreign affiliates. Would the funds have gone to expanding domestic capacity for export production or would the funds have been distributed to the shareholders for lack of profitable domestic investment alternatives? Or is domestic investment actually stimulated by FDI, as suggested by the studies that find a complementary relation between foreign production and domestic exports? For example, out-sourcing of certain stages of the production process cuts costs and increases the competitiveness of the parent company, which in turn may feed into more exports.

52. In any event, although different studies have arrived at different conclusions - the majority suggesting a complementary relationship between home country exports and outward FDI and the minority suggesting a substitute relationship - all studies seem to indicate that the net effect on home country exports is not very pronounced. It should be noted, however, that these studies focus on average effects across industries and that the effects of outward FDI on exports may vary significantly among individual firms and industries, depending upon the nature of the investment.

Table II

The Relationship between Outward FDI and Home Country Exports

Study	Year	Home Country	Effect on home Exports	Notes
Lipsey and Weiss (1981)	1970	U.S.	positive	United States FDI displaced other countries' exports to the host country.
Lipsey and Weiss (1984)	1970	U.S.	positive	Positive correlation between exports of intermediate goods and foreign production. Moreover, foreign production of one product line seems to stimulate the exports of other product lines.
Blomström <i>et al.</i> (1988)	1982 (U.S.) 1978 (Swe.)	U.S., Sweden	overall positive	Overall complementary relationship, except for a few industries with a substitute relationship.
Hufbauer <i>et al.</i> (1994)	1980-1990	U.S., Japan, Germany	positive	The complementary relationship was more pronounced for the United States and Japan than for Germany.
Graham (1996)	1991 (U.S.) 1993 (Japan)	U.S., Japan	overall positive	The relationship between United States exports and FDI in Europe and East Asia was positive, while FDI in Latin America seems, on balance, to substitute for exports.
Svensson (1996)	1974-1990	Sweden	negative	The study finds an overall negative effect of outward FDI on Sweden's export, including reduced exports to third country markets served by the foreign affiliates.

53. The impact of outward FDI on imports by the home country seems not to have attracted much attention in the literature. On a theoretical level one could argue that vertical FDI should lead to increased imports as out-sourced production stages are being re-imported for further processing or final consumption. Horizontal FDI may have the same effect on imports to the extent domestic operations are closed and the domestic market is being served from abroad. The study by Hufbauer *et al.* (1994) found evidence that United States imports increased by the extent of United States investment abroad, but less so than exports. The study also found that outward Japanese FDI promoted about twice as much imports as exports.³⁴ It is unclear why Japanese FDI would generate proportionally more imports than exports compared to United States FDI, but it could be related to a higher degree of vertical FDI, leading to re-imports of outward-processed goods.

III.3.2 Host country trade and inward FDI

54. With regard to the impact on inward FDI on host country imports, it is unclear, from a theoretical point of view, whether inward FDI will be accompanied by increased or decreased imports. Indeed, one can easily construct examples that give either result. For example, if FDI is export-oriented and the foreign affiliate sells only a fraction of the output in the host market, there will not be much displacement of imports of final products and the predominant impact on imports will instead be through the use of imported intermediates in production. Export-oriented FDI is therefore likely to be accompanied by increased imports.³⁵ The opposite may hold true for host market-oriented FDI. If

³⁴It should be noted, however, that a recent MITI study provides evidence showing that outward Japanese FDI generates more exports than imports.

³⁵Of course, this is not to say that the trade balance of the host country will deteriorate. If anything, the trade balance will improve through export-oriented FDI.

the local affiliate predominantly replaces previous imports, either the imports of the parent company itself or the imports of rival firms exporting to the market, the value of imports may well go down. However, the volume effect must also be taken into account. Local production may boost sales in the host market. This will increase the demand for imported intermediates and the net result may be an increase in imports. (As noted in the previous Section, outward FDI creates new trading opportunities in intermediate goods that can more than offset the replaced trade in final goods.) These examples illustrate that imports can go either way following an inflow of FDI. To some extent the relationship also depends on the policies of the host country, such as local content requirements.

55. There is some empirical evidence suggesting that inflows of FDI are accompanied by increased imports in the first years although the tide may subsequently turn. For example, studying the trade balance effects of FDI in United States manufacturing during the period 1967-1989, Orr (1991) found that imports increased in the formative years of an investment. However, he also makes the case that imports will eventually decline as investment matures and the supply linkages with the host economy (the United States in this case) are strengthened, and as imports of final goods are further displaced when the production of foreign affiliates gains momentum.³⁶

III.3.3 The role of MNEs and FDI for the export performance of developing countries

56. This subsection examines the available empirical evidence regarding the role of MNEs and FDI for the export performance of developing countries. The discussion draws mainly on a study by Blomström (1990), commissioned by United Nations Centre on Transnational Corporations (UNCTC).

57. In investigating the role of MNEs for the export performance of developing countries, Blomström distinguishes between *direct* and *indirect* effects. Direct effects refer to exports from host countries by local affiliates of MNEs, and indirect effects refer to various spillover and structural effects that can boost productivity and facilitate export performance of domestic firms. For example, domestic firms may benefit from the infrastructure of transport, communication, financial and other ancillary services that tend to follow in the footsteps of MNEs. And by linking up as subcontractors, or simply observing the activities of MNEs, domestic firms may gain vital knowledge about foreign markets, including consumer preferences and distribution channels. Also, the increased competitive pressure may boost the productivity of domestic firms by introducing new technologies and modern business practices, which are ingredients that are essential to succeed in the world market. The empirical focus of Blomström's study is on the direct effects, that is the export performance of local affiliates of MNEs. Unfortunately, few host countries provide trade statistics that distinguish between trade by foreign multinationals and trade by domestic firms. To overcome this obstacle, Blomström uses data from three home countries - Japan, Sweden and the United States - that undertake occasional surveys of the foreign trade activities of their majority-owned multinationals.

