

Improving the environmental performance of TNCs: Voluntary versus mandatory approaches

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For further information:

Background to paper

The globalization of economic activity in general, and the growing role of transnational corporations (TNCs) in particular, have increasingly directed attention toward the environmental consequences of these developments. Increasingly, TNC activity in developing countries has become an issue for various normative initiatives at the international level, in the OECD and in the WTO. However, there remains a pertinent need to gain a better understanding of the environmental implications of TNC activity in developing countries. On this background, the United Nations Conference on Trade and Development (UNCTAD) and Department of Intercultural Communication and Management, Copenhagen Business School (DICM/CBS) in 1997 received a grant from the Danish International Development Agency (DANIDA) to conduct a study of environmental practices in TNCs. The project is called: "Cross border Environmental Management in Transnational Corporations". The project examines environmental aspects of foreign direct investment (FDI) in less developed countries by conducting case studies on environmental practices in Danish and German TNCs with operations in China, India and Malaysia. The project will produce a series of research reports on cross border environmental management seen from home country, host country as well as corporate perspectives. The reports will serve as input to a conference on Cross Border Environmental Management hosted by UNCTAD.

Abstract

This paper serves as substantive background input to the preparation of the pre-UNCTAD X seminar "Making FDI Work for Sustainable Development".

In a scenario where forces of globalization increasingly collide with environmental concerns, there is an urgent need to find mechanisms geared to avoid the existence of "pollution havens" preserving at the same time the economic and social development prerogatives of developing countries. FDI could help to reconcile both objectives since transnational corporations are usually perceived to be at the frontier in terms of their environmental technologies and management routines.

This paper intends to explore the advantages and shortcomings of two kinds of approaches that could foster TNCs to play this role. First, the paper examines a series of initiatives which fall under the heading "voluntary and non-regulatory environmental initiatives", a notion referring to self-regulation, codes of conducts and voluntary environmental standards. Secondly, the paper explores international mandatory approaches, focusing on the way in which environmental issues may be included in international investment agreements. Finally, a research agenda aimed at facilitating policy deliberations on these issues is proposed.

Please note that the views and opinions expressed in this paper reflect those of the author and do not necessarily represent those of UNCTAD and CBS.

Table of contents

I. Introduction	1
II. Gaps in national environmental regulations: The available evidence on their effects	3
III. Non-mandatory approaches to improved TNC environmental performance	6
a. Corporate self-regulation	6
b. Codes of conduct with relevance for TNCs.....	9
c. The international environmental management standard system	12
IV. Environmental issues in international investment agreements	14
V. A Research agenda.....	18
References	20

Improving the environmental performance of TNCs: Voluntary versus mandatory approaches

A background note

Daniel Chudnovsky and Andrés López¹

I. Introduction

At present, there are wide differences in the kind, stringency and level of enforcement of national environmental regulations. In particular, while developed countries have stringent standards with high enforcement levels, environmental regulations tend to be lax and enforcement is generally weak in developing countries.

In developed countries, this scenario has raised two kinds of fears. On the one hand, environmental non-governmental organizations (NGOs) alert on the existence of "pollution havens" and "environmental races to the bottom" among developing countries in order to attract investments. The progressive tightening of environmental regulations in developed countries should, thus, lead to a rapidly increasing level of pollution in developing countries, due to the movement of "dirty industries" and/or polluting firms from the former towards the latter. On the other hand, gaps in environmental regulations are seen by many as a sort of "eco-dumping", since in developing countries the burden of complying with environmental standards should be lower *vis a vis* developed countries. Thus, producers in developed countries express concerns about unfair competition by their developing countries counterparts. As a consequence, both groups call for an international harmonization of environmental standards, although for different reasons.

In turn, developing countries have other concerns:

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- the proposed harmonization of environmental standards is often seen as potentially harmful due to its impact on costs and competitiveness levels of domestic production in those countries;
- harmonization ignores that national environmental priorities may differ, among other things, because each country's different environmental characteristics and configurations of social preferences' (i.e., in developing countries environment preservation might be seen as comparatively less valuable *vis a vis* other objectives, such as poverty alleviation or unemployment reduction);
- there are fears that environmental regulations in developed countries, especially those that are trade-related, may become barriers to developing countries' exports.

The relevance of these issues is reinforced in the present scenario where environmental concerns are spreading internationally at the same as the integration and interdependence of the world economy through trade and investment linkages reaches historically unprecedented levels. As trade and investment linkages surge and competition for FDI heats up, there are fears that national and sub-national states may compete through lowering of environmental standards². Section 1 of this paper addresses briefly the available evidence on "pollution havens" and on the environment-related competitive concerns of developing as well as developed countries. Even though no conclusive evidence has been found confirming the existence of those havens or the fears that environmental regulations may erode the competitiveness of developing countries, concerns about the possibility that one or both of those scenarios may become real in the future cannot be dismissed.

In a scenario where forces of globalization increasingly collides with environmental concerns, there is an urgent need to find mechanisms geared to avoid the existence of "pollution havens" preserving at the same time the developmental needs of those countries. FDI could help to reconcile both objectives since transnational Corporations (TNCs) are usually at the frontier in terms of their environmental technologies and management routines. Nonetheless, it cannot be assumed, as seen below, that TNCs are always ready to transfer these assets to their affiliates in developing countries, unless they have incentives to do so.

This paper intends to explore the advantages and shortcomings of two kinds of approaches that could foster TNCs to play the above sketched role. Section 2 examines some initiatives which fall under the heading "voluntary and non-regulatory environmental initiatives (VNRIs)"³, a notion coined by Kerr *et al* (1998) and referring to self-regulation, codes of conducts and voluntary environmental standards. Section 3 explores international mandatory approaches, focusing on the way in which

² See Oman, 1999, for a survey of policy competition for FDI

³ A VNRI can be defined as a commitment not required by legislation, agreed to by one or more organizations and applied in a consistent manner to influence or benchmark behavior (Kerr *et al*, 1998).

environmental issues may be included in international investment agreements⁴. Finally, a research agenda on these issues is proposed in section 4.

II. Gaps in national environmental regulations: The available evidence on their effects

As mentioned before, fears have been raised regarding the existence of "pollution havens" in developing countries. Those havens might be the result of many developing countries' will to attract FDI "at any cost" (which should lead them to relax or not to enforce their environmental standards) and of the desire of TNCs to avoid compliance with strict environmental standards in their home countries or in other developed countries locations.

