

Theories of Transnational Corporations, Environment and Development

A review of the four dominant perspectives

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Theories of Transnational Corporations, Environment and Development

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By Michael W. Hansen¹

I. Introduction

One of the most important economic links between countries is that provided by the transnational corporation (TNC). The estimated 37,000 TNCs world-wide each year invest more than \$200 Billion in their more than 200,000 foreign affiliates. They command 2/3 of world trade, control 90 per cent of all privately held patents, and the 350 largest of them have annual sales that amount to one third of the total GNP of the industrialized world. They play a central role in organizing the production process internationally; by placing their affiliates world-wide under common governance systems they combine production activities located in different countries and internalize a range of international transactions that otherwise would have taken place in the market.

Given these facts, it is obvious that TNCs may play a pivotal role in development. On the one hand, the activities of northern TNCs in less developed countries (LDCs) may affect economic and industrial development positively. For instance, the more than \$80 billion invested by TNCs in LDCs may increase the domestic production capacity of these countries, facilitate the import of sophisticated management know-how and technology, disseminate standards of effective business-management, generate exports, build infrastructures, create employment, and provide training opportunities for employees in LDCs. In the words of one of the most prominent authors writing on this issue, R. Vernon, TNCs may be “engines of growth” (Vernon, 1972). On the other hand TNCs also have an array of potential adverse effects on LDC host economies. For instance, TNCs may evade taxation in LDCs through various transfer pricing mechanisms, provoke social disruption, cause concentration of capital, dump inappropriate technologies and affect the environment, health and safety conditions in LDCs adversely. Especially the latter impact - that of environment, health and safety - has received much attention among politicians and researchers and will be the focus of this essay.

At least since the late sixties a large body of literature on the environmental aspects of TNC activity has emerged². Numerous studies have been conducted examining the adverse

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² Knutsen (1991) identified more than 600 references to the issue of TNCs, environment and development. For an attempt to delimitate this literature as a research programme, see Hansen, 1994,

environmental impacts of TNC activity, impacts associated with the relocation of polluting industries to LDCs, with the marketing of products in LDCs which are forbidden or restricted in OECD countries, with accidents on LDC subsidiaries of major chemical TNCs, or with the environmental practices of TNCs in the natural resource exploiting sector. Other studies have focused on the role of TNCs in disseminating environmentally sound technology and management know-how to LDCs, and a host of case studies and surveys on environmental management practices in LDC affiliates have been undertaken³.

Most of these studies apply economic perspectives, be they macroeconomic or microeconomic. Nevertheless, they are generally extremely descriptive and empirical in their approach⁴ and only rarely are the studies explicitly theory-driven. In particular, there is an unfortunate lack of explicit reference to the theoretical insights gained by the very vital and comprehensive economic literature on FDI, especially the development economic branch of this literature⁵. Thus, there is an urgent need for greater theory development and application in the field. This essay will endeavour to make more explicit the theoretical affiliation between the economic literature on FDI and the literature on TNCs, environment and development. It is hoped that such an exercise may spawn new insights and hypotheses within the literature on TNCs, environment and development

The review will centre around what I consider as four distinct perspectives on TNCs, environment and development: the neo-classical perspective; the global reach perspective; the radical perspective; and the ecological perspective. These perspectives represent the main theoretical positions in the field and are mainly distinguished by their normative content and by their use of methodology: The neo-classical perspective covers a variety of theories spanning from international trade economics, over theories of the product cycle to theories of transaction-costs and internalization, which, differences apart, share a positive interpretation of TNC's role in development. This optimistic view is reflected in this literature's view on the environmental impacts of TNC activity.

The rather optimistic position presented by neo-classical economics has been challenged from three fundamentally different perspectives. The first TNC critical perspective is the 'global reach' or 'market-power' perspective. This perspective draws in many ways on the same theoretical insights as neo-classical economics, but tends to emphasize the less than optimal social outcomes for LDCs resulting from FDI. One of the adverse impacts of TNC activity in LDCs most frequently cited by the global reach perspective is that TNCs operate with environmental 'double standards', that is one set of high environmental standards in OECD countries and another set of low standards in LDCs. The second critical perspective - the 'radical perspective' - challenges, like the global reach perspective, the social efficiency assumption of

³ Examples are Brown, 1993, Rappaport, 1992, TCMD/UNCTAD, 1993, Schmidheyne, 1992, Willums, 1992, Gladwin, 1992, Hansen/Ruud 1994, etc.

⁴ This preference for descriptive work probably reflects a more general problem in the literature on business and environment. In the words of Thomas Gladwin (1993:43), "researchers (within this literature) have not worked very hard at building and validating general models, instead being content to operate at the level of historical particulars".

⁵ One exception from this, is the work by Geoffrey Leonard (1988) who at the theoretical level seeks to make a link between the development literature, the literature on FDI and the environment literature. Unfortunately, he doesn't draw on this synthesis in his empirical work.

neo-classical economics. However, in contrast to the global reach perspective, the radical perspective views the adverse impacts of TNCs in LDCs, such as environmental degradation, in terms of the structure of the international capitalist economic system. Finally, the 'ecological' perspective presents a fundamental critique by TNCs similar to that of the radical perspective; however, compared to the radical perspective, the ecological perspective bases its critique on neo-Malthusian rather than neo-Marxist reasoning.

The review of each of the perspectives will be divided into four sections; first the general theoretical underpinnings of each perspective will be presented. Second, the implications for LDCs of each of the four perspectives will be discussed. Third, the implications for the environment in LDCs of each perspective will be outlined. Finally, the policy implications of each perspective will be asserted. The review is summarized in Table I.

II. The neo-classical perspective

The neo-classical perspective encompass a broad group of economic theories of trade and investment that, in spite of differences in assumptions and prescriptions, share a theoretical core. This core is that market forces ensure an efficient allocation of resources internationally so as to maximize welfare. Although this literature has developed quite separately from development economics (Helleiner, 1988; 1444) it has a host of more or less implicit consequences for the environmental conditions in LDCs embodied.

The neo-classical perspective can roughly be divided into two branches; an early macro economic literature that analyzed the distribution of FDI globally in terms of locational advantages/disadvantages of different countries (such as relative factor costs, trade barriers or market characteristics), in terms of variations in capitalization rates, or in terms of fluctuations in the product cycle; and a more recent micro economic literature which, based on theories of internalization and owner specific advantages sought to explain why transnational operations are undertaken.

Macro economic theories of FDI and Trade

"There may indeed be instances where the export of pollution through capital investments abroad becomes national policy in certain economic sectors, to the benefit of both the capital exporting and capital importing countries".
(Leonard, 1973; 313-314)

The macro economic approaches include theories of the product cycle, theories of trade, theories of the macro economic impacts of FDI, etc. These macro economic approaches dominated the early literature on TNCs and FDI. This literature explained FDI in terms of variations in the return on capital in different countries. According to this 'capitalization rate' theory, FDI tends to take place from countries with strong currencies to countries in which indigenous firms have relatively low rates of capitalization. The inability of this theory to predict

international investment flows led trade economists to develop alternative hypotheses regarding international investment flows based on the Heckscher-Ohlin model of international trade and theories of the product cycle. The contents of these theories and their implications for the environment in LDCs will be discussed in this section:

a. International trade theory and the theory of the product cycle

The factor proportional theory of capital movement: Essentially, trade theories explain the international patterns of trade in terms of the comparative advantages among nations arising from different relative prices between countries. Originally, the theory of comparative advantages was formulated by the British economist David Ricardo. Ricardo argued that trade patterns among countries are explained by the factor endowments of the respective countries. This initial theory was expanded and sophisticated by the Swedish economists Heckscher and Ohlin in the so-called Heckscher/Ohlin theorem. This theorem argues that differences in comparative advantages among nations are explained by different *relative* costs of the separate factors of production. Thus, countries will tend to export those products using large portions of their abundant factors and import those that depend upon their scarce factors of production.

International trade economics did not provide an explicit explanation of FDI and TNCs. However, some economists (E.g. Meade or Kojima) suggested that the logic of international trade economics could be employed to explain flows of capital among nations. This interpretation of the Heckscher-Ohlin model is called the 'factor proportional theory of capital movements' and provides a framework for understanding certain causes and consequences of TNC movement of resources. According to this interpretation, factors would move whenever the marginal product of the factor in one country exceeds the marginal cost in another by more than the costs of movement. In other words, the location of specific operations would be determined by the traditional tenets of comparative advantages making allowance various frictions such as transport costs or government policies. (Helleiner, 1988; 1452)

Theories of the product cycle: In order to incorporate the dynamics of technological change into the Heckscher Ohlin model, the product cycle theory was applied to international capital flows by R. Vernon in the early sixties (Vernon, 1966). The theory of the product cycle takes its point of departure in a description of the life cycle of a new product from its introduction to its maturation. Originally, this theory was purely micro economic, but Vernon introduced it as a theory of the international division of labour. The product cycle theory of FDI starts out with the incentives for firms to innovate. Innovations are mainly seen as a labour saving exercise and the more expensive the labour, the stronger the R&D incentive. In the early stages of a product life cycle, the production will stay in the high wage country, partly because of uncertainties concerning the production, partly because of the low price elasticity of the product. As the products mature, as the technology becomes more difficult to protect and as price elasticity grows, the firm will begin to look for low-cost locations for the production and the firm grows from an inward oriented domestic firm to an outward oriented firm investing abroad. The decision to invest is thus seen as a strategy in order to keep technological and managerial advantages before they become diffused in overseas markets. As such, the theory is a clarification of the trade theory, suggesting

that the location of production will be determined by the relative factor cost of production in different phases of the product cycle.

b. Implications for LDCs

The trade theories of capital movements argues that some countries are well endowed with conditions conducive of FDI, whereas others are not. According to the trade theories, LDCs will tend to attract capital in sectors where labour costs are low or where natural resources are abundant, as this will be areas where they would enjoy comparative advantages vis-a-vis OECD countries. In accordance with the normative aspects of neoclassical economics, these theories would contend that an international relocation of capital and productive resources would enhance global welfare and facilitate the process of adjustment in both the host country and the source country. The inflow of capital to LDCs would make available investment capital and thus speed up development, and it would provide badly needed foreign exchange. Moreover, by providing a bundle of well tried and tested managerial skills, technology and capital, FDI would enable the host country more efficiently to exploit its comparative advantages. The most important effect on LDCs would be that FDI is trade enhancing, in that FDI in industries where LDCs enjoy comparative advantages will enhance the production and thereby export capacity of LDCs⁶.