58. The main findings of Blomström's study were the following. With regard to United States MNEs' exports of manufactures from developing countries, there has been a steady increase in their share of world trade from 0.43% in 1966 to 0.99% in 1986. Moreover, exports of United States affiliates have grown faster than those of domestic firms, except in newly-industrializing countries in East Asia.³⁷

³⁶One of the assumptions is that Japanese auto transplants will eventually increase their United States sourcing from some 50 to 75%, achieving almost the same domestic sourcing rate as that of United States producers.

³⁷Many other studies have confirmed that foreign multinationals tend to have a higher export propensity than domestic firms. For example, studying FDI and trade in transition economies, Naujoks and Schmidt (1995) observed that the export propensity (share of local production exported) was approximately twice as high for foreign-owned companies than for local-owned companies in Hungary. They also observed that export performance
(continued...)

Out of the total growth of exports of the host countries, United States affiliates accounted for some 7.4%, but there were big differences among countries and industries. For example, in Mexico, United States affiliates accounted for almost a third of the export growth between 1966 and 1986. In terms of sectors, United States affiliates contributed the most to the export growth of developing countries in machinery (19.6%) and transport equipment (26.2%). The export propensity of United States affiliates located in developing countries has increased considerably over time. Roughly one third of local production was exported in 1986 compared to less than 10% twenty years earlier. This means that the export propensity is approaching that of affiliates located in developed countries (38%). A final observation is that about two thirds of the exports of United States affiliates are destined for the United States.³⁸ The findings for the export performance of Japanese and Swedish multinationals in developing countries are largely similar.³⁹

59. Turning now to *indirect effects* on domestic firms, many studies have tried to estimate the effects of MNEs on the productivity of domestic firms arising from, for example, dissemination of technology, training of workers and the expansion of producer services. They often find positive spillover effects on the host country from the presence of foreign multinationals.⁴⁰ Unfortunately, there are only a few studies that focus on the impact of foreign multinationals on the export performance of domestic firms. Aitken, Hanson and Harrison (1994) test the hypothesis that export activities of multinational firms reduce the cost for domestic firms to engage in exporting. They find that Mexican firms located near multinational exporters are more likely to export than are other domestic firms.⁴¹ Similarly, Kokko, Tansini and Zejan (1996) find that the presence of foreign MNEs raises the likelihood that local Uruguayan firms get involved in exporting. There is also some anecdotal evidence that seems to support this hypothesis. For example, the entry of single Korean garment exporter in Bangladesh is believed to have paved the way for hundreds of local entrepreneurs to engage in successful exporting; today garment exports are the single largest source of foreign exchange earnings for Bangladesh.⁴²

60. In conclusion, there is both anecdotal and statistical evidence suggesting that the presence of multinational firms may have paved the way for domestic firms' export endeavours. The potential for spillovers from MNEs to domestic firms derives from the former's multi-market presences which

³⁷(...continued)

of foreign-owned companies was especially high in manufacturing of metal products, mechanical engineering, machinery and equipment, and textiles and clothing. These are industries characterized by vertical division of the production process. The study also gives some insights into the importance of "outward processing" for the transition economies. Outward processing is contractual arrangements between unrelated parties (no equity participation is involved) where the contractor delivers semi-processed goods for further processing by the subcontractor. Trade in components for outward processing between the European Community and Central and Eastern Europe almost doubled between 1989 and 1993. Out of EC total imports from the region, almost 18% of imports in 1993 were re-imported processed goods.

³⁸Part of the reason is presumably that the United States has a special import provision for reimported processed goods.

³⁹However, there is one notable difference. Japanese affiliates seem to have a higher average propensity to export than United States and Swedish affiliates. This may be a statistical artifact reflecting differences in the distribution of FDI over industries and host countries.

⁴⁰For a recent review of the literature, see Blomström and Kokko (1997a).

⁴¹These results are robust to the inclusion of other variables that may affect export propensities, such as overall industry activity in a region, proximity to the capital or the border, and other factors.

⁴²Rhee and Belot (1990)

may create opportunities for domestic firms to acquire vital information about foreign markets and export opportunities. Moreover, infrastructure investment undertaken by MNEs, or for the MNEs by the host government, reduces the cost to domestic firms of engaging in export activities. Thus, FDI contributes to the export performance of developing host countries both directly through MNEs' own export activities and indirectly by reducing the costs and informational obstacles for domestic firms to start or expand exporting.

IV. THE IMPACT OF TRADE POLICES AND MEASURES ON FOREIGN DIRECT INVESTMENT

61. This Section summarizes the theoretical and empirical literature on the impact of trade policies and measures on investment flows.

IV.1 The tariff-jumping argument

62. Bypassing protectionist measures by establishing production facilities in the protecting country is perhaps the oldest explanation for FDI. In the OLI framework, high tariffs belong to the locational "advantages" of the host country in that they favour local production over exports. Of course, a distinction must be made between tariffs on the product that the investor intends to produce in the host country and tariffs on intermediate goods needed in production. While the former can arguably lure certain investment, as shown in many empirical studies (see below), high tariffs on intermediate goods have the opposite effect. And this is true even if there is local production of the intermediate goods since trade barriers do not just elevate the price of imported intermediates but also of competing domestic ones. In other words, it is the combination of a high tariff on the final good, and low tariffs on the intermediate goods (tariff escalation⁴³), that can provide a motive for tariff-jumping investments.

63. There are many empirical studies that support the tariff-jumping argument. Using detailed data on United States outward FDI to 27 partner countries, including both developed and developing countries, Brainard (1993b) found that, other things equal, the share of total sales accounted for by affiliates sales is greater the higher the host country's trade barriers are. Horst (1972), using data on production by United States affiliates in Canada, found the very same result. Several case studies of particular industries also support the argument. For example, a recent study by Goodman, Spar and Yoffie (1996) showed that dumping petitions and escape clause actions resolved by "orderly market arrangements" (OMAs) and "voluntary export restraints" (VERs) induced Japanese and other foreign firms to shift mode from exports to local production in the United States of typewriters, colour televisions, automobiles, steel and semiconductors. Along the same line, Barrell and Pain (1997) found that Japanese FDI into the European Community and the United States over the period 1981 to 1991 was significantly influenced by (cumulative) anti-dumping actions.

