

CEPAL (1635)

FOR PARTICIPANTS ONLY

January 1997



**Fourth Expert Group Meeting on Financial Issues
of Agenda 21**

Organized by the Department for Policy Coordination and Sustainable Development of the United Nations (DPCSD) together with the Economic Commission for Latin America and the Caribbean (ECLAC) and the Interamerican Development Bank (IDB) and co-sponsored by the Governments of The Netherlands and Chile

Santiago, Chile, 8 to 10 January 1997

**THE ROLE OF FOREIGN PRIVATE CAPITAL FLOWS
IN SUSTAINABLE DEVELOPMENT ***

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THE ROLE OF FOREIGN PRIVATE CAPITAL FLOWS IN SUSTAINABLE DEVELOPMENT

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EXECUTIVE SUMMARY

This paper focuses on linkages between foreign capital flows to developing countries and sustainable development in the host economies. The purpose of the paper is to present an analytic framework for assessing the contribution of those flows to sustainable development and to present a set of policy guidelines for improving that contribution. Although the paper considers diverse types of foreign capital flows, it emphasizes foreign direct investment (FDI) flows in particular. This emphasis is appropriate because of the distinctive potential contributions of FDI to sustainable development through various channels including technology transfer. Given the widespread changes in policies toward FDI in host countries in recent years and the emergence of FDI as the most significant and stable source of external finance, the potential effects of FDI on economic growth, poverty alleviation, and environmental quality have become increasingly important.

Private international capital flows to developing countries have increased dramatically during the 1990s while official development finance has remained at relatively low levels. Private FDI flows in particular have increased steadily and significantly in the past decade, reaching approximately US\$ 100 billion per year and becoming the single largest source of development finance. The large FDI flows to the developing world appear sustainable as firms continue to globalize their production processes and as governments pursue policies to liberalize their trade and investment regimes. However, FDI in developing countries remains highly concentrated: about 80 percent of FDI flows are in only twelve countries, with China leading the list.

Issues concerning the assessment and improvement of the contributions of FDI to sustainable development are therefore increasingly important, particularly in those developing countries where inward FDI is concentrated. Because of the international environmental effects of FDI projects, including air and water pollution, outside the countries where the projects are located, it is also important that other governments and international agencies recognize the stakes of the international community generally in the environmental consequences of FDI. Further, the fact that parent firms located in home countries have a degree of control over the projects of their foreign affiliated firms in host countries inevitably adds an international dimension to issues of responsibility about the environmental consequences of FDI projects.

* The findings, interpretations, and conclusions presented in this paper are solely those of the authors and should not be attributed to the institutions with which they are affiliated.

The paper presents an analytic framework for the assessment of the effects of FDI on sustainable development by way of the transfer of technology and management know-how, expansion of markets and employment opportunities, among other concomitant benefits. These benefits of FDI are considered within the broad context of a notion of sustainable development that includes a concern with environmental quality and human capital as well as the effects of FDI on economic growth. In addition, the paper specifically addresses issues concerning costs and risks associated with FDI. It thus considers a variety of plausible hypotheses about both beneficial and detrimental consequences of FDI for sustainable development.

Cross-country experience and empirical evidence are reviewed to ascertain the actual impact of FDI on sustainable development. In considering this evidence, it is important to recognize that the contributions of FDI to sustainable development occur through many other channels besides the provision of financial capital. In particular, transfers of environmental protection technology as part of the bundle of goods and services that accompany FDI projects can make significant contributions to sustainable development. Further, although the causal relationship between FDI and economic growth is often interactive, the two are positively correlated empirically. When assessing the effects of FDI on the environment, industry-specific patterns and trends need to be taken into account – the fact that there has been a shift away from FDI in extractive industries and toward FDI in services.

The effects of FDI on sustainable development depend on government policies as well as corporate practices. The trend of the liberalization of trade policies – as well as investment policies – in many developing countries should continue to lead to increases in FDI flows and also increase their potential contributions to sustainable development. The liberalization of trade policies is particularly important because FDI projects that are based on protectionist import-substitution policies can be counterproductive in their economic growth effects. At the same time, any tendencies on the part of transnational corporations (TNCs) to circumvent environmental protection regulations by shifting the location of production internationally needs to be monitored. Strong competition policies also need to be in place to counter any monopolistic structural or behavioral tendencies by TNCs. In addition to such host country policies, the policies of home countries are important, for instance in screening outward FDI projects for their environmental effects when they receive political risk insurance through national agencies.