These fears are reinforced in a context where, as stated by Hansen (1999), there are few international regulations constraining the environmental practices of foreign investors. Nonetheless, despite the popularity of the pollution haven argument, there is little evidence on the existence of such havens (see Jaffe *et al*, 1995; Eskeland and Harrison, 1997; OECD, 1997; Zarsky, 1999a and Adams, 1997)⁵. Among the explanations advanced in relation to this finding, it has been argued that most investment decisions are not made on the basis of environmental criteria. As environmental costs represent less than 2% of the GDP in developed countries, they should not have any significant weight in location decisions⁶ nor should they have significant effects on developed countries' competitiveness.

Another argument recently advanced against the "pollution haven" hypothesis states that countries that operate transparent and efficient environmental programs are often quite successful in attracting FDI. Investors are interested in predictable and clear environmental regulations; this renders inappropriate the encouraging of FDI by relaxing environmental standards, since this could be seen as unsustainable by foreign investors (Goldenman, 1999). It has also been stated that integrating environmental considerations into investment attraction programs does not drive away FDI (Gentry, 1998). Besides, countries with high environmental standards are the major producers and exporters of most environmentally sensitive goods. In this light, it has been concluded

4. Of course, mandatory approaches at national level, which are not covered in this paper, have also a crucial role in this respect.

5. Nonetheless, there are cases where "environmental races to the bottom" may take place. For example, China provinces compete intensely for FDI, and provincial leaders may be tempted to promise preferential treatment to potential foreign investors, including commitments to more lax enforcement of environmental standards (OECD, 1997).

6. In a survey to 153 Danish manufacturing companies with operations in Eastern Europe or developing countries no respondents cited variations in environmental costs as a decisive or even contributing factor in their investment decisions.

that, if anything, the imposition of higher environmental standards will generate a technological response rather than lead to capital mobility (OECD, 1997).

While most observers tend to interpret the failure to find evidence of "pollution havens" positively, Zarsky (1999a) observes that industrial migration does not exist since environmental regulation is universally "too low". Besides, although foreign firms may not move towards developing countries due to lower environmental standards, they may perform like environmental "renegades" once they get there (Zarsky, 1999b). In turn Esty and Gentry (1997) claim that the prospect that companies will move to other jurisdictions with less rigorous environmental standards, may produce a political drag on environmental policy making in high-standard countries. In this way, standards are not raised to optimal levels or rules are not enforced. According to these authors, considerable anecdotal evidence supports this hypothesis.

Furthermore, even though the pollution haven hypothesis has generated little empirical support, it has to be admitted that in particular sectors, such as chemicals, oil, steel, mining or cement, the costs of complying with more stringent environmental regulations might be greater and consequently play a more significant role in the strategic decision-making process of firms. There is also some tendency for certain types of firms in specific industries to seek cost relief related to environmental parameters. This tendency is likely to be most profound in those industries whose products are undifferentiated and which are most subject to small (and environment-based) cost differences (OECD, 1997).

It should also be borne in mind that the environmental impact of FDI varies considerably depending on the type of investment. While the environmental impact of market seeking and efficiency seeking FDI⁷ is diffuse, the impact of resource seeking FDI seems more obvious, since most of this type of investment is aimed at access to raw materials and natural resources not available in home countries and often involves environmentally sensible activities such as mining or logging (Esty and Gentry, 1997).

It must be mentioned as well that a new hypothesis has been debated recently, which states that FDI may bring significant improvements in environmental performance in developing countries. This "pollution halo" hypothesis (as named by Zarsky, 1999a) suggests that superior technology and management, as well as demands by "green consumers" in their home countries, should make TNCs apt vehicles to improve environmental performance of host countries. Nonetheless, since the evidence on this

7. Regarding the objectives of FDI, Dunning (1988, 1994) distinguishes four main types. "Resource-seeking" and "market-seeking" investments often represent the main motives for initial foreign entry. Sequential investments aimed at increasing the efficiency of TNC activities, by integrating assets, production and markets are called "efficiency seeking" investments. However, "sequential and occasionally first time investments are increasingly taking the form of strategic asset-seeking investments, the main purpose of which is to acquire resources and capabilities that an investing firm believes will sustain or advance its core competencies in regional or global markets. These assets may range from innovatory capability and organisational structures to accessing foreign distribution channels and a better appreciation of the needs of consumers in unfamiliar markets" (Dunning, 1994, p.36).

issue is mixed, the "pollution halo" hypothesis has not yet received strong empirical support⁸.

In turn, the evidence supporting the developing countries' argument that environmental regulations could be used as trade barriers is also mixed. Some studies find that developing countries producers, specially in the case of large firms, tend to react quickly to the emergence of environmental regulations in developed countries (UNCTAD, 1995a)⁹, though cases of countries whose exports have been affected by environmental requirements in foreign markets were also reported (see also UNIDO, 1995). At least, it can be said that the trend towards more stringent environmental requirements may increase the costs and uncertainties faced by exports from developing countries. In the case of eco-labels¹⁰, even if there is no overt discrimination, practical issues of distance, language and culture can make these schemes more difficult for foreigners to understand, access and satisfy than for local producers (Kerr *et al*, 1998). Besides, the fears that those requirements may be used as disguised protectionist barriers have not been overcome yet^{11,12}. In this sense, eco-labels and other standards, if linked to government procurement, could present a significant trade barrier to some suppliers.

8. For example, foreign investors in Costa Rican banana production have insisted upon environmental care, perceiving that their European customers wanted an environmentally-sound product (OECD, 1997). Nonetheless, this has not prevented the widespread ecological damage caused by monocultural banana production (Zarsky, 1999b).

9. For instance, it has been shown that environmental standards in developed countries have not acted as barriers for Argentina's industrial exports during the 1990's (Chudnovsky and Chidiak, 1995; Chudnovsky *et al*, 1999).

10. An eco-label is a mark of distinction on a product's label which is awarded on the basis of environmental merit.

11. It should be noted that eco-labels, which are increasingly used in developed countries, are based on process or production method (PPM) criteria. Even though, as voluntary standards, they are allowed under WTO trade rules - WTO does not accept mandatory PPM-based standards in the form of trade measures - some countries are demanding that the WTO law regulate their use in order to prevent protectionism in the formulation of labeling criteria (Kerr *et al*, 1998).

12. According to Von Moltke and Kuik (1998), the most difficult trade disputes concerning the environment have involved a combination of significant environmental concern and the presence of particular interests that appeared to be using this concern for "protectionist ends".