64. A mere threat of protection may sometimes suffice to induce FDI. For example, a study by Azrak and Wynne (1995) found that Japanese FDI increased with the number of dumping petitions filed with the United States International Trade Commission, and with estimated probabilities of an affirmative decision (63% of the petitions resulted in an affirmative decision during the period of investigation, 1976-1992). Along the same lines, Blonigen and Feenstra (1996) found that anti-dumping cases and escape clause actions strongly influenced Japanese FDI into the United States. What is more,

⁴³As suggested by the term, tariff escalation refers to a tariff structure with higher tariffs on more processed goods. Tariff escalation is common in developed and developing countries alike. It should be noted that even if the statutory tariff rates do not show much escalation, duty exemptions on intermediate inputs and raw material have just the same effect.

in line with the so-called "quid pro quo" hypothesis⁴⁴, these investments seemed to reduce subsequent risks of being subjected to contingent protection.⁴⁵ Precautionary investment may therefore be undertaken as a response to a deteriorating trade climate, both to defuse the protectionist threat and to insure against lost grounds should the threat be carried out.

65. To conclude, there is little doubt that actual protection as well as threats of protection can induce tariff-jumping FDI. However, it cannot be concluded from this finding that protection is a more efficient policy tool to attract FDI than are open trade policies. As pointed out by Hufbauer *et al.* (1994), one problem with the tariff-jumping argument is that the tariffs of developed countries for industrial products are often below 5%, yet developed countries attract the lion's share of the world's FDI. However, it should be recalled that non-tariff barriers, such as anti-dumping duties can arguably constitute substantial obstacles to exports and thereby favour FDI, as shown by the empirical evidence presented above. Hufbauer *et al.* also observe that the FDI boom in developing countries has coincided with a great deal of liberalization of tariff and non-tariff barriers. Of course, it should also be taken into account that these trade reforms were often undertaken as part of a general overhaul of macroeconomic policies, privatization initiatives, and liberalization of the investment regime. The next Section discusses the issue of whether high or low trade barriers are more conducive to FDI.

IV.2 Are high or low trade barriers more conducive to FDI?

66. To shed some light on the issue raised above, it is useful to review some empirical studies that try to explain the total inflows of FDI by a number of economic variables, such as market size (as measured by population or GDP), growth in GDP, the "openness" of the trade regime, and a host of other economic and political variables.

67. One problem facing this literature is how to measure the "openness" of the trade regime. Had investment data existed by relatively narrow sector definitions it would be possible (albeit very time-consuming) to collect information on the trade barriers that apply in each sector and country, including trade barriers on imported intermediates. However, for many developing countries, data only exist on aggregate inflows of FDI as reported in the balance of payment accounts. The question then arises how to aggregate all trade barriers into a single index with a bearing on the inflow of FDI. Should one use the average tariff rate or the import-weighted average tariff rate? And if non-tariff barriers are important, how should these barriers be accounted for in the "openness" index? Most researchers find the data problems overwhelming, especially since a cross-country regression may include 50 or more countries over a 10-year period. The pragmatic solution is to use the trade share of GDP (exports plus imports over GDP, exports over GDP, or imports over GDP) as a proxy for the orientation of the trade regime. The presumption is that countries with high trade shares have a more "open" trade regime (i.e., less trade barriers) than countries with low trade shares.⁴⁶

⁴⁴For details on the quid pro quo argument, see, e.g., Wong (1989) and Bhagwati et al. (1992).

⁴⁵The prospect of defusing a protectionist threat was found to depend on the type of investment. Greenfield FDI has a stronger defusing effect than acquisition FDI. The authors explain this result with the "ill will" that a foreign acquisition often induces in the public eyes. They cite anecdotal evidence that new production facilities are generally more favourably received than are foreign acquisitions of domestic production facilities. Also, the study suggests that it is more difficult to defuse threats of anti-dumping actions than threats of escape clause actions.

⁴⁶While this is not an unreasonable assumption, it should be emphasised that the index is far from perfect. For example, it is well known that small countries, other things equal, tend to have higher trade shares than large countries. Small countries tend to be more dependent on trade for the simple reason that they cannot produce all goods without forgoing the scale advantages that specialization and trade make possible.

68. Hufbauer *et al.* (1994) provide cross-country regression on direct investment from Germany, Japan and the United States to some 50 host countries for the years 1980, 1985, and 1990. They confirm what is known from many other studies, that FDI stocks are strongly correlated with indicators of market size (population and income per capita). They also find that inflows of FDI are positively and significantly related to the trade "openness" index. Specifically, they find a positive correlation between the openness index, as measured by the sum of exports plus imports over GDP, and the stock of FDI. That is, countries that tend to trade more also tend to have a higher stock of FDI.

69. A similar study was undertaken by Balasubramanyam and Salisu (1991) on inflows of FDI per capita using a sample of 38 developing countries over the period 1970-1980. They found a statistically significant positive effect on FDI of their proxy for trade "openness", in this case measured by the import share of GDP. As an alternative variable, they use a composite distortion index devised by the World Bank. This index does not account for trade distortions *per se* but for various other distortions in product and factor markets. It turns out that higher distortions reduce the inflows of FDI. So does a high inflation rate, which is used as a proxy for macroeconomic imbalances. Referring back to Bhagwati (1978)⁴⁷, the authors hypothesise that high distortions in product and factor markets and macroeconomic imbalances are typical of import-substituting development strategies, whereas low distortions are a token of export-oriented development strategies. They conclude that the regressions lend support to Bhagwati's hypothesis that export-oriented development strategies are more conducive to FDI than are import-substituting policies.

70. Akther (1993) arrives at essentially the same conclusion using data on inflows of FDI over the period 1980 to 1983 in 12 developing countries. The "openness" indicator, as measured by exports plus imports over GDP, is found to have a significant positive effect on the inflows of FDI. Finally, Singh and Jun (1996), using a data sample of 31 developing countries over the period 1970-1993, find that the ratio of exports to GDP is positively correlated with inflows of FDI. However, when the data are divided into two sub-samples with low-FDI and high-FDI countries,⁴⁸ the coefficient on export is only statistically significant for the high-FDI group.