At the multilateral level, the World Bank Group activities, including those of the International Finance Corporation (IFC) and Multilateral Investment Guarantee Agency (MIGA) as well as the lending operations of the IBRD and IDA, along with supporting research work and policy dialogues, have all begun to take into account much more consistently the environmental effects of projects. Among U.N. agencies, the analytical work on environmental practices, technology transfer policies, employment practices of TNCs by UNCTAD can increase understanding of the linkages between FDI and sustainable development. At the World Trade Organization (WTO), the increasing interest in expanding the agreements from the Uruguay Round to provide more encompassing rules concerning investment—in combination with greater sensitivity to the environmental issues associated with both investment and trade—may also enhance the contributions of FDI to sustainable development.

I. Introduction

This paper assesses the contribution of foreign capital flows to sustainable development, and it presents policy guidelines for improving that contribution. The paper emphasizes foreign direct investment (FDI) flows in particular because of the distinctive contributions of FDI to sustainable development. Such an assessment is especially timely because of the many changes in policies toward FDI in host countries in recent years and because FDI has become a significant and stable source of external finance.

The significant recent increases in the importance of FDI worldwide and in many individual developing countries are well known and easily documented—whether measured in terms of the absolute amounts of flows or in relative terms as ratios to GNP, capital formation or trade. However, it is not merely the increases in FDI flows, as recorded in balance of payments accounts, that makes FDI a potentially significant contributor to sustainable development. There is typically a diverse array of international transfers of goods, services, technology and people that accompany the FDI projects of transnational corporations (TNCs).¹ It is precisely the nature and the diversity of these ancillary international flows that make FDI distinctive in terms of its potential contributions to economic growth and sustainable development. However, “the channels that transmit growth-inducing factors can also transmit growth-inhibiting factors. For example, TNCs can act monopolistically within host economies, and production techniques introduced by TNCs can have negative environmental impacts”²

This paper, therefore, considers the potentially negative effects of FDI on sustainable development as well as the positive effects. It reviews evidence on this issue, and it presents a simple analytic framework for understanding the numerous and diverse linkages between FDI and the several elements of sustainable development. It also considers the effects of public policies and suggests ways that such policies can improve the contribution of FDI to sustainable development. Before turning to those concerns, however, the paper first briefly presents data on FDI flows and other types of financial flows to developing countries in order to document the basic trends and patterns in foreign capital flows that have become evident during the 1990s.

II. International Capital Flows: Trends and Prospects

The early 1990s saw a dramatic surge in private capital flows to developing countries. Net long-term flows nearly quadrupled between 1990 and 1993, amounting to about US\$150 billion in 1993. Although there was a sharp slowdown in the growth of private capital flows in 1994 and early 1995, following the rise in global interest rates and the Mexico crisis, private

¹ It should further be noted that many of the economic activities associated with FDI projects are not revealed at all, indirectly or directly, in balance of payments data, because the transactions do not transcend national boundaries. Thus, for many purposes it is data on the activities of foreign-owned firms (FOFs), rather than balance of payments (BOP) statistics, that are the most relevant. However, since separate aggregate data on FOFs do not exist for most economies, including developing economies in particular, this paper necessarily relies on BOP data.

² UNCTAD-DTCI, 1996, p. 99.

capital flows further increased to US\$182 billion in 1995 (Table 1). In 1996, the rapid growth of private capital flows appears to have resumed, thanks to the buoyant commercial bank lending and international bond issues, to exceed US\$200 billion for the first time, and to account for more than 80 percent of the aggregate resource flows to developing countries.

Table 1 Aggregate net long-term resource flows to developing countries, 1990-1996
(US\$ billions)

	1990	1991	1992	1993	1994	1995	1996 ^a
Aggregate net resource flows	100.4	122.9	148.4	211.8	205.0	238.7	278.2
Official development finance	56.5	65.8	55.7	54.5	52.2	56.8	43.8
Official grants	29.4	37.5	31.9	29.4	32.5	32.9	30.7
Official loans	27.1	28.3	23.7	25.1	19.8	23.8	13.0
Bilateral	11.6	13.3	11.3	10.3	9.3	12.6	-2.5
Multilateral	15.5	15.0	12.4	14.8	10.5	11.2	15.5
Total private flows	43.9	57.1	92.7	157.3	152.8	181.9	234.4
Private debt flows	16.5	16.1	35.8	44.7	40.7	58.0	95.5
Commercial banks	1.4	2.3	10.4	-1.6	8.6	33.8	42.5
Bonds	2.3	10.1	9.9	35.8	28.6	26.6	47.6
Others	12.8	3.7	15.5	10.5	3.5	-2.4	5.4
Foreign direct investment	24.2	33.8	45.9	67.7	79.4	91.8	93.2
Portfolio equity flows	3.2	7.2	11.0	44.9	32.7	32.1	45.7

a= Estimated

Source: World Bank Debtor Reporting System

To put this level of flows in comparative perspective, net private flows in 1981, which was the peak before the onset of the debt crisis, amounted to US\$66 billion or about 30 percent of current levels. The importance of private capital flows relative to the economies of the recipient countries has also increased significantly, from 3.7 percent of developing countries' fixed investment in 1990 to 14 percent in 1995, more than double the rate attained before the debt crisis. In parallel with the surge, there has been a noticeable shift in the composition of private flows – away from traditional bank lending to more foreign direct investment (FDI) and portfolio flows.