III. Non-mandatory approaches to improved TNC environmental performance

a. Corporate self-regulation

Host countries' environmental regulations, and their enforcement levels, are obviously important determinants of TNCs environmental performance. However, it has been suggested that TNCs may find it advantageous to maintain and comply with home based standards and regulations that are, generally, higher and stricter than those in the host country. This argument is based, first, on the fact that many companies may find it efficient to have a single set of practices geared to a common set of standards, instead of scaling back their environmental investments at overseas facilities¹³. Second, the greater level of scrutiny that TNCs are exposed to and the prospect of liability for failing to meet the appropriate environmental standards, often drive these firms to adjust their operation to higher environmental standards than might be required by local circumstances (Esty and Gentry, 1997). It has also been argued that by replacing deficient markets for environmental services and monitoring, TNCs may develop assets that can be exploited in the host country and that by devising cross border environmental management practices, TNCs may obtain first mover advantages as environmental regulation is strengthened in developing host countries (Hansen, 1999).

Nonetheless, the available evidence does not fully support this hypothesis (see Jha and Teixeira, 1994). On one hand, though there are several examples of TNCs applying the same environmental standards in affiliates operating abroad as in their home country, these tend to be corporations operating in industrial and service branches (and only the largest TNCs), rather than those involved in the exploitation of natural resources. Analysts of what has been termed "cross-border environmental management", in turn, also find that many TNCs have not yet adopted cross border environmental practices and instead opt for local adaptation of their environmental management set up (Hansen, 1999).

For example, a survey to 44 TNCs in Mexico shows that half of them decide their environmental investments on basis of local standards, and other six observe their home countries regulations, while the rest of them apply their own corporate rules (Husted and Rodríguez Oreggia y Román, 1998). A survey to 112 Danish TNCs, many of them SME TNCs, shows that only 12% of them employed home environmental standards regardless of locations (quoted in Eriksen and Hansen, 1999).

Hansen (1999) analyses different company specific factors which influence the decisions of TNCs regarding the adoption of cross-border environmental management systems within the corporation. The possibility that TNCs adopt such systems increases

with: i) the risks and/or potential environmental impacts of their operations; ii) home country's environmental regulations stringency¹⁴; iii) their size and international orientation (i.e., the number of countries where it owns affiliates); iv) the adoption of globally integrated strategies (instead of "stand-alone" schemes)^{15,16}; v) the higher the equity participation of the TNC in the foreign venture.

There are also industry specific factors which influence the adoption of cross border environmental management systems. For instance, it has been stated that firms in oligopolistic industries are more prone to adopt worldwide standards¹⁷. In turn, some industrial associations have created environmental organizations and issue guidelines for their members (see below). While these initiatives may be seen as attempts to restrict market entry for new comers or to deflect more binding state regulation, they may also be geared to ensure that industry is aligned with social expectations or to have a fora to discuss environmental issues or to set benchmarks and standards to evaluate environmental performance (Hansen, 1999).

In this light, in practice, there will be different forms of cross border environmental management. Following Hansen (1999), four main forms can be distinguished: i) "decentralized" (cross border environmental policies are absent); ii) "international compliance" (cross border environmental procedures are geared to make sure that all affiliates operate in accordance with host country standards); iii) "centralized" (instead of complying with local regulations in each host country, affiliates adopt company wide standards that are applied at all facilities); iv) "globally integrated" (environmental initiatives may stem from any facility in the corporate network and new technologies and practices can be developed at production facilities in any country)¹⁸.

The idea of corporate self regulation would receive strong support if Porter's hypothesis regarding the existence of "win-win" solutions (i.e., initiatives which allow

13. Garrod (1997) quotes a report, which states that Dow Chemical applies the same standards worldwide because meeting local requirements would be a "bureaucratic nightmare".

14. According to Dunning's eclectic paradigm, TNCs invest abroad to exploit ownership advantages that are not available in the host market (Dunning, 1998). Since these advantages frequently are developed in countries with relatively tough environmental regulations, TNCs may transfer state-of-the-art environmental technologies as a consequence of the nature of its home country operations (Hansen, 1999). In turn, when TNCs from developing countries are involved, since in general home countries environmental regulations will be lax, corporate self-regulation will not result in any environmental enhancement in other host developing countries.

15. Whereas resource and market seeking investments are often made by stand-alone subsidiaries, efficiency-seeking FDI allows the subsidiary to participate into the TNC system through simple integration strategies (e.g. as supplier of components for the parent company or other affiliates). More complex integration strategies in which various functional activities (production, research and development, training, etc.) are located wherever they can be done best to fulfil the TNC overall strategy usually require strategic asset-seeking investments (UNCTAD, 1994).

16. However, the same firm may opt for integration of some functions while for local adaptation of others. This mixed strategy is referred to as 'glocalization' (Kobrin, 1988, quoted in Hansen, 1999).

17. Under highly competitive market conditions, individual companies find it difficult to control prices in order to recover environmental investments, while in oligopolistic industries firms may not only offset the costs of meeting environmental standards by raising prices, but those standards may create significant entry barriers to the industry.

18. These four categories have a direct relationship with the three type of TNCs strategies above mentioned - namely, stand-alone, simple integration and complex integration-.

firms to reduce pollution without incurring in additional costs and even earning profits) were to prove real (see Porter and Van der Linde, 1995a, b). Even if Porter himself acknowledges that his hypothesis is based on a strengthening of environmental regulations - needed to foster private firms to look for "eco-efficient" innovations -, self regulation would be more reliable in case that good environmental performance were to be associated with increased private profitability. Another argument favoring self-regulation is that companies know better than governments how to improve their environmental performance (Zarkasy, 1999c).

In fact, it has been observed that some market forces could lead private firms to improve their environmental performance. "Green" markets should be one of those forces. However, there is little room for individual consumers to properly assess if a product made in foreign locations is a result of the use of "environmentally friendly" technologies. In contrast, when large customers or government agencies procurement are involved, environmental pressures could be more strong (Hansen, 1999). In this sense, there is a big difference between TNCs affiliates in developing countries that serve through exports OECD markets and affiliates which sell in host developing countries markets, where environmental awareness of customers is likely to be lower.

Financial markets play an increasing role for improving TNCs environmental performance. Many financial institutions such as banks and insurance firms are becoming more interested in the environmental consequences of their business decisions, and require not only environmental assessments of specific investment projects but also general environmental performance information from companies seeking access to capital. International financial agencies have also integrated environmental considerations in their loan operations¹⁹ (see Goldenman, 1999). There are also investment funds geared towards environmentally friendly investments (Kruttt, 1999). Furthermore, it has been suggested that a number of organizations will rate the environmental performance of firms for those who believe that this performance is a component of financial performance (Savage *et al*, 1999).