71. In summary, cross-country regressions tend to find that inflows and stocks of FDI are positively correlated with the "openness" of the trade regime, as measured by the host country's trade share of GDP. It is tempting indeed to conclude, as do the authors of these studies, that an open trade regime (high trade shares) induces FDI. However, the positive correlation could equally well indicate that FDI induces high trade shares (an "open" trade regime). An example may clarify this point. Consider, for example, a United States computer company undertaking final assembly in Mexico. The Mexican affiliate imports components for US\$450 that are assembled at a cost of US\$50 per computer (the local value added). The final computer is then shipped back to the United States adding US\$500 to Mexico's exports. The export-processing thus adds US\$950 to Mexico's trade (imports plus exports) and US\$50 to its GDP. As a result, Mexico's trade share of GDP will go up. This illustrates that the causality may go in the other direction from inflows of FDI to high trade shares, rather than from high trade shares to high inflows of FDI.

⁴⁷They cite the following paragraph in Bhagwati (1978): "With due adjustment for differences among countries for their economic size, political attitudes towards FDI and political stability, both the magnitude of FDI inflows and their efficacy in promoting economic growth will be greater over the long haul in countries pursuing export promotion (EP) strategy than in countries pursuing the import substitution (IS) strategy."

⁴⁸Low-FDI countries are defined as those countries that over the sample period (1970-1993) received on average inflows of FDI of less than one percent of GDP.

72. The only study that explicitly addresses the issue of causality is the study of Singh and Jun (1996). The results are mixed. For five out of twelve High-FDI countries the export share of GDP (the "openness" indicator) is found to "cause" FDI⁴⁹, and for one country FDI is found to "cause" the export share. For the other six countries the causality could not be determined. No tests were reported for low-FDI countries. The authors conclude that FDI and trade are perhaps best described as being simultaneously determined, which indeed is what the theory says. At the same time, they suggest that the feedback from trade to FDI is stronger than the feedback from FDI to trade. They argue that these findings support the general notion that an "open" trade regime is conducive to FDI.

IV.3 Concluding remarks

73. In conclusion, there are some studies that suggest that an "open" trade regime, as indicated by a high trade share of GDP, is conducive to FDI. At the same time, there are other studies that indicate that high trade barriers can induce FDI. These seemingly contradictory results can be explained as follows. On the other hand, low trade barriers on intermediate goods are a prerequisite for horizontal FDI, and low trade barriers in general for vertical FDI. As put by Brahmabhatt, Srinivasan and Murrell (1996), "because foreign investors, notably multinational enterprises, increasingly operate complex global production and supply networks, protection and its associated red tape reduces a country's attractiveness in these networks". Thus, both high and low trade barriers can attract FDI, but of different types. As noted by UNCTAD (1995, p. 286), FDI attracted to protected markets tends to take the form of stand-alone production units geared to the domestic market. In contrast, low trade barriers, especially on intermediate goods, are conducive to vertical FDI attracted by the fundamental advantages of the host country, such as low labour costs, natural resources and generally favourable economic conditions. Judging from the cross-country regressions on inflows of FDI to developing countries, countries with an "open" trade regime seem on average to attract more FDI than countries with a "closed" trade regime.⁵⁰

74. A final, and perhaps more important point is that the gains from luring FDI through high trade barriers may be limited. A compelling case for this view is made in a recent study by Balasubramanyam, Salisu, and Sapsford (1996) that assesses the contribution to the host country's GDP growth of FDI. The study looks at the growth experience of 34 developing countries over the period 1970 to 1985. Dividing the sample into inward- and outward-oriented countries according to the World Bank's classification (see the 1991 issue of the World Development Report), they find that inflows of FDI have a significant positive effect on the GDP growth for outward-oriented countries whereas no effect can be discerned on the GDP growth for inward-oriented countries.⁵¹ This supports the view that FDI attracted by fundamental location advantages is more productive for the host country than FDI attracted by protectionist policies. The latter may simply induce FDI for which the host country does not have

⁴⁹The causality test employed (the Granger causality test) does not really test for causality (i.e., X causes Y) but rather precedence in a lead-lag relationship (X precedes Y).

⁵⁰However, the cross-country studies may attribute too much to the trade regime. Bad policies in one area tend to be followed by bad policies in other areas. As FDI does not just respond to the trade regime, but rather to the overall conditions of the economy, cross-country regressions that fail to control for other policy variables (as they sometimes do) may attribute too much of the FDI inflows to the trade regime. For example, the massive inflows of FDI to China over the last decade have presumably more to do with the market-oriented reforms that unleashed tremendous growth and investment opportunities than with the (modest) trade reforms that were simultaneously undertaken.

⁵¹The estimated growth effect of FDI on inward-oriented countries is actually negative, albeit statistically insignificant.

a comparative advantage, thereby drawing production factors from less distorted to more distorted sectors to the detriment of the development process.

V. THE IMPACT OF INVESTMENT POLICIES AND MEASURES ON TRADE

75. This Section reviews the effect of investment policies and measures on trade. For reasons set out in the introduction, the discussion is limited to those investment incentives and performance requirements that are most directly related to trade.

V.1 Investment incentives and performance requirements

76. Investment incentives, as defined in a recent UNCTAD report (1996b, p. 3), are "measurable economic advantages afforded to specific enterprises or categories of enterprises by (or at the direction of) governments, in order to encourage them to behave in a certain manner". The UNCTAD report divides investment incentives into three categories: fiscal incentives, financial incentives, and other (or indirect) incentives. *Fiscal incentives* are provisions designed to reduce the tax burden for foreign investors. For example, many developing countries grant time-bound tax holidays to new FDI, sometimes for more than 10 years. Standard fiscal incentive packages may also include exemptions from import duties on raw materials, intermediate inputs, and capital goods related to the production process.