The product cycle theory of FDI adds to the theory of comparative advantages, by arguing that developing nations will enjoy comparative advantages in mature, standardized products. Consequently, technology transfer through FDI will mainly take place where the products that the technologies are associated with are in mature stages of the product cycle. The dynamics of the product cycle would favour developing nations in that they would get access to technologies without experiencing the mistakes and costs associated with the introduction of new products. This is called the "advantage of being backward". Moreover, the product cycle theory predicts that TNCs might assist developing nations in getting access to international markets; mature products are subject to significant barriers of entry, especially at the marketing stage, and here TNCs can help developing nations penetrate these barriers.

c. Implications for the environment

The theory of international capital movements led a host of trade economists predict that international patterns of production would change due to variations in environmental endowments in North and South⁷. Essentially, these theories included the environment/ natural resources as a third factor of production, in addition to labour and capital. The 'environmental factor endowment' of a country would, according to these theories, be determined by at least two elements: First, it would be determined by the capacity of the natural environment to absorb pollution. This capacity depends for instance on the current level of exploitation of the environmental endowments and on

⁶ The trade theories of FDI (see eg. Kojima, 1977) make a distinction between comparative advantage FDI and microeconomic FDI. Comparative advantage FDI is seen as superior because it increases trade. Microeconomic FDI in contrast (to be reviewed below), is seen as trade suppressing, because it creates, in LDCs, industries in areas where the FDI source country's comparative advantages are greatest. These 'supplants' transfer technologies which are inappropriate to the hosts resource endowments and creates 'enclaves of modernity' from which negligible spin-offs emanate.

⁷ See Leonard, 1988; 58 for a review of this early literature

the level of investments to increase the natural assimilative capacity of the environment. Second, it is determined by the willingness of the population and politicians to tolerate pollution. This tolerance depends on the level of affluence, education, and urbanization of the country. A country was believed to have an abundance of the environmental factor input if its environment had a large assimilative capacity.

Geoffrey Leonard (1988) condensed the predictions of international trade economics concerning the environment into two supplementary hypotheses, the 'industrial flight' hypothesis and the 'pollution haven' hypothesis. The "industrial flight" hypothesis concerns the forces driving TNCs out of OECD countries, the "Pollution Haven" hypothesis the factors that make relocation to LDCs attractive.

The "industrial flight" hypothesis outlines the factors that explain why environmental endowments in industrialized countries are rapidly decreasing, thereby driving whole industries to flee. The hypothesis asserts that certain industries flee because environmental costs of production are growing in OECD countries for a number of reasons: First, the costs of abating new environmental regulations and laws drive up total capital and production costs for heavily polluting industries. Second, even in cases where the additional costs of environmental protection are relatively modest, environmental regulations and public pressure restrict the ease and speed with which industries build new plants and expand old ones. Social blockade of new sites might thereby be a major source of industrial flight⁸. The third major source of industrial flight, in addition to pollution abatement costs and social blockade, is the growing constraints on hazardous productions and products. The argument is that some regulations of chemical compounds aimed at protecting the health and safety of workers and the public at large have become so restrictive that they virtually make production impossible. This is for instance the argument of Barry Castleman (1978, 1979) in his analysis of hazardous industries, such as asbestos production, zinc-smelting, arsenic, benzedrine-dye and pesticide industries. He argues that *"the economy of hazard export is emerging as a driving force in new plant investment in many hazardous and polluting industries"*. He further predicts that *"the export of hazards from the US to Third World countries is likely to increase" and "may soon lead to a wholesale exodus in major industries"*.⁹

The "pollution haven" hypothesis outlines the reasons why environmental endowments in LDCs would be more abundant thereby attracting pollution industries. Those reasons are essentially the mirror image of the forces that drove productions out of OECD countries: First, it is argued that the natural assimilative capacity of LDCs is high due to low levels of industrialization and due to a more absorptive natural habitat. Second, it is argued that the 'social' assimilative capacity or tolerance of pollution in LDCs is high mainly due to pressing development needs. This

⁸ For examples of social blockade from the US context, see eg. Duerksen, 1983. According to some authors social blockade were becoming the dominant factor in the locational calculus of multinational corporations: "The most critical factor in the entire equation is environmental opposition to new plant siting in the developed countries....Increasing environmental opposition to new manufacturing investment in many developed countries is merely reinforcing shifts toward a greater service orientation and is a major factor in favoring increased relocation of industrial production to LDCs". (Gladwin and Walter, 1979)

⁹ Barry I. Castleman, "The Exoptation of Hazardous Factories to LDCs". Mimeographed paper, Independent Report, D.C., March 1978. Quoted from Leonard, 1988; 67

is reflected in more lenient environmental regulations. These two factors tend to attract TNCs suffering under tough regulations in the North, that is the most polluting industries.

Summing up, trade theory predicted that the environmental endowments were becoming increasingly limited in the North as a consequence of high levels of industrialization and changing valuations of environmental goods. In LDCs, the environmental endowments remained abundant due to low levels of industrialization and pressing development needs, prompting a low valuation of environmental goods. Consequently, LDCs could be expected to take over a growing proportion of productions relying heavily on environmental endowments, that is industries/products which required a huge input of environmental factors and an international relocation of pollution intensive industries would therefore take place. TNCs would play a central role in this relocation.

d. Policy implications

According to the logic of comparative advantages, the pursuit of economic wealth creation through the exploitation of national endowments, including environmental endowments, is perfectly legitimate, yes in fact preferable. It contributes to global economic efficiency, stimulates development in the Third World and improves the international division of labour. One of the most renowned proponents of this view is Ingo Walter, who argued that a relocation of polluting industries to LDCs would encourage a more optimal global allocation of resources; further speed up the product cycle; increase FDI in LDCs; enhance industrial development in under-industrialized countries and provide industrializing countries with another bargaining chip in the negotiations to attract multinationals (Leonard, 1988; 63). Moreover, although the environment in LDCs may suffer in the short run, the wealth ensuing from these additional investments would make environmental measures more affordable in the future. Thus, the adverse effects on the environment in LDCs would only be temporal. Attempts to counter an industrial relocation through e.g. international harmonization of pollution control measures would, according to the logic of comparative advantages, drive up consumer prices, deprive LDCs of a development opportunity, and reduce overall FDI¹⁰.

Some international trade economist and industrial development theorists went further and argued that LDCs could use their abundant environmental endowments as a development strategy. By attracting technologically advanced, but polluting industries instead of only low wage low technology industries they could skip certain stages in the evolution of their comparative advantages (See Leonard, 1988;70 for proponents of this position). This, in essence, was the

¹⁰ It should be noted that this positive interpretation of the relocation of polluting industries is not excluded to a debate in the early seventies. Lawrence Summers, chief economist in the World Bank argued in an internal memorandum dated December 1991 that free trade and the resulting economic growth should not be hampered by environmental restrictions. This because a) The life of a person in a LDCs were worth less than the life of a person in an affluent country. (An outlandish premise that derives from an archaic measurement of the worth of human life as being its expected life earnings.) b) The marginal costs of pollution prevention in a developing nation is lower than in a rich nation. c) The value of environmental goods raises with income; rich people value environment higher than poor people. Consequently, Summers argues that prohibiting LDCs from using their natural resources freely amounts to protectionism. LDCs should have the ability to effectively allocate their pool of resources in their pursuit of better living standards. Only in cases where it is generally accepted that standards should exist, they should harmonized at the international level.

'pollution haven' development strategy¹¹. One observer noted that *"those countries where pollution causes much damage should specialize in clean production, and those where it causes little damage should specialize in pollution generating production"* (James et al, 1978). And Ingo Walter suggested that *"there may indeed be instances where the exports of pollution through capital investments abroad become national policy in certain economic sectors, to the benefit of both capital -exporting and capital importing countries"*¹².

e. Summary

The early literature on TNCs, environment and development was largely drawing on the predictions of international trade theory with the revisions made by the product cycle theory. FDI was according to this logic essentially driven by relative factor costs in different locations. In regard to the environment, international trade theory predicted that capital would flee countries where the environmental costs of production were high and growing and relocate in countries where the environmental costs of production were low and /or negotiable. From this argument it seemed clear that international capital movements would lead to worsened environmental conditions in LDCs, but facilitate development. This simple but seductive reasoning was soon to be challenged by an emerging micro economic literature on FDI.

Micro economic theories of FDI

"The multinational firms provide a significant bridge in the environmental sphere between one country and another and between one region and another. They do so with perhaps as great or greater influence than do other international players in environmental protection and control (Such as the UN), other international governmental organizations and commissions, and the larger NGOs" (Hadlock, 1994).

International trade theory deals mainly with the question of, **where** TNCs would locate their operations. But thereby they ignore the question of, **why** they would invest in the first place, that is, why TNCs would prefer to overcome the enormous obstacles associated with operations in foreign locations instead of simply selling factors and goods on the market. Moreover, international trade theory ignore the question **how** it is possible for TNCs to successfully compete with locally based firms in foreign locations, in spite of all the disadvantages that the TNC would have¹³. From the late sixties and onwards, a major economic literature addressing these questions started to emerge. The main impetus to this literature came from the work of Stephen Hymer.

¹¹ The notion 'pollution havens' alludes to the 'tax haven' industrial development strategy pursued by many LDCs in the late seventies and early eighties!

¹² Ingo Walter, "Environmental Management and the International Economic Order" in Fred Bergstein, ed, The future of the international Economic Order: An Agenda for Research, Mass: Heath, 1973, pp 313-314.

¹³ In vocabulary of the integrative **OLI** framework of various theories of FDI provided by John Dunning's eclectic paradigm, the international trade theories and the capitalization rate theories made a macroeconomic analysis of the **Locational** forces, however ignoring the microeconomic factors associated with the **Ownership** and **Internalisation** specific advantages of TNCs.

The starting point for Hymer's analysis, and in fact all newer theories of FDI, is the assumption that TNCs face certain additional costs in comparison with local firms, in terms of knowledge of local market conditions, cultural, institutional and linguistic barriers, communication and transport costs. Under perfect market competition local TNCs would have the same access to capital and information as the foreign firm and no FDI would take place. Therefore, TNCs must have certain additional advantages not possessed by the local firm. Hymer's point was that the multinational firm, compared to local firms, possesses a series of such monopolistic and oligopolistic advantages - often called ownership specific advantages - *inter alia* technological advantages including R&D capabilities; organizational advantages such as economics of scale; managerial and entrepreneurial advantages; financial and monetary advantages; and finally, advantages associated with their privileged access to raw-materials¹⁴. All this explained **how** it was possible for a TNC to compete successfully in foreign locations. The question **why** TNCs would prefer FDI to arms length transactions, Hymer answered by arguing that TNCs, in order to protect and enhance their market position, would invest in foreign markets. In this view, FDI was essentially the expansion of market power into foreign locations.