The long-term prospects for sustained private flows to developing countries as a whole remain promising. Although short-term variations in emerging market investment and cross-country differences will persist, the long-term structural factors that underpin upward trends in private capital flows to developing countries are expected to provide a continuous impetus for large investment flows in the private sector.

While cyclical factors have played an important role in triggering the recent surge, the structural forces driving the globalization of production and capital markets have been even more important. These factors include continuing diversification of institutional portfolios, financial innovation, technological advances, and falling transportation and communications costs.

International investors are becoming more cautious and selective, but the rapid recovery of investment after the Mexico crisis in countries with strong fundamentals suggests that investor interest in emerging markets will continue as long as the markets provide higher risk-adjusted returns and portfolio diversification opportunities. Moreover, with the improving prospects for fiscal consolidation in major industrial countries, real interest rates are likely to remain low. At the same time, the sustained growth in world trade will help drive continued large private flows--especially of FDI--to developing countries.

On the recipient side, sound economic fundamentals in developing countries are set to pull investors in. The two main determinants drawing private capital flows--improved creditworthiness and increased financial integration--are expected to spread to more developing countries. Most private capital flows have gone to countries whose progress on macroeconomic stabilization and structural and financial sector reforms has been greatest--and whose gains in creditworthiness and expected rate of return have therefore been greater. Privatization programs, especially in transition economies, are likely to help attract larger foreign investment flows. Further improvement in business climate and growth prospects of developing countries will be conditional on sustained reforms. On the source side, institutional investors are leading the way in portfolio flows. In industrial countries, the reinforcing process of demographic changes, deregulation, and financial innovations results in an increasing proportion of household savings to be channeled through institutional investors. At the same time, the renewed commercial banking flows is facilitated by the improving financial situation at major international banks and the greater scope for project financing activities (especially in infrastructure projects), often with the participation of export credit agencies.

The globalization of production and an increasingly liberal trade regime foster FDI--the single most significant and stable component of private flows. The favorable prospects for the growth and long-term sustainability of FDI flows to developing countries are supported by the continued globalization of corporate production, a major factor underpinning FDI flows. Technological advances and declining transportation and communications costs allow firms to divide production processes into discrete activities that can be transferred to locations that offer the greatest cost and efficiency gains. Trade integration will also lead to a continued growth in FDI--from industrial countries to developing countries and increasingly among developing countries. Although capital repatriation from mature equity investments may limit the growth of net FDI, sustained economic growth and increasing export orientation in many developing countries are likely to boost FDI inflows. And the expanded scope for investment in recently opened industries and privatized services (e.g., infrastructure) will further support the growth of FDI flows to developing countries.

Nevertheless, private capital flows to developing countries remain heavily concentrated in a handful of mostly middle-income countries. The top twelve recipients account for three quarters of total private flows, and about 80 percent of FDI flows. An uneven regional distribution of investment flows also persists: East Asia has emerged as the dominant region attracting 60 percent of total private flows to the developing world, compared to only 10 percent directed towards Middle East/North Africa, Sub-Saharan Africa, and South Asia regions

combined. Low-income countries (excluding China) also fare poorly in terms of FDI inflows as a percentage of their GNP, estimated at roughly half that of middle-income countries (Table 2).

Table 2 Net foreign investment as a ratio of GNP, 1990-1996
(percentage)

	1990	1991	1992	1993	1994	1995	1996 ^a
ALL DEVELOPING COUNTRIES	0.6	0.8	1.0	1.4	1.6	1.7	1.4
Sub-Saharan Africa	0.3	0.7	0.5	0.6	1.1	0.7	0.8
East Asia and Pacific	1.2	1.4	2.0	3.2	3.2	3.3	2.7
South Asia	0.1	0.1	0.2	0.2	0.3	0.5	0.8
Europe & Central Asia	0.1	0.3	0.5	0.7	0.8	1.2	0.6
Latin America	0.7	1.2	1.2	1.2	1.4	1.3	1.5
North Africa & Middle East	0.6	0.4	0.4	0.8	0.7	0.4	0.4
By Income Group:							
Low-Income countries	0.6	0.7	1.4	3.2	3.5	3.2	2.5
Middle-Income Countries	0.5	0.8	0.9	1.0	1.0	1.2	1.1
<i>Memo:</i>							
Low-Income countries excluding China	0.3	0.3	0.4	0.5	0.7	0.8	0.6

a=Estimated

Source: World Bank DRS data.