Table III

Main Types of Fiscal Incentives for FDI

Profit-based	Reduction of the standard corporate income-tax rate; tax holidays; allowing losses incurred during the holiday period to be written off against profits earned later (or earlier).
Capital investment-based	Accelerated depreciation; investment and reinvestment allowance.
Labour-based	Reductions in social security contributions; deductions from taxable earnings based on the number of employees or on other labour-related expenditure.
Sales-based	Corporate income-tax reductions based on total sales.
Value-added-based	Corporate income-tax reductions or credits based on the net local content of outputs; granting income-tax credits based on net value earned.
Based on other particular expenses	Corporate income-tax deductions based on, for example, expenditures relating to marketing and promotional activities.
Import-based	Exemption from import duties on capital goods, equipment or raw materials, parts and inputs related to the production process.
Export-based	a) Output-related, e.g., exemptions from export duties; preferential tax treatment of income from exports; income-tax reduction for special foreign-exchange-earning activities or for manufactured exports; tax credits on domestic sales in return for export performance. b) Input-related, e.g., duty drawbacks, tax credits for duties paid on imported materials or supplies; income-tax credits on net local content of exports; deduction of overseas expenditures and capital allowance for export industries.

Source: Reproduced from Table I.1. UNCTAD (1996b).

77. *Financial incentives* involve the provision of funds directly to firms to finance new foreign investment or certain operations. The most common types are government investment grants and subsidized credits. Government equity participation may also act as a financial incentive, especially for investment involving high commercial risks.

Table IV

Main Types of Financial Incentives for FDI

Government grants	A variety of measures (also loosely referred to as "direct subsidies") to cover (part of) capital, production or marketing costs in relation to an investment project.
Government credit at subsidized rates	Subsidized loans; loan guarantees; guaranteed export credits.
Government equity participation	Publicly funded venture capital participating in investments involving high commercial risks.
Government insurance at preferential rates	Usually available to cover certain types of risks such as exchange-rate volatility, currency devaluation, or non-commercial risks such as expropriation and political turmoil (this type of insurance is often provided through an international agency).

Source: Reproduced from Table 1.2. UNCTAD (1996b).

78. *Other (indirect) incentives* include a group of miscellaneous measures designed to enhance the profitability of FDI in various indirect ways. Examples include designated infrastructure and government services at less-than-commercial prices, including land, buildings, transport services, telecommunications, electricity and water supply. Another important category involves the granting of a privileged market position. The latter may take the form of preferential access to government contracts, government granted monopolies, the closing of the market for further entry, or protection from import competition.

Table V

Main Types of Other (Indirect) Incentives for FDI

Provision of dedicated infrastructure	Include provision, at less-than-commercial prices, of land, buildings, industrial plants, or specific infrastructure, electricity and water supply.
Provision of services	Services offered may include assistance in identifying finance; implementing and managing projects; carrying out pre-investment studies; information on markets, availability of raw materials and supply of infrastructure; advice on production processes and marketing techniques; assistance with training and retraining; technical facilities assistance with training and retraining; technical facilities for developing know-how or improving quality control.
Market preferences	Preferential government contracts; closing the market for further entry; protection from import competition; granting of monopoly rights.
Preferential treatment on foreign exchange	Special exchange rates; special foreign debt-to-equity conversion rates; elimination of exchange risks on foreign loans; concessions of foreign exchange credits for export earnings; special concessions on the repatriation of earnings and capital.

Source: Reproduced from Table 1.3. UNCTAD (1996b).

79. Performance requirements are measures aimed at modifying the market behaviour of the investing firm to achieve certain national objectives. For example, the host government may require the investing firm to source a certain percentage of inputs domestically (domestic content rules). It may also require the investing firm to export a certain fraction of output (export performance requirements), or, alternatively, stipulate that import outlays must be balanced by exports (trade-balancing requirements). A third category involves mandatory local equity participation, either by the host government itself or by private investors.

Table VI

An Inventory of Performance Requirements

Local content requirements	minimum share of inputs that must be sourced locally
Substitution rules	requirement to use local substitutes for imported inputs whenever "similar" domestic inputs are available
Export performance	minimum share of production that must be exported
Trade-balancing requirements	requires MNEs to export for at least the same value as they import
Local equity participation	mandatory local equity participation; either by the host government itself or a local entrepreneur
Technology transfer	requirement to use a specific technology of interest for the host country
Local hiring targets	national participation in management, quotas of expatriates, etc.

80. According to UNCTAD (1996b, ch. III), the range of incentives available to foreign direct investors, as well as the countries that employ such incentives, have increased considerably since the mid-1980s. This development reflects partly the ongoing reappraisal among developing countries of the benefits of FDI, and partly increased investment competition among host countries. The 1996 issue of the World Investment Report (UNCTAD, 1996a) reports that out of 485 changes in the investment regimes in 57 countries between 1991 and 1995, virtually all (98%) went in the direction of more liberal investment rules or outright promotion. The type of changes introduced in 1995 fell into the following groups: 32% of the changes introduced more incentives, 30% more liberal operational conditions (less performance requirements), 15% more liberal foreign ownership or sectoral regulations, 10% more liberal approval procedures, 9% more guarantees, and 4% less control (See table V.1 and figure V.1 in UNCTAD, 1996a). As a general rule, developed countries make more use of financial incentives than fiscal ones. The suggested reason is that "fiscal incentives are less flexible and involve more difficult parliamentary procedures for introducing them" (UNCTAD 1996b, p. 18). In contrast, developing countries tend to use more fiscal incentives, such as tax holidays and import duty exemptions. The reason is presumably that developing countries can simply not afford to compete with financial incentives that can run into six digit numbers (in US\$) per job for the most coveted investment projects.