Building largely on Hymer, the literature has evolved into two main schools. One school has focussed on Hymer's market power view and on the ability of TNCs to restrict competition and engage in oligopolistic cooperative arrangements. This school, which in many respects rejects the basic tenets of neoclassical economics, will be discussed in detail in the following section on the 'global reach' perspective. The other school - the internationalization school - has now gained dominance in the theory of FDI¹⁵. This latter school, and its implications for environmental conditions in LDCs will be discussed in this section.

a. Theories of Internalization

While accepting Hymer's account of the ownership-specific advantages of TNCs, many felt that Hymer's work left the key question unanswered; why FDI was preferable to arms-length transactions on the market. It is the main achievement of the literature on internalization that it provided a comprehensive answer to this question: With the point of departure in the Coasian theory of the firm, which explains the origins and equilibrium size of the firm, Williamson had in the early seventies argued that certain transactions were best performed outside the market and that, in many cases, transactions could be made at lower costs within the firm. This perspective was further developed into a theory of FDI by the theory of internalization. This theory argues that internalization, as opposed to selling firm specific advantages on the market, is a means of overcoming market imperfections such as transaction costs associated with international operations; risk and uncertainties in foreign markets; malfunctioning government regulations; etc.

Under perfectly competitive market conditions for technology, management and capital, governments would not need to attract TNCs as domestic firms could serve the purposes of FDI.

¹⁴ Hymer was in particular concerned with two types of advantages namely "economies of scale" and "special management skills". The latter refers to "marketing" and especially the ability of certain firms to develop brand loyalty in their customers

¹⁵ See eg. Buckley and Casson, 1976, Hennart, 1982, Rugman, 1986, or Caves, 1981 for early proponents of the internalization school.

And under perfect market conditions firms would not need to internalize externalities by engaging in the extremely risky FDI, as they could rely solely on arm-lengths-transactions. However, markets in intangible assets, especially intermediate product markets such as technology, organizational know-how and marketing skills are, according to the internalization approach, notoriously imperfect because of their public good nature, imperfect knowledge, and uncertainty. This makes it extremely difficult for the seller to appropriate fully the rent from those assets through external market transactions, and therefore there is a real danger that these assets may be dissipated and lost (Rugman, 1982;10).

Because of these imperfections it will in such cases be profitable for the firm to integrate vertically and horizontally rather than engaging in arms length transactions. This internalization avoids the difficulties of determining markets prices and the proprietary problems associated with arms-length transactions. Moreover, internalization allows the company to circumvent government created market imperfections such as trade barriers, differences in tax systems and levels, restrictions on capital movements etc.

Although internalization is a deviation from perfect markets, the described internalization of firm specific advantages provides an internal market to facilitate the transfer of intangible assets that might not take place otherwise. By replacing inefficient or non-existent external markets with internal ones, or by overcoming government created market distortions such as tariffs, taxes or exchange rates, TNCs produce a more efficient allocation of resources globally (Hood/Young, 1981;66). Thereby, TNCs represent an integrating force in the world economy.

b. Implications for LDCs

The neoclassical literature on FDI has devoted limited attention to studying the impacts of TNC operations on LDC economies and the strategies and conditions conducive of positive contributions by TNCs in LDCs. However, some implications can be derived from the literature. In general, neoclassical theories of FDI contend that TNCs will benefit LDCs, especially because market imperfections can be expected to be more widespread here than in OECD countries.; in the words of Streeten, *“in LDCs the market is notoriously imperfect or absent in sectors and industries in which the multinational corporations operate”* (1981; 275). Internalization theory claims that, unless the optimum conditions are significantly distorted by protection, monopoly and externalities or misguided government policy, there is a net gain for LDCs from FDI in terms of inflow of technology and capital that would not otherwise have taken place, and in terms of a more efficient allocation of resources as a result of the internalization of imperfect markets (Streeten and Lall, 1978;51).

More specifically, FDI will, according to this line of thought, assist LDC industrial modernization in at least four ways, namely through the inflow of foreign exchange, through the inflow of technology, through the inflow of managerial know how and finally through their impact on the creation of efficient markets in LDCs:

Effects associated with the inflow of capital: As already argued by international trade theory, FDI will provide LDCs with an inflow of investment capital and foreign exchange thereby adjusting

some of the macro economic imbalances which are often major impediments to growth in LDCs. In addition, the ownership specific advantages of TNCs will provide LDCs with financial benefits, as TNCs often have privileged access to capital from the international banking sector. TNCs thereby give LDCs access to capital that would not otherwise have been available.

Effects associated with the inflow of technology: One of the most often cited positive pay-offs of TNC activity, is the transfer of technology. The reason that technology transfer receives so much attention in the literature is of course that it can trigger and speed up economic development, for instance by facilitating the production of goods with higher value added content; increase exports; improve efficiency, etc. TNCs possess the bulk of all patents, most of the worlds R&D takes place within TNCs, etc. Therefore, TNCs may be the fastest and most efficient way for LDCs to get access to the latest technology, technology understood not only as the hardware but also the software that accompanies a technology package. Also, in regard to the transfer of know-how to the local workforce the TNC can play a pivotal role and will, *“through its employment of indigenous professionals and managers..... transmit knowledge and experiences that are less available locally”* (DiConti, 1992; 107).

Effects associated with the organization and marketing skills of TNCs: The neoclassical literature on FDI will tend to argue that TNCs provide highly efficient organizations characterized by a high degree of managerial efficiency arising from training, higher standards of recruitment, effective communication with the parent company and a more global outlook. By virtue of these characteristics, they are able to think strategically on a global scale and to organize complex integrated production networks. The integration into this transnational production network can give LDCs various advantages: TNCs can bring with them improvements in storage, transport and marketing arrangements, leading to cheaper delivery, better quality of products, and better information about products to consumers. More importantly, LDCs will be able to use the worldwide marketing outlets of TNCs, selling products where huge marketing investments otherwise would have been required. Thus, the presence of TNCs will assist LDCs in penetrating foreign markets.

Effects associated with the creation of efficient markets: In general, the neoclassical account would argue that TNCs can force governments to adopt more rational economic policies and introduce more competition into domestic markets. Blomström (1988;96) has identified two types of positive externalities or spill-overs from TNC activity in LDCs, namely intra industry spill-overs and inter industry spill-overs: Intra industry spill-overs are effects such as those that improve the competitiveness of national industries by forcing inefficient companies to adopt more efficient methods and invest in improvements of their assets. Thus, the presence of TNCs may force local companies to become more efficient and introduce new technologies earlier than their otherwise would have done (Kokko, 1994;279); diffuse competencies when trained employees move to local firms where those skills are in short supply; and speed up technology transfer by forcing local companies to get hold of those technologies. Inter industry spill-overs are effects which spill-over to suppliers and consumers. Here the argument is that the growing use of subcontractors and suppliers by TNCs may encourage backward spill-overs in terms of diffusion of the standards, know-how and technology of TNCs. The entrance of TNCs may improve the

technology and productivity of local firms, as they demonstrate new technologies, provide technical assistance to their local suppliers and customers, and train managers and workers.

c. Implications for the environment

Neo-classical theories of FDI are essentially a supplement to the more traditional theories of trade and capital movement. However, in certain important respects their predictions differ significantly from the predictions made by international trade theory. This is not least the case in relation to the environment¹⁶:

First, they suggest that FDI cannot solely be analyzed in terms of the relative costs of production in different locations. FDI is first and foremost a means for TNCs to exploit and protect their ownership specific advantages and to internalize costs and insecurities. Thus, this approach will tend to downplay the significance of the predictions made by international trade economics that TNCs will relocate in order to avoid environmental costs. It is market access, protection of proprietary technology, etc. that are the central motivations behind FDI, and therefore there is no *a priori* reason to expect a wholesale industrial flight of polluting industries to LDCs.

Second, the neoclassical theories of FDI tend to emphasize that TNCs can play a vital role in transfer and diffusion of clean technologies and environmental management practices to LDCs, in addition to the possible (but empirically insignificant) relocation of polluting industries. This positive role can partly be attributed to the owner specific advantages of TNCs, partly to the incentive for TNCs to internalize imperfect markets:

Concerning ownership specific advantages, neoclassical theories of FDI suggest that as it is due to their organization and technology that TNCs have a comparative advantage vis-a-vis local corporations, they will tend to supplant their home country organization and technology to foreign settings. The prediction in relation to the environment will thus be that TNCs will bring with them the environmental practices and standards that they have developed in their home countries. New operations will tend to be technological and managerial replicates of home country operations, and ongoing operations will be sought brought in alignment with the general managerial and technological structure of the company. In fact, the environmental management system can be an important firm specific advantage for a TNC. High environmental performance may increase the rate of profits for the company as consumers increasingly prefer products produced under ecologically acceptable conditions. Even in sectors where consumers do not make an environmental assessment of the products and how they have been produced, high environmental standards are essential to the continuity of contractual relationships as quality and reliability are heavily dependent on the technological and managerial sophistication of production. Moreover, tough regulations in TNC home countries have forced them to develop sophisticated environmental management systems and clean technologies which may prove to be an important asset in the negotiations for new investment projects in those LDCs with an emerging environmental regulation.

¹⁶ Very little work dealing with the environment from an internalization perspective have been. And the few examples that exist are mainly based on empirical observations without explicit references to any theoretical traditions (See eg. Scmidtheyny, 1992, Willums, 1992, Clark, 1993, Rappaport, 1992, Brown, 1993).

Another ownership specific advantage often attributed with TNCs is size, and it could be argued that size is a crucial factor for the internationalization of environmental management. Thus, economics of scale may cause that it don't pay for a large corporation to employ different environmental technologies and practices in different countries or to postpone investments in clean technologies. Instead the TNC tends to operate with uniform standards regardless of location. Furthermore, economics of scale may allow companies to finance high environmental standards in LDCs and bring together two otherwise separate considerations, those of the external and the internal environment¹⁷.