The growth of FDI flows to developing economies in the past decade brought with it a substantial accumulation of FDI stock (Table 3). And the potential benefits of FDI, compared with other forms of capital flows, as perceived by host countries have also increased further in the aftermath of Mexico crisis, which was at least in part triggered by the volatile short-term portfolio flows (World Bank's *World Debt Tables*, 1996, pp. 17-19). The increases in FDI in developing countries during the 1990s have occurred in the context of total worldwide increases in FDI, and a significant amount of the FDI has of course gone to one developing country, China. Yet, the steady increases to all other developing countries are also evident in that table.

Table 3 Inward flows and stocks in host countries
(US\$ billions)

	1984-1989 (avg.)	Flows					Stocks	
		1990	1991	1992	1993	1994	1995	1995
World	115	204	158	168	208	226	315	2,658
Developed Countries	93	170	114	114	129	133	203	1,933
Developing Countries	22	34	41	50	73	87	100	693
*China	1	3	4	11	28	34	38	129
All Others	20	30	37	39	46	53	62	564

*The data for developing countries in this table exceed those in Table 1, due mainly to a broader definition of developing economies used in Table 2.

Source: United Nations Conference on Trade and Development, Division on Transnational Corporations and Investment, *World Investment Report, 1996*, Annex Table 1, pp. 227-231 (for flows), and Table 3, pp. 239-243 (for stocks).

Overall, then, the absolute amounts of FDI inflows in developing countries have been increasing during the 1990s, and they have become more important relative to other types of capital flows as well. Although these data are useful as approximate indicators of patterns and trends in foreign capital flows to developing countries, they are not by themselves adequate for assessing their contributions to sustainable development. For that task, it is necessary to disaggregate the notion of sustainable development into its constituent parts and similarly to identify more precisely the types of international business transactions and other activities of transnational corporations (TNCs) that commonly accompany FDI projects. These and other considerations are included in the next section, which presents a simple analytic framework for assessing the contributions of FDI to sustainable development.

III. Assessing the Contribution of FDI to Sustainable Development: A Framework for Analysis and Evidence

A. Sustainable Development

The framework for analysis presented here explicitly acknowledges the interactions between economic growth and environmental quality that are at the core of the notion of sustainable development. More generally, it incorporates a variety of ecological and social objectives as well as economic objectives encompassed by the widely accepted notion of sustainable development. Thus, the following objectives are included in the notion of sustainable development underlying this paper (Serageldin, 1994, p. 2):

- Economic objectives: growth, efficiency
- Ecological objectives: ecosystem integrity, carrying capacity, biodiversity
- Social objectives: empowerment, participation, social mobility, social cohesion, cultural identity, institutional development

Further, it is important to recognize that four types of capital can be distinguished and that all four are important to sustainable development (Serageldin and Steer, 1994): *humanmade capital*, such as machines and buildings; *natural capital*, such as soil, air and water; *human capital*, such as investments in education and health; and *social capital*, such as good governance and a sense of civic community. Although traditional economic analysis of course focuses on human-made capital, analyses of sustainable development tend to focus on the other three because they have been neglected in the past in economic growth studies and policies.

B. Foreign Direct Investment and Transnational Corporations

This broad and inclusive notion of capital is particularly appropriate and useful in discussing the contributions of FDI to sustainable development because FDI entails much more than financial capital flows that are reflected in the FDI flow data reported in host countries' balance of payments accounts. The essence of FDI, in fact, is that it involves the international transfer of a package or bundle of assets of diverse types that are particularly important for the development of human capital. This is precisely what is distinctive about FDI relative to other

forms of foreign capital flows and a key reason why it is commonly considered to be potentially beneficial to sustainable development in the host economy. There are, nevertheless, many complex and contentious issues about the nature, extent and costs of the contribution of FDI to human capital in the host country—issues that are addressed below—in addition to issues about the effects of FDI on natural and social capital.

FDI is but one of several strategic alternatives that TNCs can employ for international transactions – along with trade, licensing and strategic alliances. Their choices among these alternatives are based on complex calculations about costs, revenues and risks associated with each one as they decide to undertake various kinds of international business initiatives. In many instances, however, these forms of international business transactions are not substitutes for one another, but rather complements. Thus, TNCs commonly choose a combination of FDI plus one or more of the other forms in order to accomplish their objectives for a given foreign country. Furthermore, it is important to recognize that their strategic objectives can vary across these alternatives as well as among FDI projects. Thus, common objectives associated with FDI projects include, in particular, gaining access to foreign markets, gaining access to efficient production locations or gaining access to raw materials—and increasingly in some industries, gaining access to technology (including in developing countries in some instances). As a result of these diverse objectives and types of international business transactions that may be associated with any one FDI project, it is difficult to generalize about the effects of FDI. These factors that need to be taken into account in assessing the contributions of FDI to sustainable development are represented in the simple diagram of Figure 1, which includes TNCs’ strategic alternatives as well as types of international business flows and types of capital formation for sustainable development.