V.2 The effects of investment incentives and performance requirements

81. Do investment incentives and performance requirements make a difference in how firms invest and operate? With respect to the impact of incentives on investment decisions, the evidence that exists is based on surveys in which investors have been asked to rank a number of factors determining their investment decisions, including investment incentives and tax breaks. One study reviewed by UNCTAD (Reuber et al., 1973) found that export-oriented investors valued fiscal incentives (including tax holidays, duty remissions and accelerated depreciation) more highly than protection of the market or other incentives. Market-seeking investors, on the other hand, valued protection of the market more than fiscal or other incentives. Another study reviewed by UNCTAD (Guisinger and Associates, 1985) reaches essentially the same conclusion. Of 36 projects oriented towards the domestic market, 23 would not have gone ahead if there had been no protection of the domestic market, while only two were dependent on fiscal or financial incentives. In contrast, for projects oriented towards the regional or world market, 15 of 38 investments would not have materialized without fiscal or financial incentives. A third study reviewed by UNCTAD (Lecraw, 1990) found that the tariff rate was a significant determinant of investment oriented towards the domestic market, but not for export-oriented or natural resource-seeking investment. The latter group was more prone to respond to fiscal incentives. Yet

another study reviewed by UNCTAD (Kumar, 1994) found that export-oriented FDI in a sample of 40 countries was significantly influenced by the length of the host country's tax holiday.

82. This evidence lends further support to the previous conclusion that market-seeking FDI responds to high trade barriers (tariff-jumping). In contrast, export- and resource-oriented investment responds to fiscal incentives such as duty remissions on imported intermediates and tax holidays. However, the importance of investment incentives should not be exaggerated. The surveys indicated that other fundamental factors, such as market size, production costs, availability of natural resources, etc., play a more important role than investment incentives and tax breaks.⁵² Nevertheless, when the fundamental determinants are attractive enough for an investment to be profitable, and the profitability is more or less similar across alternative FDI locations, incentives appear to have an effect on investors' decisions, especially for projects that are cost-oriented and mobile. Moreover, if one country offers incentives and another country does not, then, all other things being equal, foreign investors could be influenced in their location choice between countries.

83. Needless to say, this conclusion does not suggest that incentives are an effective instrument to attract FDI, or, for that matter, that the benefits exceed the costs. By playing out different locations against each other, MNEs can possibly squeeze out all the surplus that otherwise would have accrued to the host countries. Yet, in the absence of a binding agreement on the use of investment incentives, it may be difficult indeed to temper their use and misuse.

84. Performance requirements affect the operation of foreign affiliates once an investment decision has been made. The impact is obvious where such requirements are binding, that is, they force some behavioural changes (which is not always believed to be the case). Domestic content rules, to the extent they are binding, force the foreign affiliates to source a higher share of the inputs from local sources than that motivated by costs and quality considerations. This will also have negative repercussions on exports since production costs go up and/or quality down, making products less competitive in the world market. The impact of export performance requirements is equally obvious. They force, to the extent they are binding, foreign affiliates to export a larger share of the local output than that motivated by profit and cost considerations. This is akin to a kind of bundling. For each unit sold domestically, the affiliate has to export, say, three units. If the motivation for the FDI was to jump a high trade barrier, the profits earned on the domestic market cross-subsidize the export sales. Trade balancing requirements are effectively a combination of domestic content rules and export performance requirements. They force, to the extent they are binding, foreign affiliates to balance their import outlays by exports. It is difficult to say which margin the foreign affiliate would adjust in this case. It depends on whether it is less costly to use more domestic inputs than otherwise, or export more than otherwise. An educated guess would be that both margins are adjusted.

⁵²Moreover, the surveys should perhaps be viewed with some caution because of the self-interest of the responding firms in portraying incentives and tax breaks as more important than they actually are.

Table VII

The Effects of Common Performance Requirements

Performance requirement	Theoretical impact on trade behaviour	
	Affiliates' imports	Affiliates' exports
Local content	negative	negative
Export performance	positive (if imported inputs is needed)	positive
Trade balancing	negative (possibly zero if all adjustment is on the export side)	positive (possibly zero if all adjustment is on the import side)

Source: It is assumed that the performance requirements are actually binding, and not offset by incentives.

85. A complicating factor is that these performance requirements are often combined with (paid for by) incentives. For example, a foreign affiliate that subscribe to stricter domestic content requirements may be granted a longer tax holiday. Depending on how different incentives and performance requirements are bundled, the trade effects may differ from those suggested above.

VI. THE IMPACT OF REGIONAL TRADE ARRANGEMENTS ON FOREIGN DIRECT INVESTMENT

86. Four reasons may be given for why regional trade agreements could induce higher levels of FDI. First, as mentioned previously, market size is critical to the decision to invest in a country. Market size variables are always positively correlated with FDI in empirical studies of the determinants of direct investment. The theoretical argument is that a larger market can more easily support production units of sufficient size to allow scale economies to be fully exploited. Regional integration is tantamount to an effective "enlargement" of market size. The most obvious example is, of course, the European Union which is well on the way to creating a true single market out of 15 national markets. Other well-known examples are NAFTA, MERCOSUR, EFTA, and ASEAN which to various degrees have eliminated intra-regional trade barriers.⁵³ Second, to the extent a regional agreement is expected to spur growth, it will increase the (future) market size yet further, thereby adding to the attractiveness of the location. Indeed, inflows of FDI are often found to be positively correlated with GDP growth. Third, the removal of internal trade barriers between partner countries, keeping external trade barriers constant, will divert some trade from outsiders to insiders. Consumers and firms that previously purchased goods and services from other regions may change suppliers as the trade barriers with the partner countries are removed. This is the well-known "trade diversion" effect of customs union and free trade areas.⁵⁴ The prospect of losing customers provides a defensive reason to change from exporting to local production in the region. Fourth, it is sometimes feared that regionalism may lead to deteriorating trading conditions for outside countries. Such fears, well-motivated or not, can provide an additional defensive reason to move production into the region.

87. How do these theoretical arguments match up with the data? Dunning (1990, pp. 10-11) notes with respect to the creation of the European Community in the late 1950s that: "United States-based

⁵³For a comprehensive treatment of regional agreements in the world economy, see WTO (1995).