Finally, it has been stated that an improved quality and just in time delivery could be closely associated with environmental improvements. In this way, firms and industries with a strong quality orientation may adopt sound environmental management systems more easily (Hansen, 1999). It has also been suggested that there are similarities between eco-efficient or "pollution prevention" approach towards environmental management and total quality management (OTA, 1994).

However, serious doubts have been raised regarding the real effects of self-regulation to date. According to Zarkasy (1999b), available evidence suggests that experiments to give more regulatory flexibility to corporations, especially in the high-tech sector, have fallen short of expectations. Lack of appropriate company disclosure and third party monitoring also hampers the credibility of self-regulation.

Two additional considerations must be borne in mind. First, even if many TNCs operate with the same environmental standards in all their affiliates, this does not necessarily mean that their suppliers, sub-contractors, service providers and customers follow the same rules²⁰. Savage *et al* (1999) survey different cases of environmental performance standards required by TNCs to their suppliers. These requirements go from the ban on the use of certain toxic materials, to inquiries about the existence and implementation of Environmental Management System (EMS) at suppliers' facilities and the request of tangible measures of the supplier's environmental performance. Additionally, some firms are recognizing the value of active collaborations, in which the exchange of information between customer and supplier is mutually beneficial from both the environmental and financial perspectives²¹.

In contrast, it has been observed that many TNCs increasingly subcontract the production of some components and final goods and act as global distributors. This decoupling should have prompted TNCs to assert that they are not responsible for the environmental conditions in factories that manufacture parts of their products (Kolodner, 1994). It has also been stated that for U.S.-based TNCs, price and quality drive purchasing decisions except when environmental risk or compliance must be considered. Some purchase contracts ask environmental questions but may not then impose environmental standards in a purchasing decision (US-AEP, 1998). In balance, thus, little is known concerning the extension of environmental management practices to non-controlled units (Hansen, 1999).

Second, home country standards, when applied abroad, will not necessarily yield positive environmental results. For example, many US manufacturers "pretreat" their wastewater and then discharge the still polluted water into a public sewer for further treatment. But in developing countries, which often lack suitable sewage systems, the factory discharge may go directly to a river. Thus, in this case the "same" environmental performance might cause a greater environmental harm than it would in a developed country (Esty and Gentry, 1997).

b. Codes of conduct with relevance for TNCs

Many TNCs have adopted codes of corporate conduct. These codes, which are voluntary in nature, have also been adopted by different private as well as public organizations. The most recent review has found 233 codes of corporate conduct in

19. It is the case, for instance, of the World Bank Environmental Guidelines.

20. Hansen (1999) distinguishes between backward (supply chain management) and forward (product stewardship) oriented environmental management procedures and practices.

21. An example of this kind of collaboration is found in the Apparel Industry Working Group on the Environment, whose member companies assist supplier facilities in Asia, such as textile mills and laundries, to achieve environmentally sound operations (Savage *et al*, 1999). In turn, under its Clean Technology and Environmental Management (CTEM) program, the United States-Asia Environmental Partnership (US-AEP), created in 1992 by the US government to address environmental problems in 10 key Asian economies, is fostering U.S.-based TNCs to integrate environmental factors into their purchasing criteria and is helping TNCs to develop environmental programs to assist their suppliers.

force (OECD, 1999). From those, 107 were issued by individual (mostly transnational) corporations, 89 were issued by business associations, 33 by partnerships of stakeholders, and 4 by inter-governmental organizations.

Environmental issues were addressed in 129 of the surveyed codes of conduct. It was found that companies operating in heavy industries were the most prone to include environmental issues in their codes of conduct. The codes for service providers, relatively rarely mention environmental issues. According to the OECD (1999), not all of the codes that mention environmental issues do so at great length. For example, a code may simply state that the subscribers must adhere to all relevant national environmental laws, or that the sponsor of a code favors business partners who practice environmental protection. A number of codes go beyond and include commitments to attain certain goals or targets. Such codes usually include a self-obligation to issue progress reports but have no provisions for dealing with deviant conduct.

One of the most known corporate codes of conduct are the OECD Guidelines for Multinational Enterprises, which date from 1976 and whose environmental chapter was added in 1991. These voluntary guidelines are recommendations to TNCs from OECD governments to help ensure that multinational business operate in harmony with the policies of host countries. Within the provisions of this code, TNCs are encouraged to assess, and take into account in decision making, foreseeable environmentally related consequences of their activities, to co-operate with authorities by providing information regarding the potential impacts on the environmentally related aspects of all their activities and by providing the relevant expertise available in the enterprise, and to take appropriate measures in their operations to minimize the risk of accidents and damage to health and the environment²². The Guidelines are now undergoing a revision process. The OECD has also issued the Guiding Principles for Accident Prevention, which states that "hazardous installations in non-OECD countries should meet a level of safety equivalent to that of similar installations in OECD countries".

Agenda 21, adopted during the "Earth Summit" at Rio in 1992, and signed by 179 Heads of State and Government, contains 32 references to the responsibilities of TNCs (see Adams, 1999). Agenda 21's importance stands in the fact that most governments have already subscribed to it. However, many of the 32 references focus on environmental problems related to trade practices and are therefore not TNC issues proper. Furthermore, Agenda 21, as well as OECD provisions, being non-binding, are probably seldom a point of reference for TNCs and it is doubtful that they have any direct impact on corporate strategy. At best, it may be expected that TNCs will observe these provisions because they express the international community's expectations and thus indicate the direction of future more binding regulation (Hansen, 1999).

22. Argentina, Brazil and Chile have also adopted the OECD investment instruments, including the non-binding guidelines (Adams, 1999).

The Business Charter for Sustainable Development of the International Chamber of Commerce (ICC) is the most well known business statement on the environment. It has been endorsed by more than 2000 companies, many of them large TNCs, and consists of a series of principles including for technology transfer and prior environmental impact assessment. The ICC Charter also requires signatories to “apply the same set of criteria regardless of location”. According to Adams (1999), while Agenda 21 covers the role of business in the broader community, the ICC Charter tends to focus more on the internal activities of the firms.

Other well known initiatives are the chemical industry’s Responsible Care Program, which was developed by the Chemical Manufacturer’s Association (CMA)^{23,24}, the International Council on Metals and the Environment (ICME) Environmental Charter and the Japanese industry association Keidanren’s Global Environment Charter, which requires members to “make environmental protection a priority at overseas sites” and to “apply Japanese standards concerning the management of harmful substances”. The former is the only voluntary code which is specifically geared towards the operations of firms with FDI.