Figure 1 TNCs’ Strategies, international flows of resources and capital formation in host countries

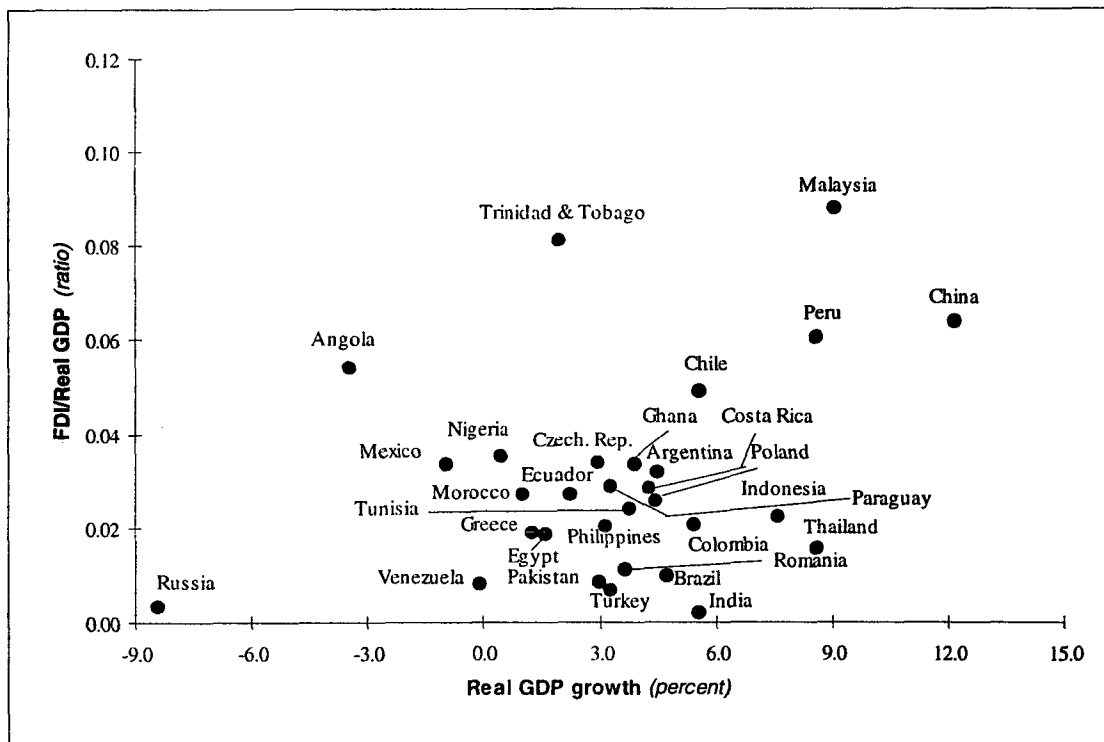
<i>TNCs’ Strategies</i>	→	<i>Flows to Host Country</i>	→	<i>Effects on Capital</i>
FDI/Subsidiaries		Funds		Humanmade
Joint Ventures		Technology		Human
Strategic alliances		People		Natural
Trade		Goods		Social
Licensing		Services		

C. Economic Impact of FDI: Cross-country Experience and Empirical Evidence

There are several methodological and conceptual issues inherent in attempts to assess empirically the economic impact of FDI in developing countries. The methodological issues concern the difficulties of specifying clear, direct causal linkages between FDI and economic growth through empirical statistical analysis because they are interactive over time, and they

exhibit variability over time and across countries in the periods of leads and lags. In any case, the scatter plot of FDI and GDP for thirty developing countries in Figure 2 reflects a positive relationship. Furthermore, there is ample evidence (based on academic research and country cases) that provides strong support for the positive role of FDI in promoting economic growth in host countries: for example, the ratio of inward FDI to total output was found to have a positive influence on growth (Blomström, Lipsey, and Zejan, 1996). Moreover, the positive growth impact of FDI flows was more significant compared with other types of external flows (Husain and Jun, 1992) and compared with domestic investment (Borenzstein, De Gregorgio, and Lee, 1994). At the same time, cross national and longitudinal empirical studies—as well as simple economic reasoning about the basis of firms’ investment decision-making in general—strongly suggest that FDI flows respond positively to recent increases in GDP and presumably to expectations of future increases. In a review of the evidence of causal linkages between FDI and economic growth in Central and Eastern Europe, in particular, the *World Investment Report* concluded that “in determining whether FDI leads or lags economic growth, individual economies, or groups of economies, have to be examined separately” (UNCTAD-DTCI, 1996, p.66).