⁵⁴Viner (1950)

surveys ... revealed that United States firms were stepping up their investments in the Community in anticipation of the benefits likely to be incurred by firms producing in the Community and, no less important, to avoid the costs likely to be incurred by those remaining outside." And with respect to the reactions to the single market program, initiated in 1985, Dunning (1990, p. 24) notes that: "The years 1986 to 1988 have shown a marked increase in United States direct investment in all European Community countries. Numerous surveys ... all point to the expectations of United States firms about the effects of the completion of the internal market as having distinct effect on the level and direction of United States direct investment abroad." With respect to the effects of NAFTA, JETRO (1993, p. 13) notes that: "With NAFTA set to start on 1 January 1994, Mexico is in a favourable position to attract foreign investment, poised as it is as a gateway to the United States market."

VI.1 The case of the European Community

88. Dunning (1997a, 1997b) provides a comprehensive survey of empirical studies assessing the effects of the creation of the European Community and its subsequent developments with accessions of new members and deeper integration (the internal market programme). With respect to the first phase of European integration, that is, from the creation of the European Community (EC) in 1957 to the launching of the internal market program in 1985, Dunning (1997a) makes the following summary observations: "[I]n short, the first phase of European integration was accompanied by a substantial net increase in both EC-related intra- and extra-FDI and trade flows. However, the largest increases in FDI were from countries outside the EC; and the evidence strongly suggests that United States (and later Japanese) MNEs were able to take advantage of the removal of tariff barriers, and surmount the transaction costs of the remaining non-tariff barriers better than their EC equivalents. Although, during the period 1958 to 1985, there was a sizeable increase in intra-EC FDI, intra-EC trade grew much faster - and a great majority of this was between, rather than within, firms. By contrast, United States FDI in the EC increased more rapidly than United States exports for the first 20 years of the ECM (European Common Market), after which (until 1985 at least) exports rose more rapidly. But, during this period, the most impressive trading performance was recorded by the EC affiliates of United States MNEs. The fact that between 1957 and 1982 the *share* of exports to non-United States countries (mainly European) of their sales rose three-fold, and over two thirds of this trade was *intra*-firm, points strongly to the complementary interplay between *extra*-EC FDI and *intra*-EC trade."

89. With respect to the second phase of the European integration, starting with the launching of the internal market program in 1985, Dunning (1997b) notes the following stylized facts: "FDI in the EC has risen faster than in most other parts of the world (save parts of East Asia); but there is little reason to suppose that this has been at the expense of non-EC FDI. Within the EC, there have been some discernable changes, both in industrial structure and in the geographical distribution of economic activity. Of the former, the relative growth of FDI in technology and information intensive, and especially in services related activities, is, perhaps, the most significant trend. Of the latter, the accession of Greece, Portugal and Spain - and particularly Spain - has led to a modest decentralization of other than the most technological and information intensive activities from the six core EC countries."

90. In explaining these stylized facts, Dunning makes the following summary observations: "(1) [It] is difficult to perceive how globalization could have had the consequences it has in Europe if the internal market program (IMP) had not come about. (2) ... [The] main dynamic impact of the IMP on FDI flows is through its effects on other variables affecting FDI - and most noticeably market size, income levels, the structure of economic activity and agglomeration economies But, even considering the IMP as an independent variable, ... all [studies] generally agree that it has stimulated both external and intra-EC FDI, but the former more than the latter. (3) It seems clear that the effects of IMP are industry specific, and there is some evidence that, as hypothesized by trade and FDI theory,

extra-EC FDI has increased more in sensitive sectors than in non-sensitive sectors since the early 1980s.⁵⁵ (4) ... [There] is only limited evidence that the geographical concentration of economic activity [within the EC] has increased, even in sectors which benefit from the economies of agglomeration and substantial plant economies of scale. ... [There] is a complementarity between FDI and trade in most of (but not all) industrial sectors, and the IMP has done nothing to lessen this complementarity. However, this relationship is less strong for intra-EC than for extra-EC FDI. (5) A substantial proportion of extra- and intra-FDI in the EC over recent years has taken the form of Mergers and Acquisitions; and part of the rationale for this has been to acquire strategic assets to advance the regional and/or global competitiveness of the acquiring firm."

91. In sum, the evidence surveyed by Dunning shows that, in the case of the European Community, increased inflows of FDI have been largely complementary to trade, but more so for inflows of extra-EC FDI than for intra-EC FDI. The FDI flows have been particularly marked in sectors that have been significantly liberalized by the internal market program. At the same time, the main impact of the internal market program on FDI flows seems to be through its effects on other variables affecting FDI - and most noticeably market size, income levels, the structure of economic activity and agglomeration economies.

VI.2 North-North, North-South and South-South agreements

92. Turning now to the impact of trade and FDI on other regional trading arrangements, the evidence is more scant and sketchy. A recent paper by Blomström and Kokko (1997b) provides a useful discussion of the possible effects of different "types" of regional trading arrangements: North-North, North-South, and South-South arrangements. The case study for each type is the Canada-United States Free Trade Agreement (CUSFTA); the North American Free Trade Agreement (NAFTA), focusing on the investment effects on Mexico (the Southern partner), and the Southern Common Market between Argentina, Brazil, Paraguay and Uruguay (MERCOSUR). These trade agreements are discussed in terms of the resulting "environmental changes" for trade and investment, and in terms of the "locational advantages" of the member countries involved.

93. In their investigation of the CUSFTA agreement, the authors note that it went beyond the phasing out of bilateral tariffs between Canada and the United States. It included also some investment provisions, such as right-of-establishment and national treatment, although a range of prominent sectors such as basic telecommunication were effectively excluded from coverage. Moreover, Canada's existing screening procedures for FDI were also left intact. The resulting environmental change was classified as being moderate because of the already low trade and investment barriers that existed between the countries beforehand. Regarding the locational advantages of Canada with respect to the United States and rest of the world, they argued that they were on the whole moderate. Consequently, the investment effects of the CUSFTA were not expected to be dramatic. Indeed, the empirical investigation by Blomström and Kokko failed to detect any systematic changes in investment patterns. The main effect seems instead to have been increased bilateral trade between the two partner countries.