Concerning internalization, neoclassical theories of FDI would argue that the provision of environmental services in LDC subsidiaries will be internalized for at least three reasons: First, markets for environmental services will often be highly imperfect in LDCs. By centralizing environmental controls, the company will make sure that environmental services in LDCs are adequate. Second, as there will often be a high degree of government failure in environmental regulation in LDCs in that regulations are purely implemented and enforced, the company can, by internalizing environmental controls, minimize environmental uncertainties ensuing from regulatory failure. Third, environmental technology and management know-how developed in response to regulatory pressures may in some cases be an asset that the company cannot afford to have diffused to competitors. The need to protect this environmental expertise may in fact become an important part of the reason that a company undertakes foreign operations.

Summing up, neoclassical theories of FDI argue that there will be a host of positive environmental impacts on LDCs accruing from the inflow of technological, financial and organizational resources. These positive environmental impacts largely derive from the workings of market forces, in particular the need for TNCs to internalize markets. Thus, this school of thought will tend to argue that *"marketforces might compel multinational corporations to operate within sustainable industry configurations toward high quality Third world EH&S performance"* (Himmelberger, 1994;27).

d. Policy implications

Earlier we saw how the trade theories of capital movement argued that LDCs were placed with a trade off between pursuing environmental objectives and developmental objectives, and that the welfare optimal solution would be for LDCs to 'buy' development with their abundant environmental resources. In contrast, the microeconomic theories of FDI would argue that LDCs simultaneously may pursue industrial growth and high levels of environmental protection (Himmelberger, 1994; 28). By providing favorable business environments and capital markets; innovative and stable regulations building on incentives rather than prohibitions; procedures to encourage dissemination of progressive practices by TNCs and effective regulations aimed at the

¹⁷ For further discussion of the various reasons of high corporate standards in LDCs, see eg. T. Gladwin, "Environment and Development and Multinational Enterprises", in C. Pearson, ed, Multinational Corporations, Environment and the Third World, Duke University Press, 1987. or Michael G. Royston, "Control by Multinational Corporations: The Environmental Case for Scenario 4", Ambio 8, No. 2/3, 1979, 86. or H. Geoffrey Leonard and C.J. Duerksen, "Environmental regulations and the Location of Industry: An International Perspective", Paper presented at the Conservation Foundation Conference on industrial siting, D.C., June 21, 1979,23.

less progressive TNCs, LDCs would simultaneously experience environmental and developmental benefits from FDI (Himmelberger, 1994;28). Thus, policies aimed at facilitating FDI and other TNC transactions with LDCs, may ensure a more rapid diffusion of environmentally friendly technologies and management know-how to LDCs.

The neoclassical perspective will generally concede that markets failures exist and that governmental intervention is required in order to ensure that the market 'is getting prices right'. In line with this, a branch within the neoclassical welfare economics - 'environmental economics' - seek to devise ways in which markets could internalize environmental externalities, through measures such as green accounting, taxation, tradable pollution permits, etc¹⁸. However, even if environmental economics suggests quite comprehensive policy intervention at the national and international level in order to adjust market failures, mainstream neoclassical economics is generally sceptical toward regulation and prefers government intervention kept at a minimum. In relation to TNCs in LDCs, the neoclassical perspective will tend to stress the positive pay-offs from international capital mobility and downplay the need for policy-intervention. This, because of a general concern that the negative consequences of government intervention into the free movement of goods and capital will exceed the negative consequences of market failure; as one author notes, "*regulation is always inefficient, multinationals are always efficient*" (Rugman, 1981, 156-157)¹⁹.

e. Summary

Whereas the neoclassical theories of comparative advantages predicted that an exodus of polluting industries would take place, the subsequent neoclassical theories of FDI argued that the costs of production in different locations, including the environmental costs of production, only partially explain FDI, and that other factors are probably more important. FDI could, according to this perspective, be better analyzed in terms of the drive of TNCs to exploit owner specific advantages, such as a technological lead, or in terms of the need to internalize imperfect markets, such as the imperfect markets for technology. Analyzed in this way, it becomes clear that the industrial flight predictions made by international trade theory at best, have limited empirical validity. Rather, the neoclassical theories of FDI will tend to emphasize the positive environmental contribution that the technological, financial, managerial and organizational advantages possessed by TNCs can offer LDCs. TNCs will tend to diffuse what, at any given time, is considered state-of-the-art practices and techniques in the leading countries, including those associated with environmental protection. In short, by attracting FDI, LDCs will simultaneously be able to pursue development and environmental objectives, something that trade theories of FDI rejected.

Although the microeconomic theories of FDI differ from trade theories, they both share the social efficiency assumption which is a distinctive characteristic of neoclassical economics. The role of TNCs in development is generally viewed upon in positive terms and essentially TNCs

¹⁸ See eg Turner et al, 1994, or Pearce et al, 1992.

¹⁹ Some neoclassical theories, in particular that of Coase, have argued that externalities should be dealt with through selfregulation and with a minimum of government intervention.

are seen as engines of growth and welfare optimization. In the following section we will review a perspective which, while sharing many of the propositions made by neoclassical economics, rejects the social efficiency notion. This is the 'global reach' perspective.

III. The Global Reach Perspective

“Bhopal, Al Basrah, Three Mile Island, Love Canal, Seveso, Thalidomide, Minimata. These are the preventable disasters of an industrial age that represent the failure of the people of the world to bring under control unbridled multinational power. Unless the world community overcomes the economic pressure tactics of those who seek to prevent the implementation of minimal health and safety standards in the developing world, the double standards will persist and the list of preventable disasters will continue to grow” (Multinational monitor, September 1984, vol.5)

The term 'global reach', was originally coined by Barnet and Müller in their seminal book of that name. 'Global reach', refers to the highly intrusive and sometimes destructive worldwide presence of TNCs. The global reach perspective²⁰ has roots in the American antitrust tradition, which essentially focuses on the adverse effects of corporate monopolies and oligopolies on national welfare and efficiency. In many ways, this perspective builds on the logic of neoclassical economics, but it stresses the negative externalities created by TNCs. In particular, it introduces values into the stringently deductive thinking of neoclassical economics emphasizing dimensions such as independence, autonomy, dignity, equality and subordination (Streeten and Lall, 1978;58).

a. The market power of TNCs

The main theoretical inspiration to the global reach perspective comes from the work of Stephen Hymer. As already discussed, Hymer argued that TNCs have a series of ownership specific advantages that derives from their access to technology; from their technological and R&D capabilities; from their marketing capabilities; and from their privileged access to natural resources²¹. These ownership specific advantages enables TNCs to compete successfully in foreign locations. This argument is fully accepted by neoclassical economics. However, in contrast to most neoclassical accounts, Hymer believed that the multinational firm constituted a two-edged sword for society. On the one hand, they were likely to be efficient and well managed thus improving welfare. On the other hand, the market power deriving from their firm specific advantages could be transformed into political power without accountability. Hymer put somewhat more emphasis on the latter aspect of the TNC arguing that TNCs will use their firm specific advantages to generate market imperfections, remove competition, and eliminate conflict (Jenkins, 1987;23).

²⁰ This global reach perspective has also been labeled the industrial organization approach, the market-power approach, the critical approach, the global corporation approach, and the nationalist approach (Jenkins, 1987;23).

²¹ see Lall and Streeten, 1978, 20-29 for a more detailed description of the advantages that TNCs enjoy

Thus, what characterises the global reach perspective is its interest in the forces that transforms firm specific advantages into monopolistic asset power and how this asset power is used to generate new imperfections. Whereas the internalization perspective would tend to ascribe little importance to TNC monopoly power²², the global reach perspective conceives the firm as essentially an agent of market power²³ and collusion.

According to the global reach perspective, the internationalization process starts as firms continuously increase their share of domestic markets by means of merges and capacity extensions. At a certain point, concentration reaches a point where it becomes difficult to extend profits, and therefore the firm starts moving toward international markets through FDI (Cantwell, 1991;21). These investments are not an efficient response to competition as argued by neoclassical accounts, but rather an attempt to protect and extend collusive networks. Thus, TNCs will exploit their market position to exploit patent protection, avoid taxation through transfer pricing, capture governmental regulations and raise entry barriers for competitors.

As a result of its different theoretical emphasis, the global reach perspective rejects the assertion of neoclassical theories that TNCs are effective allocators of productive resources among countries or effective means of internalizing imperfections in the market place. Rather, the global reach perspective view TNCs as creators of market imperfections and distortions, thereby seriously questioning the social efficiency of TNCs. In fact, this perspective will tend to that the global corporations is "the institution with the most direct responsibility for producing malignant growth in modern society" (Barnet/Muller, 1974; 336).

b. Implications for LDCs

Much of the literature on TNCs within development economics can be characterized as being within the global reach perspective and multiple negative effects of TNC investments has been cited by this literature. Some of the more important are:

Effects associated with the inflow of finance capital: Contrary to the assertion of neoclassical economic that TNCs would ensure capital inflow to LDCs, the global reach perspective argues that TNC provisions of capital often is small and acquired at high cost. Moreover, it is argued that the alleged transfer of capital often will be compromised by the fact that TNCs take up loans in LDCs, thus squeezing out local companies, and by the fact that in some cases investments by TNCs may preempt investment opportunities that would other wise have been available to domestic firms. Finally, TNCs can avoid taxation through the mechanism of transfer pricing²⁴, thereby draining LDCs for capital. In sum, the net benefits for LDCs from TNC investment may be smaller than they would have been with other kinds of investment.

²² In the words of Rugman (1981;33, from Jenkins, 1987;22) "The multinational firm is able to circumvent most exogenous markets imperfections. Concerns about the alleged market power are valid only when it is able to close a market or generate exogenous imperfections. In practice these events rarely occur".

²³ One definition of market power could be that "market power may simply be understood as the ability of particular firms, acting singly or in collusion, to dominate their respective markets (and so earn higher profits), to be more secure, or even, to be less efficient than in a situation with more effective competition" (Lall, 1976; 1343, quoted from Cantwell, 1991;21) .

²⁴ When trading internally between various subsidiaries and headquarters the TNC can set prices different from those that could be obtained in arms-length transactions. Thereby the TNC can transfer profits more or less unhampered between countries.