It has been argued that, from a corporate point of view, several kinds of benefit may arise from the adoption of voluntary environmental codes of conduct. For instance, reputation may be enhanced by creating an environmentally responsible image. Besides, as suggested before, better environmental performance can often be synonymous with improved quality control of final products, improved plant operating efficiency with less resource use and less waste, leading to increased profitability, in line with the arguments of “resource productivity” or “eco-efficiency” advocates (Adams, 1999).

Nonetheless, Adams (1999) admits that often no implementation procedures exist in these codes, giving place to skepticism about their efficacy. Besides, as most codes deal only with good environmental management, nothing is known about actual environmental performance. In the case of industry codes, there are no peer pressures to deal with non-compliance. In this regard, it has been said that an industry association needs to work for all its members, so it will not want to criticize laggards and will tend to adopt the lowest common denominator approach (Gunningham, quoted in Adams, 1999).

In turn, Zarsky (1999c) argues that there is little information about whether codes target the most significant environmental issues or whether TNCs comply with their own codes. Available evidence points out that the likelihood of compliance depends on the specificity of the issues and the inclusion of compliance mechanisms in the codes. Since

23. There are currently 42 countries whose chemical associations have adhered to this initiative.

24. It has been stated that the combination of a robust regulatory infrastructure and strong industry voluntary environmental guidelines has resulted in that Responsible Care’s environmental standards are higher than those required for ISO 14001 certification (US-AEP, 1998). According to Adams (1999), the Responsible Care program is the most sophisticated and advanced voluntary approach to environmental matters in a particular industry.

most codes state very general commitments and do not have compliance mechanisms, Zarsky suggests that compliance is low.

Another problem with codes of conduct (which applies also to standards such as ISO 14000 -see below-), is that most companies and some government departments support them for reasons of flexibility and efficiency. Furthermore, many companies adopt them as a means to gain market share or competitiveness. In this light, environmental groups have serious concerns about their effectiveness in protecting the environment. In turn, the effectiveness of these initiatives *vis a vis* traditional regulations is not clear, since many studies found that, *per se*, voluntary approaches only reach marginal results (Kerr *et al*, 1998).

In this light, many companies have begun to adopt the practice of corporate environmental reporting²⁵. These reports often include performance targets in various environmental indicators, which gives room for measuring and monitoring of environmental performance. This information, besides, is available to the public. A survey found that independent verification of these reports was performed by 28 per cent of the companies involved in this practice (Adams, 1999). Furthermore, some leading companies and international organizations, such as the World Council for Sustainable Development (WBCSD), are attempting to include not only environmental but also social performance indicators in their reports and codes of conduct (this is the case, for instance, of the so-called Corporate Social Responsibility project of the WBCSD). According to Adams (1999), stakeholder engagement in the process of setting, monitoring and continuously improving the performance indicators included in these reports is crucial for making these efforts credible and reliable.

c. The international environmental management standard system

In light of the fact that a growing number of companies worldwide adopted their own environmental management systems, it was felt that some kind of guidelines to avoid the proliferation of different regional and national systems were needed (UNCTAD, 1997). Consequently, the British BS 7750 was created in 1992, followed by the EMAS (European Union Eco-Management and Audit Scheme) in 1993. Based heavily on the BS 7750, the ISO 14000 series were adopted in 1996 and published in 1997.

According to Von Moltke and Kuik (1998), EMAS is generally more demanding than ISO 14000, whereas ISO 14000 covers a broader spectrum of issues, including eco-labelling (which is covered by a separate EU Regulation) or life cycle analysis.

25. Currently there are many TNCs that produce annual environmental reports, though their content and format varies widely from firm to firm. Despite the growth of reporting firms, the overall numbers are still small (for example, of the approximately 2000 companies that have signed the ICC Business Charter for Sustainable Development, less than 10% have produced environmental reports, though the Charter encourages such reporting. Besides, a number of organizations have created initiatives to promote voluntary corporate reporting along stated guidelines. For example, the U.S. based Coalition for Environmentally Responsible Economies (CERES) has created a Global Reporting Initiative (GRI) with the goal to design globally applicable guidelines for preparing corporate sustainability reports, and to elevate such reporting to the level of general acceptance now accorded to financial reporting (Savage *et al*, 1999).

Another contrast between the two systems derives from the fact that ISO 14000 has been developed by the International Organization for Standardization (ISO), an association of national standard-setting organizations, whose practical work of ISO is undertaken in a committee structure dominated by representatives of larger corporations. In turn, EMAS has been developed through the institutional structure of the EU, which involves significantly more participation by official government agencies. Nonetheless, the negotiations and practical work on EMAS remains relatively closed and unaccountable; therefore, it may be subject to lobbying pressures by organized interests (Von Moltke and Kuik, 1998).

Both systems set process but not environmental performance standards, though ISO 14000 requires compliance with domestic laws. They also include the management structure to ensure that the environmental goals are actually implemented as well as a process of external auditing to verify results. Nonetheless, the ISO 14000 has been criticized for lacking requirements on performance improvement and for the absence of a provision geared to disclose performance information to the public (Savage *et al*, 1999). Moreover, Zarsky (1999c) argues that there is little evidence regarding the efficacy of the ISO approach and that ISO certification provides no guarantee of an actual and continuous improvement in reducing environmental impact. The lack of a sectoral approach has also been criticized (UNCTAD, 1997).

Though neither EMAS nor ISO 14000 have been widely adopted yet, they are supposed to become an important condition for competing in OECD markets. In this sense, it has been argued that large corporations involved in complex product chains are likely to require the respect of the appropriate standards by all of their suppliers. Government procurement may also move towards requiring these standards (Von Moltke and Kuik, 1998).

Nonetheless, a recent survey argues that ISO 14001 is not currently a supplier condition for U.S.-based TNCs, and that only a minority of global firms are exploring ISO 14001 as a supplier condition. Even though TNCs in sectors such as automobile, electronics, and computers, firms are requiring their suppliers to fulfill certain environmental exigencies, it has been argued that those exigencies are mainly associated with compliance and risk-reduction tools rather than with ISO 14000. Besides, most global firms have environmental management systems in place that they consider to be more advanced than ISO 14000, even if some firms are finding value in certain aspects of ISO 14000 (audit criteria, documentation control, etc.). In this way, certification to ISO 14001 may not be as important as it was for ISO 9000 (US-AEP, 1998).