94. With regard to the NAFTA, the study focused on the effect on Mexico. In addition to extending the free trade area between Canada and the United States to Mexico, the new treaty includes provisions on intellectual property and investment rights, including binding arbitration procedures in case of investment disputes. Because of the policy reforms and Mexico's position as a low cost gateway to the United States and Canada, the authors argue that one should expect significant inflows of FDI to Mexico and increased trade with the northern partners. The empirical evidence also indicates that

⁵⁵By "sensitive" sectors Dunning means sectors that used to be protected by intra-EC non-tariff barriers before the liberalization measures introduced by the IMP.

United States firms have expanded their presence in Mexico, although much of the increased investment took place before the formal discussions on NAFTA began. The largest inflows of FDI to Mexico have been from non-NAFTA countries that use Mexico as a gateway to the United States (and to lesser extend the Canadian) market. The study cites evidence that MNEs have played an important role by converting Mexican import-substituting industries into exporting industries. The value of Mexico's exports to the United States market has also quadrupled since the end of the 1980s, with the largest increase occurring from 1992 onward. At the same time, Blomström and Kokko suggest that, while NAFTA has played an important role, the acceleration of FDI flows to Mexico in recent years is to a large extent due to Mexico's domestic reform programme, starting in the mid-1980s (in the aftermath of the debt crises). They conclude that the experience of Mexico suggests that North-South integration may be greatly beneficial for the Southern partner(s), especially in conjunction with domestic market reforms that can be "locked in" by the regional agreement.

95. The final case study is the MERCOSUR agreement which has its roots in the 1986 bilateral trade agreement between Argentina and Brazil, extended in 1991 to include Paraguay and Uruguay. In 1995, the four member countries introduced a common external tariff (CET), albeit with some remaining time-bound flexibility for members to deviate from the CET in respect of a limited number of tariff lines. In addition to the trade arrangements, a partially new investment regime has been introduced to promote and protect investment in the MERCOSUR region.

96. The authors note that FDI in the region more than tripled between 1988 and 1993, with Argentina and Brazil receiving the lion's share and that the trend seems to continue. For example, in 1995, the United States stocks of FDI in the region grew by some 25%. However, not all of the investment effect can be attributed to MERCOSUR. Rather, the timing of the investments suggests that domestic reforms played a critical role. For example, Argentina was initially more successful in attracting FDI than the much larger market of Brazil, which Blomström and Kokko ascribe to its earlier successes in restoring macroeconomic balance and introducing market reforms including privatization of public firms. They conclude that domestic policy reforms have been a relatively more important factor for FDI than has MERCOSUR, at least up to 1995.⁵⁶

97. In sum, regional integration can have a significant impact on FDI. The higher the pre-existing barriers to trade and investment flows, and the stronger the locational advantages, the stronger the impact of intraregional liberalization. The case study of the NAFTA agreement showed that regional agreements along North-South lines can be beneficial to the southern partner(s), not least because such agreements can lend credibility to the domestic reform process. South-South agreements can also elicit strong investment effects because of the generally higher pre-existing trade and investment barriers in developing countries. Yet, as the case study of the MERCOSUR agreement showed, domestic macroeconomic and market-oriented reforms are at least as potent factors for countries seeking to attract FDI. In other words, regional trade agreements are not a panacea that replaces the need for domestic reforms. Finally, as noted above, FDI attracted by fundamental location advantages is more productive for the host country than FDI attracted by protectionist policies.⁵⁷ In a regional context, this suggests that "open regionalism" (open to the rest of the world) has the potential of drawing more useful investment projects to the region than a policy of "closed regionalism".

⁵⁶In terms of the trade effects, Olarreaga and Soloaga (1997) observed that intra-regional trade has increased at an average rate of 28.5% per year since 1991, which is three times faster than the rate of growth of the region's total trade (and five times the rate of growth of world trade). Some authors, notably Yeats (1997), argue that this strong growth performance of intra-regional trade is partly due to trade diverting forces, i.e., regional suppliers replacing more competitive extra-regional suppliers because of the newly-won tariff advantage vis-à-vis the latter.

⁵⁷See Balasubramanyam, Salisu, and Sapsford (1996).

VI.3 Rules of origin and FDI

98. In connection with the relationship between FDI and regional trading arrangements, the possible effects of rules of origin need to be taken into consideration. This issue arises for regional trade agreements that take the form of a free trade area, that is, where each member state retains its own external tariff schedule (and other forms of external trade barriers). The purpose of the rules of origin is to determine whether a product that uses imported intermediates from the rest of the world is eligible for free trade treatment between the member countries. One or more of three tests may be used to determine the "origin" of a product: (1) whether there has been a change in the *tariff heading* between stages of production (for example, from the imports of steel from the rest of the world to production of bicycles); (2) whether the local *value added* within the free trade area is above a minimum threshold; or (3) whether a list of *specific processing operations* has been undertaken within the free trade area.

99. Rules of origin can, at least theoretically, affect the location of FDI.⁵⁸ For example, under NAFTA rules of origin, clothing produced in Mexico gains tariff-free access to the United States market, provided it meets the "yarn forward" rule, which for many products requires virtually 100% sourcing of inputs in North America. Mexican clothing manufacturers face a choice between sourcing all inputs beyond the fibre stage in North America to obtain free trade area treatment, or sourcing inputs outside NAFTA at potentially lower cost, but foregoing duty-free access to its most important market. As MFN tariffs on clothing are still high, they may choose to source inside the area rather than outside. This obviously creates incentives for third country textile producers to invest in production facilities inside the NAFTA area in order to hold on to their customers.

100. On the other hand, strict rules of origin may reduce the incentives to invest in a free trade area for producers of final goods. For example, clothing manufacturers may be discouraged to invest in the region since they may have to discontinue the use of competitive international textiles to earn intraregional free trade treatment. Rules of origin are in this sense similar to domestic content rules that raise the costs of inputs by forcing the firms to source from uncompetitive suppliers. Thus, while strict rules of origin may encourage investment in facilities that produce intermediate goods (textiles), they may at the same time discourage investment in facilities producing final goods (clothing). It is difficult to say whether strict rules of origin will discourage more FDI of final goods than it encourages FDI producing intermediate goods. Unfortunately, there would appear to be no empirical studies that can shed light on this issue.

⁵⁸See, for example, Hindley (1990) and Krueger (1995).

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