Effects associated with the transfer of technology: Neoclassical accounts argue that TNCs will enhance the R&D capability of LDCs and cause the transfer of know-how and technology. In contrast, the global reach perspective holds that technologies provided by TNCs are too costly, capital intensive, with no local linkages created and aimed at producing goods that only meet the needs of locally affluent elites (Lall, 1993). Drawing on the product-cycle theory, the global reach perspective further argues, that LDCs become recipients of outdated technologies and productions in the mature stages of the product cycle. And in cases where LDCs will need state-of-the-art technologies possessed by TNC patent holders, there is a real danger that TNCs will overprice. Moreover, the global reach perspective often argues that the TNC has no incentives to develop technologies specifically tailored to the needs of LDCs. Instead, R&D activities will take place in the home country of the TNC, and in the few cases where TNCs do conduct R&D in LDCs, it is an extension of their OECD R&D activities, not an effort to develop indigenous technologies and capabilities. The most devastating consequence of foreign technology though, cited by the global reach perspective, is that TNCs, contrary to the neoclassical argument that TNCs can become jobcreating export platforms, often establish themselves in LDCs in order to sell at the home market, thereby in fact destroying local jobs.

Effects associated with the transnational organizational network: Contrary to the assertion of neoclassical economics that TNCs, due to their ability to internalize market imperfections, create efficiency gains for LDCs, the global reach perspective tend to view the TNC organization a transplant of alien customs and management styles to normal methods of doing business in LDCs. TNCs might according to this perspective undermine locally developed management practices, which have proven effective under local conditions. Most of the employees in key managerial positions will be foreigners, and contrary to the claims of neoclassical economics, TNCs might cause a suppression of local entrepreneurship by hiring and repatriating domestic talent.

Effects associated with the TNC marketplace ideology: The global reach perspective questions the neoclassical premise that preferences are exogenous given and that no inquiry into the forces which shape preferences can be made. It explicitly focus on the ability of TNCs to shape the preferences of people through marketing and other sorts of 'manipulation'. According to Barnett and Müller, the global corporation is marketing the same dreams, the same products all over the world, stimulating western consumption patterns and tastes in LDCs (Barnett/Müller, 1974; 182) and the consumers in LDCs are manipulated to buy goods that they do not need. Thus, it has been argued that the superior marketing tactics of TNCs create a demand for goods and products that are "*wasteful and undesirable*" (Streeten and Lall, 1978;76). Moreover the marketing skills of TNCs may enable them to consolidate monopoly positions in the local economy and destroy local production.

Loss of national self-determination: One of the most salient concerns raised by global reach has been the loss of self-determination in LDCs due to the inflow of TNC capital. TNCs are, this perspective contents, more footloose than locally based corporations and thus more difficult to control. As the TNC has no allegiances or loyalty toward any particular country, it will, in cases where national objectives and business objectives are at odds, pursue the latter. In fact, most of

the adverse impacts of TNCs depicted by the global reach perspective stem from the political power or bargaining power of multinational corporations vis a vis host nations. Often, the multinational corporation will have annual sales that exceeds the GDP of the host and this will according to the global reach perspective, position the TNC to extract concessions from the host government. The result of the uneven bargaining relationship will often be investment packages which are disadvantageous to LDCs, and more generally, loss of sovereignty.

c. Implications for the environment

One of the most powerful critiques advanced by the global reach perspective has dealt with the environmental conduct of TNCs in LDCs. According to this critique, TNCs will seek to minimize environmental costs in LDCs, like they will seek to minimize their contribution to other social objectives. This assumption lead to the prediction that TNCs deliberately will operate with 'double standards' (Castleman, 1978,1979); one set of standards in LDCs and another set of standards in OECD countries. These double standards can be implemented because the company faces more lenient regulations in their LDC operations, because workers and the general public in LDCs are less concerned with environmental issues, and because TNCs, due to their bargaining power, can get concessions from LDC governments and regulators.

Generally, the literature distinguishes between two types of double standards, namely those associated with export of products and waste, and those associated with production facilities. In the case of export products a large literature has focused on the export and aggressive marketing by TNCs of products which turned out to have highly negative impacts on the environment, health and safety conditions in LDCs, e.g. the marketing of infant formula in countries where breast feeding is normally safer and more nutritious, or sales of hazardous pesticides without appropriate labeling and guidance (see eg. Ives, 1985). Although these products may be safely sold in OECD countries, low levels of education, lack of consumer laws etc. often renders the populations and environment in LDCs extremely vulnerable to accidents and misuse of the products. Another double standard discussed by this literature, has been the dumping in LDCs of products and substances which are prohibited or seriously restricted in OECD countries. Finally, the significant export of hazardous waste to LDCs have received much attention in the literature, and numerous examples of TNCs playing a central role in the dumping of highly toxic wastes at LDC localities with insufficient or no facilities and procedures for handling that waste. Some authors have called this trade in hazardous waste, the "Corporate Crime of the Century"²⁵.

The second aspect of corporate double standards - that associated with production facilities - contents that the management controls, technology-use and EH&S standards will be significantly less developed in TNC LDC operations than in their comparable OECD facilities. This literature has in particular been fueled by the 1984 Bhopal catastrophe on a subsidiary of the US chemical giant Union Carbide, where several thousand people were killed in large measure due to managerial neglect, outdated technology, and lack of financial support of the Indian affiliate.

²⁵ Mark Dowie, *The Corporate Crime of the Century*, "Mother Jones", November 1979, 23-49, or James Brady, "An Export Trade in Death", Advertizing Age, May 15, 1978, 99. Quoted from Gladwin 1987;465.

For a whole generation of researchers this incident epitomized the exploitative and cynical nature of international business, and gave rise to a host of post-accident case studies based on the double standards hypothesis (see e.g. Ives, 1985, Bowonder, 1987, Gladwin, 1987)

d. Policy implications

Although many within the global reach perspective acknowledges that TNCs might be engines of economic growth under certain circumstances, it will generally argue that *“the economic power of TNCs is rarely harnessed to achieve the ends of social development”* (Kolodner, 1994;12). It will ascertain that neoclassical economics, when assessing the costs and benefits associated with TNC activity, tend to ignore the existence of non-marketable or collective goods. This could be the protection of consumers or it could be the provision of environmental goods. A typical implication drawn by the global reach perspective will therefore be that national and especially international regulations should be expanded in order to mitigate the adverse consequences of TNC activity. In that sense the global reach perspective is an activist approach:

At the national level this perspective argues that it is perfectly “rational” for LDCs to attempt extensive controls of TNC activity through the establishment of national policy regimes aimed at preventing restrictive business practices, limiting transfer pricing, gaining control over technologies and in general, ‘unpacking’ the FDI package. Arms-lengths markets for technology should, according to this perspective, be expanded as an alternative to FDI, and the scope for TNC activities cut back²⁶. Moreover, the analysis made by the global reach perspective would suggest that LDCs should set up effective environmental and workers health and safety regulations in order to mitigate the adverse impacts of TNCs in these areas.

However, the global reach perspective would in general be skeptical with regard to the ability of LDCs to effectively regulate TNCs; if LDCs become too tough on TNCs, they may simply withdraw their operations from that country. Therefore, the global reach perspective presents a strong case for international regulation of TNCs and would tend to be strongly in favor of international codes of conduct for TNCs, international regulations, international guidelines and international monitoring of TNC activity. These international initiatives would not least cover the environmental aspects of TNC activity.

e. Summary

Global reach alludes to the international scope and presence of TNCs. According to this perspective, the TNC is an increasingly dominant player in international economic relations for better or worse. The global reach perspective will tend to conclude for worse, mainly because the TNC due to its monopoly power and worldwide presence can circumvent regulations and exert concessions from governments. Especially the adverse impacts on the environment of TNC activity has been an area of interest for this perspective. Essentially, it is assumed that TNCs will

²⁶ A good example was the Indian FDI legislation that in many ways gave preferential treatment to national firms, and restricted FDI.

employ environmental 'double standards', one set of standards in their home countries, and another set of (lower) standards in their LDC affiliates.

However, even if the global reach perspective tends to be highly critical of TNC activity in LDCs, it normally draws on the basic theoretical assumptions and tools of neoclassical economics. In the following section we will review a perspective - the radical perspective - which, while having a critical evaluation of TNC activity similar to that of the global reach perspective, explains the malign effects of TNCs activity from a completely different theoretical perspective. Instead of relating the adverse impacts of TNCs to the organization and political power of TNCs, the radical perspective relates the malaise to the structure of the international economic system.

IV. The Radical Perspective

"We must recall Marx's insight that socialism cannot be built on scarcity but only on plenty. While capitalism may be the only system that can produce plenty.... it cannot distribute it fairly on a global scale, that is, capitalism cannot develop the Third World". (Sklair, 1994;181)

As we have seen, the costs associated with the presence of TNCs were intensively discussed by the global reach literature, e.g. the transfer of inappropriate technologies, the evasion of taxation, adverse impacts on the indigenous industrial structure, etc. Most of this FDI critical literature stayed within liberal economics. However, some, mainly neo-marxist accounts, went further and analyzed TNCs and FDI from a structural point of view. These accounts will be the topic of this section.

The radical perspective will be divided into two schools. The first school - the dependency school - emphasizes the changing international division of labour to the disfavour of LDCs, and argues that the growing presence of TNCs in the global economy has *"launched the Third World on a dead-end route of dependent capitalism"* (Lall, 1985;66). The second and more recent school - the internationalization of capital school - argues that an internationalization of capital is the latest manifestation of a crises-ridden international capitalist system, and that TNCs are the main institutional expression of this internationalization. In contrast to the dependency school, this school argues that TNCs and FDI may spur uneven development rather than dependent development.

a. Implications for LDCs

The Dependency School: Inspired by the works of the Latin American economist R. Prebisch, a bulky literature emerged in the late sixties and early seventies, analyzing the relationship between North and South as one of dependency and exploitation. This school - called the dependency school - takes the point of departure in the mechanisms for the transmission of wealth and benefits described by the theory of comparative advantages, but these forces are seen as destructive for LDCs rather than wealth enhancing. In essence, the production system of LDCs

have been subordinated to that of the developed world, and this 'dependence' is regarded as placing structural limits on development in Third World countries. The main focus of the dependency school is trade and political relationships and applies to all industrial operations be it transnational or local; however some dependency theorist view TNCs, being the most powerful agent for extending the production of the core nations to the underdeveloped countries of the periphery, as the main agent of dependency.

According to the dependency school, transnational investments is spurred by numerous factors, including declining rates of profit; the need to find outlets for surplus generated by monopoly capitalism; the need for Northern capitalists to gain access to new markets and cheap factor inputs including labour in LDCs; the interest of the state in maintaining macro economic prosperity at home; the interest for the state in extending its institutions and values abroad or the need to draw attention away from the internal class conflicts, etc.