Figure 2 FDI and host country economic growth



Note: Calculations are based on averages for 1993-1995 for the top thirty recipients of FDI in 1995
Source: World Bank, Debtor Reporting System and World Bank data.

In order to understand the contribution of FDI to economic growth, however, it is also important to disaggregate FDI and its economic effects into more specific elements. Thus, for instance, on the basis of a recent and extensive review of the theoretical and empirical literature on the effects of TNCs' activities on economic development, particularly in developing economies, Caves (1996, pp. 235) observes: "[TNCs'] effects on the LDC's rate of economic growth might seem to provide the ultimate relationship to be investigated. Unfortunately, it seems a rather ineffective focus for research....No overall theoretical prediction connects the stock of foreign investment in the LDC to the rate at which its national income grows. Even if foreign investment should have spillover effects that raise the *level* of national income, these need not (necessarily) translate into an ongoing favorable effect on the *rate* [italics added] of growth." He thus prefers -- and reviews (pp. 233-234) -- research on the more specific ways in which TNCs' activities affect host economies, including capital flows and domestic savings. He suggests that because capital flows are relatively small, because they can reduce the rate of return for domestic savers (who then save less), and because they can preempt investment opportunities for domestic entrepreneurs, it is unlikely that foreign capital inflows add to investment in the local economy dollar for dollar, and there is some empirical evidence to suggest that in fact foreign capital inflows are partially offset by reductions in domestic investment. It might also be noted that the initial balance of payments impact of FDI could be negative in some instances where the foreign-invested projects induce large imports in early phases of the product cycle and require a long gestation period, and the likely rise in profit remittances may constrain the growth of net transfers from FDI during the mature phase.

Beyond its role as a source of risk capital for investment and its effects on international funds flows, however, FDI can provide an engine for growth in many other ways -- by transferring new technology and business practice, by stimulating innovation and investment, and by securing access to international goods and capital markets. In a number of countries, FDI has been a driving force in the expansion and diversification of manufactured exports. FDI can also increase efficiency directly by producing at lower cost and indirectly by increasing competition in domestic goods and factor markets, contributing to the host country's international competitiveness over time.

Drawing from comparative cross-national data on the ratios of foreign capital flows to gross domestic capital formation in developing countries, as summarized in Table 4,³ several patterns and trends are evident. First, the ratios have been increasing for developing countries as a group during the 1990s. Second, the increase has been particularly pronounced for China, whose numbers tend to skew the means for the group of all developing countries. Third, since 1991 the ratios have been higher for developing countries than for developed countries.

³ In as much as these data include mergers and acquisitions by foreign firms, they overstate to that extent the initial contribution of FDI to physical capital formation; on the other hand, in as much as many countries' FDI data exclude reinvested earnings, these data understate to that extent the contribution of FDI projects to physical capital formation over time.

**Table 4 Ratio of inward FDI flows to gross fixed capital formation
(percentage)**

	1984-1989 (avg.)	1990	1991	1992	1993	1994
World	3.1	4.0	3.1	3.2	3.8	3.9
Developed Countries	3.9	4.9	3.3	3.1	3.5	3.3
Developing Countries	2.8	3.2	4.0	4.8	6.3	7.5
*China	1.8	2.6	3.3	7.8	20.0	24.5
All Others	3.0	3.3	4.1	4.3	4.4	5.1

*The data for China may overstate actual inflows because of outflows from China to Hong Kong which are then returned to China.

Source: UNCTAD-DTCI, *World Investment Report, 1996*, Annex Table 5, pp. 249-259.

D. FDI, Human Capital, and Technology Flows

As noted above, however, it is not capital flows *per se* that are necessarily the most important contribution of FDI to sustainable development. In particular, the effects of FDI on human capital through employment-related activities and technology transfers are of special interest. Caves (1996, pp. 227-229) finds, for instance, that the preponderance of the evidence on TNCs' activities in developing countries is that they tend to pay higher than average wages, they "invest heavily" in training, and they increase the number of local nationals that are employed in managerial and engineering positions, as projects mature. In short, the contribution of TNCs through FDI projects to human capital can be substantial.

Data on the effects of FDI and associated flows of technology, people, goods and services on natural capital and social capital are less abundant, in part because they are inherently more difficult to generate and measure. This is a methodological problem that is of course, not limited to analyzing the linkages between foreign capital flows, on the one hand, and natural capital (or social capital) on the other; it is a more encompassing problem that extends to practically any analysis concerning the relationships among humanmade capital formation and natural and social capital.