Furthermore, it has been stated that if ISO 14000 becomes a market condition, its voluntary characteristics could be replaced by a "race for certification". This would have the undesirable consequence that national standard-setting bodies, particularly those in developing countries, would be under pressure to minimize the barriers to certification,

thereby eroding the value and the utility of the ISO standard as a tool for better global environmental management.

As said before, it has been suggested that both ISO 14000 and EMAS may impose on developing countries additional costs to their producers and therefore affect their competitiveness. In the case of the ISO standards, the associated costs of certification are considerably higher for firms in developing countries than for their competitors in the industrialized world, since:

- ISO 14000 describes a management systems in tune with those employed in developed countries;
- developing countries firms may face higher costs of collecting information of the set of applicable laws and regulations;
- while environmental assessments are increasingly routine in developed countries, this is not the case in developing countries (UNCTAD, 1997).

Besides, it has been stated that environmental management standards may force developing countries firms to choose between competition in those markets where non-price factors prevail or to stay confined to price-based competition segments, which are less attractive in terms of demand and profits (UNCTAD 1994, 1995b).

Another problem is that the international value of ISO 14000 certification depends on the confidence that others have in the body that performs the certification. In this sense, even if non-acceptance is small, there are many such cases reported in developing countries. Thus, since the costs of certification in developing countries are lower when local registrars are involved, it has been suggested that mutual recognition of certification systems could be useful as a means to avoid that ISO 14000 series become barriers to trade (UNCTAD, 1997). Moreover, it has been suggested that creating an appropriate infrastructure for participation in ISO 14000 could help attracting FDI (UNCTAD, 1997).

In any case, in order for ISO 14000 to work well internationally, there is a need to facilitate mutual recognition, equivalence in approaches and global guidelines, and to improve transparency and accessibility of environmental standards. Efforts for capacity-building will also be required, especially in small and medium size companies and in developing countries (Kerr *et al*, 1998).

IV. Environmental issues in international investment agreements

One of the most controversial issues during the Multilateral Agreement on Investment (MAI) debates was that related to the environment. Negotiations on the MAI were launched in May 1995, with the objective to set "high standards" for the treatment

and protection of investments. Even if MAI was negotiated among OECD countries, it was conceived as an open agreement, and it was expected that many developing countries joined the agreement.

Given the often fierce opposition raised by the MAI in developing as well as in developed countries, and the lack of agreement among OECD delegations around key issues of the treaty, negotiations were abandoned in April 1998. Nonetheless, it is probable that further discussions on a kind of Multilateral Framework on Investments (MFI) will be held at the WTO.

During the MAI debates, environmental NGOs contended that TNCs would be granted substantial privileges without being required to operate in an environmentally or socially responsible manner. In fact, many of these NGOs also opposed to other features of the MAI, adopting a highly TNC critical stance (see, for example, Friends of the Earth, 1998²⁶). In turn, MAI supporters have stated that the critical attitude expressed by environmental NGOs was based on the assumption that FDI is, by itself, harmful for the environment. They also argue that even if the MAI did not include new environmental standards, it preserved the governments right to introduce regulations on this field on a non-discriminatory basis (Witherell, 1998).

The issue of environmental protection arose in at least three forms in the MAI negotiations: In the preamble to the Agreement; in the OECD Guidelines that, according to some proposals, were to be associated with the MAI; and in one substantive provision of the Agreement itself, which would deal with the possible lowering of environmental standards by contracting parties²⁷. Nonetheless, disagreements arose among OECD delegations regarding the environmental language to be employed in the Preamble and regarding the types of substantive provisions to be included²⁸. There were also disagreements regarding the status of the association of the Guidelines with the MAI; while some delegations wanted all MAI Contracting Parties to participate in work associated with the Guidelines, others preferred no more than a passing reference to the Guidelines in the MAI preamble. In turn, about half of the delegations wanted to include a legally binding commitment, subject to the full dispute settlement provisions of the MAI, that contracting parties would not lower standards to attract investments. Others, instead, preferred a declaratory provision only, discouraging the lowering of standards (Bridge, 1997)^{29,30}.

26. Though it will not be covered in this article, it must be noted that there is a vast literature by environmental NGOs against the MAI, which can be consulted at many Internet websites.

27. However, some observers have pointed out that "after a storm of public criticism, environmental issues made only a minor appearance" in the MAI negotiating text (Zarsky, 1999b).

28. While many delegations preferred that the preamble contained only some general statements regarding environmental issues, others wanted to include more explicit references and compromises.

29. It should be noted that the Asia Pacific Economic Cooperation (APEC) has a ban for member economies to relax health, safety and environmental regulations as incentives for FDI.

30. Esty and Pangestu (1999) have suggested that an eventual MFI could contain environmental standards for all projects funded through foreign investment: "If all investors were required to meet a common set of standards, none would be competitively disadvantaged. Similarly, if all recipients of foreign capital had to ensure that their

Environmental issues appeared also in connection with performance requirements and investment incentives. Among the exceptions proposed to the ban on performance requirements, was one related to environmental concerns, including measures deemed necessary to secure compliance with national laws and regulations, protect human, animal or plant life or health, or for the conservation of living or non-living exhaustible natural resources. However, a majority of delegations found no need for this provision, and considered that the proposed text was too broad. In turn, although it is doubtful that the MAI were to introduce mandatory provisions on investment incentives (see Chudnovsky and López, 1999), even those countries which wanted to include disciplines on this issue acknowledged that incentives could be relevant in certain circumstances, such as in the promotion of regional, social, environmental and R&D objectives.

Concerns were also expressed regarding the compatibility of the MAI with existing multilateral environmental agreements (MEAs). A work by OECD (1998), found that there were no legal incompatibilities between the MAI and existing MEAs, primarily because no MEA to date has sought to impose investment related sanctions or measures, and the obligations established by MEAs do not require for implementation which would clearly conflict with MAI obligations. However, the document stated that this finding does not necessarily dispose of all concerns about potential inter-relationships between the MAI and MEAs.

It is also important to note that the concerns of developing countries were very different from those of developed countries NGOs or governments. This is reflected in the proposal made by one delegation intending that environmental measures were not used to restrict investment outflows, with the effect that potential host countries might feel pressured to adopt the environmental standards of foreign investors' home countries. Developing countries were generally against the signing of a MAI (see Chudnovsky and Lopez, for a review of their arguments)³¹. Some of the concerns expressed by developing countries regarding the MAI were related with environmental issues. In this sense, Ganesan (1998) has argued that developing countries need to preserve their rights over their biological wealth and resources, which could be diluted by national treatment obligations. In the same vein, Opschoor (1999) argues that MAI could have allowed foreign investors to appropriate rents on natural resources of developing countries and to put pressure on national governments to much more rapidly sell out these resources than is compatible with sustainable development.