Whereas some of the earlier Marxist theories thought that FDI by TNCs was a necessary element in the transformation of underdeveloped countries toward socialist economies through the development of a capitalist economy²⁷, dependency analysis generally tend to denounce FDI and argue that the adverse effects of FDI for LDCs far exceed possible positive effects. The adverse effects cited by the dependency perspective are *inter alia*:

- Specialization in production and exports of primary products which have highly unstable markets
- The creation of economic structures within the developing nation which is not integrated at the local level, but is part of the transnational network,
- An increase in LDC dependence on foreign products and technologies, often purchased under unfavorable terms of trade
- The diffusion of western consumer values
- The destruction of indigenous production capacity.
- A vast drain of surplus from LDCs organized by TNCs
- The emergence of a dependent bourgeoisie in LDCs
- The creation of balance of payment crises in LDCs as TNCs target Third World markets with consumer goods.

Although the dependency perspective were subject to formidable criticism and although the New International Economic Order efforts, launched by LDCs in the late sixties and the seventies, failed grandly, the dependency perspective has "*obstinately refused to disappear*" (Sklair, 1995; 36) and keeps re-emerging in political as well as theoretical discussions. Thus, radical economics has in recent years produced a host of new theories and hypothesis concerning the international division of labour that, while drawing on the insights gained by the dependency perspective, sophisticated and made more nuanced its analysis. One of the most significant contributions to this emerging radical literature is that of the 'the new international division of labour' approach²⁸. This approach argues that the 'new international division of labour'

²⁷ Some Marxist approaches, labelled neo fundamentalists by Jenkins (1987), view the capitalist modernization of LDCs as a necessary step toward a socialist transformation and thereby share the positive evaluation of FDI prevalent in neoclassical perspectives. Thus , authors such as Warren, Emmanuel and Schiffer have argued that FDI by TNCs plays a progressive role in creating the material basis for a socialist society.

²⁸ See eg. Frøbel et al. 1977.

is the most significant aspect of the international system. Due to the conditions of capital accumulation and the growing strength of organized labour in OECD countries, a massive exodus of capital from North to South is taking place.

In contrast to the optimistic interpretation of international capital mobility presented by international trade theory, the new international division of labour approach stresses that the capital exodus will maintain and compound the structural inequality between North and South; only labour intensive productions will be placed in LDCs, and the financial and technological dependence of LDCs will not be altered significantly.

The Internationalization of capital school: In contrast to the dependency school, the internationalization of capital school downplays the importance of the new international division of labour between North and South and focuses instead on the growing ability of TNCs to control productive resources and to organize production at a global scale. The TNCs are, according to this perspective, not seen as a phenomenon in its own right, but rather as one among many aspect of a broader process of internationalization of capital. Nevertheless, TNCs will tend to play a prominent role in the analysis as TNCs are seen as the primary institutional form of international capitalism, and as TNCs are the driving force in the integration of production at a global scale²⁹: The internationalization school suggests that TNCs can organize international production in numerous ways; in addition to FDI, eg. licensing, subcontracting, marketing contracts, etc. While the internationalization of capital school will tend to argue that production is becoming increasingly decentralised as capital internationalizes, it will also stress that the control over productive resources are becoming increasingly centralised. Moreover, at same time as time capital seeks to differentiate itself by introducing new products or new techniques or taking advantage of different national conditions, there will be a growing tendency toward standardization of productions and products (Jenkins, 1987;35).

The impact on LDCs of the internationalization process will not be unambiguously negative; in stead of the simple center-periphery analysis made by the dependency school, the internationalization of capital school will tend to stress the uneven nature of development, eg. the evolvment of NIC/ a semiperiphery. And in contrast to the dependency school, the internationalization school will tend to be pessimistic with regard to the abilities of LDCs to devise an independent development strategy in the face of an increasingly mobile international capital.

b. Implications for the environment

The environmental conditions of LDCs have not been an issue of major concern for the radical perspective, although numerous radical sociologists and political scientist have taken up the environmental dimension of international production(see e.g. Sweezy,1991, Redclift, 1989).

²⁹ It should be noted that the importance of TNCs and the state respectively is disputed among neomarxist accounts. Some accounts thus tend to stress the role that states play in the internationalization of capital. These statecentered accounts argue that the role of the nationstate is growing as a consequence of capitals growing mobility. The primary level of analysis in these accounts is the nationstate, and the role that the state plays for the accumulation of capital. They stress a crises ridden global capitals increasing dependency of institutional protections provided by nationstates. (Laurizen and Sørensen,1991; 243) In contrast, the internationalization of capital school, as described in this essay, argues that the most significant player in the international economy is the TNC rather than the nationstate.

However, in passing, several dependency theorists have mentioned the environment. For instance, Samir Amin wrote that *“to acquiesce in the transfer of industrial pollution is also to accept the transfer of its eventual costs from capital to the peoples of the Third World” and that this would imply the acceptance of “a new unequal international division of labour, continued unequal relations between a dominant center and dominated periphery, and a growing gap between standards of living”* (Amin, 1975;35). In general, there is a strong parallel between the analysis of the environmental impacts of TNC activity made by neo-classical trade economics and the analysis made by the dependency perspective. The dependency perspective thus tend to agree with trade theory that an industrial exodus will result from the growing differences in environmental endowments between North and South; only the dependency school views this exodus as a special case of the overall exploitive nature of the world capitalist system. In the words of Leonard, *“Whether industrial re deployment was viewed as a positive development that would enhance industrialization efforts outside the First World, or as one more example of the advanced countries exploiting the periphery to their advantage, national and international discussions of the subject almost invariably was founded on acceptance of the basic premise”*. (Leonard, 1988;81)

One of the few attempts within the dependency perspective of explicitly linking the environmental question to development theory has been undertaken by O'Connor (1989)³⁰. His point of departure is the dependency of the periphery of the center. In a situation where development takes place in countries with 19th century labour conditions and political systems and 21st century technology - what O'Connor labels 'combined development' - adverse impacts on the environment, health and safety conditions of LDCs can be foreseen. Thus, one of the central characteristics of combined development is the export of polluting productions to LDCs either through the export of pollution intensive industry and the capitalization of agriculture, or through the export of hazardous products. This export of pollution from North to South causes environmental degradation and further marginalises the poor. In a similar way Elling (1981) analyzes the health consequences of the mobility of capital and the class conflict. According to Elling, the capitalist system creates a series of adverse health effects on LDCs including malnutrition, dumping of dangerous products, exports of hazardous industries and lower levels of general health in the periphery (Knutsen, 1994;37). The dumping of hazardous products and productions is linked to the role of the state and the internal conflicts in the ruling bourgeoisie in capitalist core countries. Thus, export of hazardous industries can, according to Elling, be analysed as a means for the ruling class to threaten labour movements in the core countries and weaken health and safety regulations here.

Finally, a few accounts have found inspiration in the internationalization of capital school to formulate hypotheses regarding the environmental impacts of TNC activity in LDCs. For instance, Hesselberg (1992) suggests that environmental costs of production become increasingly important in TNC locational decisions as computer controlled production and robotism makes LDC comparative advantages in labour costs of less value. The comparative advantage of LDCs in the 1990s will be *“the opportunity to pollute rather than cheap and non-*

³⁰ In my reading of O'Connor and Elling I am highly indebted to Knutsen, 1994.

unionized labour". Hesselberg further argues that while individual TNCs may not relocate to LDCs, the relocation may take place in the form of a general out-sourcing by TNCs of pollution intensive productions to suppliers and subcontractors in LDCs. As a result of these processes LDCs will become exporters of only manufactured goods produced in a way that is detrimental to the work environment, people and nature in LDCs.

c. Policy implications

While a radical transformation of LDC economies toward a socialist mode of production may be the long-term policy objective of the dependency school, the short-term objectives are to ensure a more independent development, for instance by pursuing an import substitution industrialization strategy. The aim is to cut off the role of TNCs in development and diminish the dependence of LDCs of international capitalism. International initiatives aimed at altering the international economic order are not deemed impossible according to this perspective, and international cooperation toward a 'new international economic order' (NIEO) will often be recommended.

The dependency school would, like the neo-classical perspective, tend to be critical of attempts to establish international environmental regulation of TNCs, although for very different reasons: According to dependency analysts the introduction of environmental standards in LDCs through international harmonization would be yet another level of imperialism and would cut off major development opportunities of the South (Leonard, 1988;69). Essentially this perspective would argue that LDCs should be given the same opportunities to implement their own development priorities. Anything else would amount to neoimperialism. This is also the case in relation to the environment. It cannot, according to this perspective, be expected that LDCs take into account and make economic and developmental sacrifices because of global environmental problems which essentially are created by the countries in the North.

In contrast, the internationalization of capital school, being less concerned with TNCs as agents of third world exploitation, will tend to accept the notion of international rules governing the environmental conduct of TNCs. In fact, this perspective would contend that international coordinated action is the only alternative to an environmental 'race to the bottom' in that the increasingly hyper-mobile capital essentially undermines the ability of the nation state to control economic forces and act independently. On the other hand, this school would tend to be pessimistic in regard to the ability of the international community to establish rules and regulations which goes against the fundamental interests of TNCs.

d. Summary

Normative differences apart, the radical perspective presents an analysis very similar to that of the neo-classical perspective. On the one hand, the dependency school, in line with international trade theory, explains the locational choices of TNCs with variations in production costs in different countries. As a result, international trade theory and dependency theory alike predict a major exodus of polluting production to LDCs. On the other hand the internationalization of capital school, in line with neo-classical theories of FDI, argues that

locational choices of TNCs cannot be understood alone in terms of variations in the cost of production. Integrating production at a global scale, getting access to markets in the emerging economies, protecting technological leads, etc. is according to this school equally important in understanding the dynamics of TNC locational choices. Consequently, the internationalization of capital school will, in line with neo-classical theories of FDI, predict that the relocation of polluting production is but one aspect of TNC environmental impacts in LDCs.