E. FDI and the Environment

There are two quite different sets of issues about linkages between FDI and the environment. One concerns the well known issues about the relationships between economic growth in general and the environment, and the other concerns issues that are uniquely about the relationships between FDI and the environment. It would of course be impossible in this short and specialized paper to make an original contribution to the former issue. However, we can note that we share the perspective presented in the *World Development Report, 1992: Development and the Environment*, that;

the adverse impact of economic growth on environmental degradation can be greatly reduced. Poor management of natural resources is already constraining development in some areas, and the growing scale of economic activity will pose serious challenges for environmental management. But rising incomes combined with sound environmental policies and institutions can form the basis for tackling both environmental and development problems. The key to growing sustainably is not to produce less but to produce differently. ... [However,] failure to address environmental challenges will reduce the capacity for long-term development (World Bank, 1992, p. 36).

Beyond agreement with these general statements about the relationship between economic growth and the environment, we also note that there is evidence that many countries have simultaneously achieved both improvement in the quality of the environment and economic growth. Indeed, for many specific forms of environmental quality such as adequate urban sanitation systems, there is a direct link with income levels. Further, there is evidence for the economically advanced countries that many forms of air pollution, for instance, declined over the two decade period from the early 1970s to the late 1980s even as their economies grew by about 80 percent; over that period, particulate emissions declined by 60 percent, sulfur oxides by 38 percent, lead emissions by as much as 85 percent in North America, and at the same time the amount of forested lands has increased (World Bank, 1992, p. 40). Yet, at the same time, there have also clearly been many ways in which environmental degradation has worsened as a result of economic growth and lax environmental protection policies.

The most relevant issues for the present paper, therefore, are whether and how FDI entails unique environmental effects. Are there environmental protection issues that are specific to FDI? Are there ways in which FDI is especially detrimental to the environment? Can FDI make any distinctive contributions to environmental protection and sustainable development? These are difficult questions, for which there is limited empirical evidence. There is of course anecdotal evidence based on specific cases of environmental degradation by FDI projects. However, there is no *a priori* reason to suppose that TNCs are consistently more inclined toward environmentally irresponsible behavior than domestic firms – or for that matter that they are consistently less inclined. An extensive UN study of the environmental effects of TNCs, for instance, observed that the involvement of TNCs in ten of the most serious environmental issues “varies from minor to major, from direct to indirect, from contributor to potential problem solver of the problem. ... [Thus], one can identify major and direct involvement of transnational corporations in the issue of managing hazardous chemical, processes and wastes but only very minor or very indirect involvement by them in issues such as desertification or species loss” (United Nations Centre on Transnational Corporations, 1985, p. 14).

There are two specific and inherently internationalized issues about the environmental consequences of TNCs’ activities that are of particular interest. One is that TNCs’ decisions about the international location of production can be influenced by differences in countries’ environmental protection policies. The other is that decisions about the activities of a TNC’s foreign affiliates are made by a parent corporation located in a different country and that

therefore the parent firm may be less sensitive about the environmental consequences of its decisions concerning the affiliate than would be a locally-owned firm in the foreign country.⁴

International Location of Production.

TNCs that engage in FDI are in a unique position to choose -- and even to change -- the location of their operations, and they therefore have the potential to decide where any environmental degradation from their production process occurs. Because TNCs can establish productive facilities in different countries through FDI, they can in effect choose which countries to pollute. They are thus free, at least in the abstract, to select countries for the locations of their production facilities on the basis of the laxity of the environmental protection policies of prospective host countries. Yet, one study concluded that "There is as yet very little evidence of any serious shifts in the international pattern of investment due to variations in national environmental policies" (United Nations Centre on Transnational Corporations, 1985, p. 47). The attractiveness of the local market, macro-economic conditions and cost considerations other than environmental protection costs typically dominate the FDI decisions of TNCs. For instance, the fact that the United States is the principal recipient country of FDI, including in particular FDI in pollution-intensive industries such as chemicals and metals, suggests that relatively strict environmental protection policies are not deterrents to FDI.

On the other hand, there has been a salient and continuing issue about the possible deterrent effects of environmental liability on FDI in Central and Eastern Europe. As a result, the World Bank and the OECD conducted a joint study (Klavens and Zamparutti, 1995) to assess the importance of environmental issues to TNCs considering FDI projects in manufacturing, mining and construction in that region. On the basis of survey responses from 255 TNCs (from a list of the 1001 largest firms in those sectors worldwide), the study reached the following conclusions:

- Environmental issues do not generally discourage foreign investors from *considering* investments in Central and Eastern Europe.
- Environmental issues are secondary but critical factors once companies begin to consider investing *in particular plants*. Environmental factors tend to influence the choices of specific sites, but not the decision of whether to invest at all. Although about one sixth of the firms reported that environmental problems were "very important" in decisions to reject specific sites for projects, most of those firms also continued to search for other investment opportunities.
- The firms' principal concern was the cost of liability for the cleanup of any contamination from the past.