In fact, even if the environmental issues were one of the features of the MAI which gave more room for heated public debates, negotiations were suspended not only

development projects contained basic pollution abatement elements, the competition for foreign investment would not be affected. At the very least, controls on transboundary pollution spillovers should be built into all FDI-funded projects³¹.

31. Nonetheless, it must be considered that not all the developing countries were to take a MAI critical stance. In fact, five non-OECD countries -Argentina, Brazil, Chile, Hong Kong, and the Slovak Republic- joined the negotiations as "observers", and expressed their intention to join the MAI. Estonia, Latvia and Lithuania were also interested in signing the MAI.

because of disagreements on this issue, but also because of serious dissents regarding many other key issues. In this light, it must be acknowledged that trusting in an eventual MFI as a way to introduce some kind of regulations on environmental issues at the international level seems to be a risky option, since no guarantee exists that such an MFI is going to be signed in the near future.

Nonetheless, it is plausible to assume that regional agreements such as NAFTA, MERCOSUR, APEC, or the eventual Free Trade Agreement of the Americas (FTAA) will increasingly include environmental issues related with trade and investments³². In turn, the compromises reached in these agreements could set the basis for broader arrangements at the international level.

32. Even important environmental issues have been negotiated within NAFTA, significant tensions still remain and there is considerable debate on how to improve the working of the agreement in this issue.

V. A Research agenda

Due to the fact that most non-mandatory approaches towards corporate international environmental performance have been adopted very recently, little is known regarding their effectiveness. This implies not only that relatively few related empirical studies are available, but also that we cannot make a definitive judgement about instruments which have, to date, a very short history.

In this scenario, there is an obvious need to make in-depth studies about corporate self-regulation, codes of conduct, voluntary reporting, standards, etc. These studies should help us to learn more about the diffusion of those instruments, the reasons that lead firms to adopt them, etc. The findings of these studies should, in turn, be useful to improve the functioning of the different existing approaches. Besides, studies of different kind of non-mandatory approaches employing compatible methodologies would allow comparing their respective effectiveness, and thus helping firms, policy makers and stakeholders groups to better evaluate the available options in this field.

One of the key issues where studies are most needed is related with the measurement of environmental performance. As many analysts have observed, it is not possible to assume that the adoption of environmentally friendly practices and corporate policies guarantees, *per se*, a better environmental performance or compliance with host countries environmental regulations. In this light, it must be taken into account that data about environmental performance are usually difficult to collect, specially in developing countries. This fact should call for concerted actions geared towards the creation of data collection systems related to the environmental performance at the firm level. This is especially important since if nothing is known about the impact of those systems on actual environmental performance of the firms which adopt them, justified skepticism of environmental NGOs and citizens will persist. The objective, thus, should be to have studies in which a connection between the adoption of voluntary environmental management systems and the environmental performance of adopting firms may be made.

The same kind of studies is needed in relation to the firms who take part of the "value chains" which are formed around TNC affiliates. There is a need to know if the adoption of the TNC approaches examined in this paper may exert pressure on suppliers and customers (and also on their competitors) not only to adopt similar practices, but more importantly, to improve their environmental performance.

It is important that empirical work on the functioning of these voluntary instruments might be undertaken not only in TNCs headquarters or home countries, but also in their developing countries affiliates. This may help to have a more accurate evaluation about the real extent and effectiveness of those instruments, and specially to learn, what kind of spillovers do those instruments generate in terms of improving environmental behavior of TNC's suppliers, customers and competitors.

Furthermore, as most of the received literature agrees that purely voluntary schemes are not sufficient to ensure the adequacy and continuous improvement of environmental performance, regulations are still needed. Besides research on the design of national regulations (for instance, the debate on "command and control" versus "market-based" instruments), there is a need to explore the possibilities of finding a way to introduce environmental issues within the framework of international negotiations on investment flows. From the point of view of developing countries, the discussion of an MFI or any other kind of international agreement related with investments involves much more than the environment protection. Nonetheless, this should be one of the key issues in any of those arrangements and research work could help to a better design of the negotiating agenda of developing countries. The objective of this agenda should be to find a way in which the legitimate concerns regarding the state of the environment may be reconciled with the needs of developing countries, most of which need to attract investments in order to foster economic and social development.

In balance, more knowledge on these issues should help to design better policy frameworks, at national as well as at the international level, and to learn more about best practices in environmental management systems at the firm level. This could help to limit the possibility of the existence of "pollution havens", "environmental refugees" or "environmental races to the bottom" in developing countries, while preserving these countries ability to pursue economic and social objectives.

References

- Adams, J. (1997), "Environmental Policy and Competitiveness in a Globalised Economy: Conceptual Issues and a Review of the Empirical Evidence", paper prepared for a Workshop on Economic Globalisation and Environment, OECD, Vienna, January.
- Adams, J. (1999), "Foreign Direct Investment and the Environment: the Role of Voluntary Corporate Environmental Management", paper presented to OECD conference on Foreign Direct Investment and the Environment, OECD, Paris, January.
- Bridge, Ch. (1999), "The OECD Guidelines and the MAI", Proceedings of the Special Session on the Multilateral Agreement on Investment held in Paris on 17 September 1997, OECD, Paris.
- Chudnovsky, D. and M. Chidiak (1995), "Competitiveness and Environment in the Argentine Industry", prepared for the UNCTAD/CENIT project "International Trade and Environment: The Argentine Case", draft, CENIT, Buenos Aires.
- Chudnovsky, D. and A. López (1999), "Policy competition for Foreign Direct Investment. The global and regional dimensions", Study prepared for the Latin American Trade Network, Buenos Aires.
- Chudnovsky, D., S. Rubin, E. Cap and E. Trigo (1999), "Desarrollo Sustentable y Comercio Internacional", en "Comercio internacional y desarrollo sustentable. La expansión de las exportaciones argentinas en los años 1990 y sus consecuencias ambientales", CENIT, DT N° 25, Buenos Aires.
- Dunning, J. (1988), "Trade, location of economic activity and the multinational enterprise: a search for an eclectic approach", in J. Dunning., Explaining International Production, Unwin Hyman, London.
- Eriksen, J. and M. Hansen (1999), "Environmental aspects of Danish direct investment: managing the environment in an open economy", Occasional paper N° 2, Copenhagen Business School, Copenhagen.
- Eskeland, G. and A. Harrison (1997), "Moving to greener pastures? Multinationals and the pollution haven hypothesis", mimeo, World Bank, Washington D.C.
- Esty, D. and B. Gentry (1997), "Foreign Investment, Globalisation and Environment", in T. Jones (ed.), Globalisation and Environment, OECD, Paris.
- Esty, D. and M. Pangestu (1999), "Globalization and The Environment in Asia", paper presented at the conference The Outlook for Environmentally Sound Development Policies, United-States-Asia Environmental Partnership, Manila, August.
- Friends of The Earth (1998), License to Loot. The MAI and How to Stop it, Washington D.C.
- Ganesan, A. V. (1998), "Developing countries and a possible multilateral framework on investment: strategic options", Transnational Corporations, Vol. 7, N° 2, August.