V. The ecological perspective

“The disciplinary preference (of economists) for logically beautiful results over factually grounded policies has reached such fanatical proportions that we economists have become dangerous to the earth and its inhabitants”. (Herman Daly, 1993;24)

The probably most comprehensive and still viable attack on the neo-classical vision of TNCs role in development comes from a branch of literature called ecological economics. This group is the direct heirs of the Club of Rome report “Limits to Growth”, a seminal report from the early seventies, which argued that the Earth is rapidly exhausting key resources and thereby heading toward ecological and social disaster. In line with the Limits to Growth’s neo-Malthusian reasoning, ecological economics argues that any kind of human expansion, growth or development must observe and take into account the boundaries set by the earth’s carrying capacity. According to ecological economics, the principle aim of all economics is not in the first place to improve human well-being and living conditions, but rather to secure the sustainability of the Earth’s carrying capacity. Otherwise the pursuit of wealth becomes meaningless. Thus, from the perspective of ecological economics, all the previously discussed perspectives are seriously flawed. They all have unhampered growth in human welfare and consumption as an explicit and implicit underlying premise. They all ignore that the earth cannot sustain this expansion in human activity, be it liberal or socialist.

a. TNCs and the international division of labour

Ecological economics do not provide an explicit theory of FDI or TNCs. However, it argues that one of the central culprits of global environmental degradation is the progressing specialization and division of labour, of which TNCs are the principal bearers. Thus, Herman Daly, a World Bank economist who more than anyone else have fathered this perspective, argues that the free movement of capital and goods is *“the recipe for hastening the speed with which competition lowers the standards for efficiency, distributive equity and ecological sustainability”* (Daly, 1993). Whereas neo-classical economics argue that the market mechanism must be allowed to operate as unhindered as possible in order to produce a fully rational and welfare optimal international division of labour, the ecological perspective argues that the free movement

of capital and goods, when the full social and ecological costs are taken into account, will make us poorer.

The international division of labour runs into three fundamental problems, according to ecological economics: 1. It is questionable whether it reflects an efficient allocation of resources; 2. It causes an unfair allocation of resources globally; 3. It runs against the maintenance of a sustainable scale of resource use. The two former objections have, as demonstrated earlier, been discussed by the global reach and the dependency perspectives respectively. The latter however, has only recently been recognized and is ecological economics' main contribution to the literature on TNCs, environment and development.

b. Implications for LDCs

Ecological economics is first and foremost concerned with the environmental limits to growth. However, it also devotes attention to the developmental consequences of growth and international division of labour. It is argued that the international division of labour not only undermines the environment, but also affects development adversely. In this analysis, ecological economics draws heavily on arguments of the dependency perspective. For instance, Herman Daly has argued strongly against internationalization in terms of free trade and investments, because this will harm LDCs: If capital are free to move internationally according to where production costs are lowest, capital will drain out of one country and into another making what Ross Perot called "a giant sucking sound" as jobs and wealth moves with it.

Although Daly will acknowledge that the capital movement will increase world production (Daly, 1993;27), it will also seriously harm both the country that is "drained" for capital as well as the recipient country of the capital. Incomes will tend to be lowered in the capital exporting country, and the capital importing country will experience the destruction of millions of jobs. Moreover, the international division of labour will seriously limit the welfare of nations and communities: Local communities and nations will be drawn into the transnational production networks and assigned a highly specialized role which seriously diminishes the range of occupational choices of that nation or community. In general, ecological economics feel that community welfare, in particular that of communities in LDCs, is completely ignored by the neo-classical contention that free trade enhances wealth.

c. Implications for the environment

The central objection to the international division of labour and the growing role of TNCs however, made by ecological economics is that it collides with ecological objectives in at least four respects:

First, the free movement of goods and capital will tend to undermine the effectiveness of community standards, including environmental, health and safety standards: As no effective international regulatory body exists to ensure that environmental standards are held, the likely outcome of free trade and free movements of capital will be that production will shift to areas that have the lowest standards of cost-internalization. In order to prevent this locational shift it will be

necessary for communities with high standards to lower their standards; alternatively they will lose jobs and welfare. The broader the free movement of capital and goods are extended, the less answerable corporations will be to any local or even national community, and the harder it will be for nations to maintain community standards.

Second, if the progressing international division of labour were to be effective as argued by neo-classical economics, it would require that the environmental and social costs of production were internalized and thus expressed in prices. Otherwise, the allocation of resources would be suboptimal. However, according to environmental economics it is evident that the true environmental costs of production are not internalized in prices, especially not in LDCs. Arguing in this situation that nations should encourage free trade and investment links with those nations that do not fully internalize costs, runs contrary to the logic of neo-classical economics (Daly, 1993; 26).

Thirdly, neo-classical economics often ignores the environmental costs of international mobility of goods and capital; for instance more than half of all trade involves the simultaneous import and export of essentially the same goods: *"Americans import Danish sugar cookies and Danes import American Sugar cookies. Exchanging recipes would surely be more efficient"*(Daly, 1993; 25) For the environment, this growing transport is a major source of ecological destruction.

These three objections might very well have been raised by the global reach perspective or the radical perspective; in fact, ecological economics to a very large extent draws on the insights of those two perspectives in its analysis. However, with the fourth objection to international division of labour, ecological economics introduces an entirely novel critique. Here ecological economics argues that all the previous perspectives have ignored the long-term ecological consequences of growth in income and consumption. They all ignore the consequences of closing the gap between the North and South to the carrying capacity of the earth. We have already reached the limits, and this fact puts a serious *"brake on the ability of growth to wash away the problems of misallocation and mal-distribution"*. (Daly, 1993; 28)

Table 1. FOUR PERSPECTIVES ON TNCs, ENVIRONMENT AND DEVELOPMENT

	The Neo-classical Perspective		The Global Reach Perspective	The Radical Perspective		The Ecological Perspective
	International trade theory	Micro economic theories of FDI		The Dependency School	Internationalization of capital School	
Level of analysis	Macro	Micro	micro - meso	macro	meso - macro	macro
Driving force behind FDI	Comparative advantages	Ownership specific and internalization advantages of TNCs	Monopolistic and oligopolistic advantages of TNCs	Capitals need for higher rent, access to cheap labour and new markets	The integration of production on a global scale in order to maximize control and profits	The international division of labour and growth
Welfare gains/ loss from FDI	Market-forces will produce socially optimal results: FDI gives a better global allocation of productive resources and produce efficiency gains		TNCs will create imperfections and distortions in the market place causing welfare loss	TNCs will promote dependency and/or uneven development. They will impede LDC options for independent development		TNCs promote international division of labour which is inefficient and unfair
Role of TNCs in development	Enhance comparative advantages of LDCs and improve macro economic balances	Assist LDCs in overcoming various market-imperfections + spill overs and positive externalities	Engage in unfair transfer pricing and dumping of obsolete technologies/ job destruction	Promotes the development of dependency	The promotion of uneven development	Further the erosion of community standards and values + job destruction
Environment al impacts	Relocation of polluting industries to LDCs	Diffusion of clean technologies, environmental standards and management know-how to LDCs	Double standards in exports of products and production-facilities	Environmental exploitation of populations and natural resources in LDCs.	The out sourcing of polluting activities to LDCs through subcontracting, etc.	Ecologically unsustainable growth
Policy implications	Embark on a pollution haven industrial development strategy . Avoid international environmental regulations	Create investment climates conducive of FDI and establish incentives that can facilitate the diffusion of clean TNC technology and know-how	Establish effective environmental regulations of TNCs especially at the international level; ia. codes of conduct for TNCs	Minimize the role of TNCs ie.g.. through an import-substitution development strategy. Avoid int.nat.environmental regulation	Facilitate international harmonization of int.nat. regulation of TNCs, including environmental regulation.	Minimize international trade and capital movements. Establish regional trading systems building on barter trade.

d. Policy-implications

As is evident from the presentation above, the benefits from FDI and TNC operations will be short term and illusive for LDCs. Growing internationalization of economic activity as a way of spurring growth and development should therefore be opposed vigorously, if not forecological reasons then in order to protect communities. Instead of engaging in international trade and investment liberalizations, LDCs should regain control over their economies and to a higher extent rely on independent development. Trade should be minimized and regionalised, and barter trade should be the principle means of exchange between nations. As Herman Daly argues, the 'default' assumption of neo-classical economics - that free trade and mobility of capital is good - should be reversed, so that the default position "*should favor domestic production for domestic markets*".

Thus, the implication of the vociferous critique of internationalization suggests a radical transformation of the way we produce and move. The overall aim of reform is to "ecologize the economy" and ecological considerations should be integrated in any economic analysis as a first parameter. An 'ecologized' economy would require a draconian redistribution at a global scale; the rich world would significantly have to cut back their consumption in order to allow for Third World development. It would require political intervention of an hitherto unprecedented manner, including, and maybe in particular, interventions in the activities and free reign of TNCs. This transition toward an ecologized economy would require dramatically improved international cooperation and coordination in order to *avoid "letting physical limits and environmental damage dictate the timing and course of the transition"* (Goodland, 1991;pp 11).

After a difficult transition, global economic development would move into a state, where economic activity would conform with resource limitations and environmental constraints³¹. Market forces would still be the driving force of innovation and adaptation to ecological constraints, however, market forces significantly harnessed by regulations at the national, regional and international level. Thus, the perspective expresses a dilemma in relation to TNCs: On the one hand it reject the international division of labour in terms of trade and investment liberalization; on the other hand market competition is seen as the main source of technological innovation toward an ecologically sustainable society.

e. Summary

Like the radical perspective, the ecological perspective analysis the impact of TNCs in terms of the structure of the international economic system. However, now, the yardstick for assesing the impacts of TNCs is not power and equality, but ecological survival. Thereby, the ecological perspective brings a new dimension into the analysis of the role of TNCs in LDCs. The new dimension is that any development effort, and in fact any economic activity, must be subdued the limits of the earth's carrying capacity. Taken on face value, this would have dramatic consequences for the international economic system in general, and FDI by TNCs in particular. Because TNCs are seen as the main engine of environmental destruction in LDCs and

³¹ Boulding, 1964, Georgescu-Roegen, quoted from Himmelberger, 1994;31

exhaustion of global resources, the ecological perspective will tend to recommend that the role of TNCs in the global economy should be kept at a minimum.

VI. Conclusion

This essay presented four main positions in the literature on TNCs, environment and development. The four positions were essentially distinguished by their core theoretical assumptions and predictions: Neo-classical economics assumed that FDI and TNCs were efficiency generating entities in perfect and imperfect markets, and predicted that TNCs would benefit LDCs. Although the environmental consequences of TNC activity were somewhat disputed between international trade theory and more recent microeconomic theories of FDI, the basic premise, that TNCs are enhancing welfare, was undisputed.