- Garrod, B. (1997), "Business Strategies, Globalisation and the Environment", paper prepared for a Workshop on Economic Globalisation and Environment, OECD, Vienna, January.
- Gentry, B. (ed.) (1998), Private Capital Flows and the Environment: Lessons from Latin America, Edward Elgar.
- Goldenman, G. (1999), "The Environmental Implications of Foreign Direct Investment: Policy and Institutional Issues", paper presented to OECD conference on Foreign Direct Investment and the Environment, OECD, Paris, January.
- Gunningham, N. (n.d.), "Environment, Self-Regulation and the Chemical Industry: Assessing Responsible Care", Australian Centre for Environmental Law, Australian National University.
- Hansen, M. (1999), "Cross border environmental management in transnational corporations. An analytical framework", Occasional paper N° 5, Copenhagen Business School, Copenhagen.
- Husted, B. and E. Rodriguez Oreggia y Román (1998), "Políticas públicas e inversiones ambientales de transnacionales en México", Comercio Exterior, México, December.
- Jaffe, A. B, S. R. Peterson, P. R. Portney and R. N. Stavins (1995), "Environmental Regulation and the Competitiveness of U.S. Manufacturing: What does the Evidence Tell Us?", Journal of Economic Literature, Vol. 33.
- Jha, V. and A. P. Teixeira (1994), "Are Environmentally sound technologies the emperor's new clothes?", Discussion Papers N° 89, UNCTAD, Geneva.
- Kerr, R., A. Cosbey and R. Yachnin (1998), "Beyond Regulation. Exporters and Voluntary Environmental Measures", International Institute for Sustainable Development (IISD)-Canadian Technology Advancement Corporation-West, IISD, Winnipeg.
- Kobrin, S. J. (1988), "Strategic integration in fragmented environments...", in N. Hood and J. E. Vahlne (ed), Strategies in Global Competition, Croom Helm, London.
- Kolodner, E. (1994). "Transnational corporations: impediments or catalysts of social development?", Occasional Paper No. 5, World Summit for Social Development, United Nations Research Institute Social Development.
- Krutt, 1999
- OECD (1997), "Foreign direct investment and the environment: an overview of the literature", mimeo, prepared for the Negotiating Group on the Multilateral Agreement on Investment.
- OECD (1998), "Relationships between the MAI and Selected Multilateral Environmental Agreements (MEAs)", Paris.
- OECD (1999), "Codes of corporate conduct: an inventory", Working Party of the Trade Committee, OECD, Paris.
- Office of Technology Assessment -OTA- (1994), Industry, Technology and the Environment: Competitive Challenges and Business Opportunities, Congress of the United States, Washington D.C.

- Oman, C. (1999), "Policy competition and Foreign Direct Investment", draft, OECD Development Centre, Paris.
- Opschoor, J. (1999), "Multilateral Agreements on Investment and the Environment", paper presented to OECD conference on Foreign Direct Investment and the Environment, OECD, Paris, January.
- Porter, M. and C. van der Linde (1995a), "Toward a New Conception of the Environment-Competitiveness Relationship", Journal of Economics Perspectives, Vol.9, N° 4.
- Porter, M. and C. van der Linde (1995b), "Green and Competitive", Harvard Business Review, September-October.
- Savage, D. *et al* (1999), "Industrial Environmental Performance Measurement & Disclosure: Information for a Clean Revolution in Southeast Asia", paper presented at the conference The Outlook for Environmentally Sound Development Policies, United-States-Asia Environmental Partnership, Manila, August.
- UNCTAD (1994), "International Cooperation on Eco-labelling and Eco-Certification Programmes and Market Opportunities for Environmentally Friendly Products", Trade and Development Board, Ginebra.
- UNCTAD (1995a), "Effects of environmental policies, standards and regulations on market access and competitiveness, with special reference to developing countries, including with least developed among them, and in the light of UNCTAD empirical studies", Ad Hoc Working Group on Trade, Environment and Development, Second Session, Trade and Development Board, Geneva, June.
- UNCTAD (1995b), "Trade, Environment and Development Aspects of Establishing and Operating Eco-labelling Programmes", Trade and Development Board, Ginebra.
- UNCTAD (1997), "Environmental Management Standards, particularly the ISO 14000 Series: Trade and Investment Impacts on Developing Countries", Expert Meeting on Trade and Investment Impacts of Environmental Management Standards, particularly the ISO 14000 Series, on Developing Countries, Trade and Development Board, Geneva, October.
- UNIDO (1995); "Environmental policies and industrial competitiveness: are they compatible?", Background Paper, Global Forum on Industry, New Delhi, October.
- U.S.-AEP (1999), "Global Environmental Management. Candid Views of Fortune 500 Companies", United States-Asia Environmental Partnership.
- Von Moltke, K. and O. Kuik (1998), "Global Product Chains: Northern Consumers, Southern Producers, And Sustainability", Prepared for the United Nations Environment Programme, Amsterdam.
- Witherell, W. (1998), "Environment and Labour in the MAI", Speaking Notes from the Press Seminar, OECD, Paris, March.
- Zarsky, L. (1999a), "Havens, halos and spaghetti: Untangling the evidence about FDI and the environment", paper presented to OECD conference on Foreign Direct Investment and the Environment, OECD, Paris, January.

Zarsky, L. (1999b), "International Investment Rules and the Environment: Stuck in the Mud?", *In Focus*, Vol. 4, N° 22, August.

Zarsky, L. (1999c), "Civil society and clean shared growth in Asia: towards a stakeholder model of environmental governance", paper presented at the conference The Outlook for Environmentally Sound Development Policies, U.S.-AEP, Manila, August.