The efficiency assumption of neo-classical economics was challenged from a host of FDI and TNC critical perspectives. Thus, the global reach perspective focused on the ability of TNCs to exercise their market power to create market imperfections and thus less than optimal outcomes for host economies. The role of TNCs in the destruction of the environment in LDCs through the implementation of double-standards were one of the most significant adverse consequences of TNC power cited from this perspective. The radical perspective analyzed TNCs in terms of the structure of the international political and economic system. According to the dependency school within the radical perspective, the international system can be described as divided into a center and a subordinated periphery. One of the principal agents of Third World subordination and exploitation were TNCs; TNCs contributed to the “development of underdevelopment”, and one of the areas where Third World dependency could be seen was in the environmental sphere. Finally, the ecological perspective provided a fundamental critique of the neo-classical perspective in particular, but in fact, of all the previous perspectives. According to this perspective, the entire discussion on growth and development in LDCs would have to be rephrased in light of the limited carrying capacity of the earth.

Upon review of the four perspectives, it became clear, that the literature on TNCs, environment and development in fact can be seen, largely as a special case of a more general economic literature FDI and TNCs, and especially the development branch of that literature. Thus, the predictions in relation to the environment reflected the overall normative content of each perspective; the neo-classical perspective predicted welfare optimal benefits from FDI, also in relation to the environment; the global reach perspective predicted environmental double standards due to corporate market power; the radical perspective predicted environmental dependency and subordination as one aspect of an exploitive international economic order; and the ecological perspective, drawing to a large extent on the global reach and in particular the dependency perspective, rejected FDI as undermining community standards and destroying the global environment. The conclusion - that the analysis of the environmental impacts of TNCs in LDCs - is closely related to more general theories of TNCs and development - might seem trivial.

But unfortunately most of the literature on TNCs, environment and development is not very careful at making clear references to its theoretical indebtedness and roots. This makes it more difficult to generalize findings and compare studies conducted under various perspectives. By making the theoretical foundations of the various studies and hypothesis within the literature on TNCs, environment and development more transparent, I hope that inspiration for new hypothesis and insights in regard to the dynamics of TNCs, environment and development may have been provided.

New directions in the study of TNCs, environment and development

a. The eclectic paradigm

As the review of the four dominant perspectives clearly demonstrates, the literature on TNCs, environment and development is highly diversified. First, the differing normative thrust of the four perspectives makes them focus on certain aspects of the problem in question while downplaying others. Second, the four perspectives ask different questions, reflecting the fact that international production may be motivated by widely differing factors, eg. variations of production costs in different locations, the need to get market access, or the process of integrating production on a global scale. Third, the four perspectives focus on different levels of analysis. The neo-classical trade theory, the dependency school and the ecological perspective focus on **macroeconomic** aspects of international production, examining broad international and national trends from the perspective of theories of trade, location and balance of payment/trade effects. The global reach perspective and the internationalization of capital school emphasize **mesoeconomic** aspects of TNC activity in LDCs, such as interactions between firms or the interaction between firms and governments. Finally, the internalization and to some extent the global reach perspective focus on **microeconomic** aspects of international production, such as the factors behind the international growth of individual firms (Cantwell, 1991;17).

To the extent that the differences between the four perspectives reviewed in this paper derives from differences in interpretation of and gaps in the evidence considered, they can be seen as complementary rather than competing. As such, the application of integrative frameworks to the field could be a step in the direction of a more comprehensive understanding of the dynamics of international production, environment and development.

Recent years have seen the emergence of numerous frameworks that seek to integrate the various theoretical perspectives on TNCs into more general frameworks³². The most well-known example is probably that provided by John Dunning's 'Eclectic Paradigm'. The eclectic paradigm is not a theory in and by it self, but is rather *"an overall organizing paradigm for identifying the elements from each approach which are most relevant in explaining a wide range of various kinds of international production, and the wide range of different environments in which international production has been established"* (Cantwell, 1991;18). Thus, the eclectic paradigm essentially seeks to integrate into a general framework what Dunning considers the most

³² See Pitelis, 1993;529 ff. for a review of such integrative frameworks

important contributions to the understanding of TNCs, namely theories of industrial economics, theories of international location and theories of market imperfections. Industrial economics or what was labelled the global reach perspective in this essay, focus on the organizational factors behind FDI; international trade theory emphasizes the locational factors behind FDI, and internalization theory focuses on market failures in explaining FDI. In combination these three types of factors, labelled the OLI factors (O = organizational, L = Locational, I = Internalization), will, according to Dunning, give a more comprehensive understanding of FDI and TNC behaviour because the various theories that the paradigm seeks to integrate may each have their advantages, depending on the motivations and conditions of a given investment decision.

The application of the eclectic paradigm to the study of TNCs, environment and development will point out, that at least some of the perspectives discussed in this paper are complementary, as they each focus on different types of investment decisions and focus on different levels of analysis. The central task for an eclectic analysis of TNC environmental behaviour in LDCs will therefore be to expose the *conditions* and *motivations* behind investment decisions in order to decide which perspective is most suitable. Thus, applying the eclectic paradigm to the study of TNCs, environment and development could help break down some of sharp divides that characterises this field and enhance the understanding of the dynamics of international production and the environment. However, it is also clear that what will be gained from the application of the eclectic paradigm in terms of real world applicability, to a large extent will be lost in terms of the clarity and coherence of the earlier perspectives.

b. Organizational perspectives on TNCs, environment and development

The four perspectives reviewed in this paper were mainly economic in their general approach. More organizational and management oriented aspects were only indirectly touched upon. When the paper emphasized economic perspectives, it was because the bulk of the literature on TNCs, environment and development apply economic perspectives, and because it was necessary to limit the scope of the paper. However, in recent years, the distinction between economic and organizational analysis of TNCs has become increasingly blurred making a formal distinction between organizational and economic analysis virtually meaningless: From the economic perspective, internalization and transaction cost analysis has directed focus toward the institutional and organizational aspects of TNC activity; and from the organizational perspective, resource based and strategic analysis have moved into the discussion of firm specific advantages e.g. as expressed in the notion of core competencies of the firm. Consequently, there seems to be a growing need for integrating insights of organizational analysis into the economic literature on TNCs, environment and development.

Although organizational and institutional perspectives have produced much research on industrial greening in general³³, only few of these accounts are as of yet focusing on the

³³ The vitality of organizational research on industrial greening is reflected in the large and still growing "Greening of Industry" network. This network has created a network of researchers mainly from Europe and North-America that from mainly organizational perspectives seek to describe and explain the apparent greening of firms that has taken place in OECD countries in recent years. (See eg. Fisher and Schott, 1992)

transnational environmental organization³⁴. Let me therefore outline a few ways in which the application of organizational and institutional analysis may bring the study of TNCs, environment and development forward in the future.

First inspiration could be acquired from the extremely comprehensive literature on TNC strategic management and organization development. This literature typically brings forward descriptive models of different stages/phases in the development of a multinational organization. One of the most prominent such phase models is that provided by Perlmutter (1969). Perlmutter makes a distinction between 4 types of multinational enterprises: Ethnocentric, Polycentric, Regiocentric and Geocentric enterprises. The polycentric enterprise recognizes that there are different conditions of production in different locations and try to adapt to those different conditions in order to maximize profits i each location. The control with affiliates is highly decentralised and communication between headquarters and affiliates is limited. The ethnocentric enterprise in contrast, essentially extends headquarters ways of doing business to its foreign affiliates. Essentially this type of enterprise is interested in internalizing monopolistic advantages gained in home countries to include foreign locations. Controls are highly centralized and the organization and technology implemented in foreign locations will essentially be the same as in the home country. The Regio- and Geocentric enterprise in contrast to the two former types of multinational enterprises, seek to organize and integrate production on a regional or global scale. Each production unit is an essential part of the overall multinational network, and communications and controls between headquarters and affiliates are less top-down than in the case of the ethnocentric enterprise. This description of various types of multinational organizations could be linked to the economic theories of TNCs, environment and development. Thus, it could be argued that a TNC of the polycentric variant will be more inclined to operate with environmental double standards than other types of TNCs, as environmental management will be highly decentralised and adapted to local conditions. In contrast, the ethnocentric TNC will tend to implement home country environmental standards and technologies in foreign locations and thus tend to operate with uniform standards regardless of location. In the case of the regio- and geo-centric TNC, the implications for environmental conditions are less obvious. On the one hand, the ability to organize production on a regional or global scale will enable the company to take fully advantage of locational factors, including environmental costs of production. This would indicate that this type of corporation would facilitate the movement of polluting productions to LDCs and operate with environmental double standards. On the other hand, a globally integrated production would imply that the company strives for a uniform global marketing image and for internationally coordinated management systems. Thus, the company could be expected to exercise environmental responsiveness regardless of location, as a bad reputation because of environmentally irresponsible behaviour in one location, could seriously harm the image of the entire organization. Moreover, the regio- or geo-centric enterprise will be better positioned to disseminate experiences and know-how concerning environmental management gained in one section of the enterprise, throughout the transnational network. This again would indicate uniform standards regardless of location, although for different reasons than the ethno-centric enterprise.

³⁴ Exeptions are Gladwin, 1987, Rappaport, 1992, and Hansen/Ruud, 1994.

Second, inspiration to the study of TNCs, environment and development could be gained from the new institutional theory of organizations (see eg. Powel and Dimaggio, 1991). This group of theories could direct focus toward the importance of normative conformity within the business community in the greening process. New institutional theory often argue that changes in organisations are introduced to make them more aligned with the changing norms and expectations of their organisational environment. In accordance with this approach, the institutionalization of strengthened international environmental controls within TNCs can be viewed as a process of establishing an improved normative conformity and/or external legitimization. This perspective could also point out that once corporate environmental responsiveness in international operations has been institutionalised, its adoption become normative and independent of immediate organisational functionality or any other criteria of internal or external rationality.

Third, the notion of culture may add to the explanations provided by economic analysis. For instance, Kasperson and Kasperson have in their work demonstrated what role a strong, organization wide corporate culture can play for the implementation of high environmental standards internationally. Inter alia they suggest that the presence of a corporate culture geared toward total quality control and engineering excellence may play a crucial role for the implementation of high environmental standards in LDCs.

It is likely that the study of TNCs, environment and development in the future may get inspiration from organizational approaches, such as those of international management theory, institutional theory and theories of organizational culture. This development will not make obsolete the insights gained by the four economic perspectives reviewed in this paper, but will rather tend to supplement them, thus making the field richer and more insightful.

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