Practices of TNCs and Local Firms.

Another important issue is whether foreign-owned firms or locally-owned firms tend to have more environmentally sensitive practices. The fact that the parent corporation of a TNC is

⁴ For further discussion of these and other issues concerning the environmental practices of TNCs, see for instance Gladwin (1977), Gladwin and Walter (1976) and Pearson (1987).

not located in the same country as a foreign affiliate causes concern about whether the executives of a TNC have a relatively strong sense of responsibility for the environmental consequences of their decisions.

This is an issue on which there is some evidence. In particular, a review of the linkages between private capital flows and environmental performance in four Latin American countries has been undertaken by Gentry (forthcoming) and collaborators in Argentina, Brazil, Costa Rica and Mexico. A key conclusion is that, for the most part, the foreign firms are ahead of the domestic firms in their integration of environmental considerations and improvements into their operations – though there are examples of significant negative environmental impacts arising from the actions of foreign as well as domestic firms.

Beyond this evidence, there are a variety of plausible hypotheses about differences between TNCs and local firms in their environmental practices and consequences. As the following list (United Nations Centre on Transnational Corporations, 1985, pp. 7-9) suggests, there are some reasons to suppose that TNCs are more likely to follow environmentally benign policies than are local firms:

- TNCs are often under greater scrutiny by the public, the press and government regulators in host countries.
- TNCs are subject to pressures from their home governments and public opinion to be environmentally responsible in their foreign as well as domestic activities.
- TNCs can more easily transfer environmentally sound technology internationally through their own internal channels.
- TNCs' affiliates tend to be larger and more profitable than local firms and can thus more easily afford the costs of environmental management activities.

However, there are also reasons to suppose that TNCs are less likely to follow environmentally benign policies than are local firms:

- TNCs' products and production processes tend to be less appropriate to local conditions, with regard to climate, diet and culture and thus more likely to have adverse environmental consequences.
- TNCs tend to have a less intimate understanding of complex local ecological systems than do local firms.

There can therefore obviously be considerable variability across FDI projects in their environmental consequences and the environmental practices of the firms, as the following two cases illustrate.

Two Contrasting Cases.

The following example is illustrative of an infrastructure project in Central Europe that was not only profitable to the investor, but made a significant improvement in the level of

pollution control for a power generation facility (Box 1). The case in Box 2, by contrast, not only illustrates the use of FDI to escape one country's environmental policies but also the difficulties that national governments sometimes have in regulating TNCs' environmental practices.

Box 1 Example of the Transfer of Environmentally Sound Technology: Asea Brown Boveri in Poland

Asea Brown Boveri (ABB), an electro-technical equipment, energy and transportation TNC headquarters in Zilrich, Switzerland, is a major supplier of combustion technologies for energy generation and of environmental-control technologies. It initiated a joint venture in Poland in 1989 which converted a former state-owned operation into a privately owned company, ABB Zamech.

In a large turnaround program, restructuring projects retrofitted new combustion and power generation technologies and know-how, providing simultaneous productivity gains and pollution abatement. The total quality management practices of ABB were transferred, together with environmental management practices and extensive functioning training of staff. The venture has been very successful so far. Results for the first operating year gave a return on sales of 5.2 per cent and a return on equity of 43.7 per cent.

Source: United Nations-Transnational Corporations and Management Division, *World Investment Report*, 1992 (New York: UN, 1992), Box IX.3, p. 238; as adapted from Business Council for Sustainable Development, "Report on Technology Cooperation," (Geneva, BCSD, 1992), pp. 8 and 31.

Box 2 Example of Difficulties in International Control of TNCs' Environmental Practices

In July 1976, there was an explosion at the chemical plant, Icmesa, near Seveso, north of Milan; Icmesa was owned by Givaudan, a Swiss subsidiary of the Swiss pharmaceutical manufacturer Hoffmann-La Roche. The explosion released a cloud of chemicals, and tens of thousands of nearby residents were exposed to highly toxic dioxin. The firm delayed notifying local government authorities for 27 hours and then did not explain the toxic nature of the chemicals. Only nine days later did they confirm that there was dioxin on the ground, five days after tests had found evidence of such pollution – thereby prolonging exposure and making cleanup more difficult.

The subsequent arrangements for waste disposal involved an Italian subsidiary of a German firm, which subcontracted the removal to a Swiss-based firm, whose only employee was an executive of a firm that was a subsidiary of Hoffmann-La Roche. The disposal was ultimately undertaken by a French firm. None of these firms, including Hoffmann-La Roche, would disclose the disposal site, which was eventually determined to be in northern France.

This case demonstrates some special difficulties that countries encounter in protecting the environment because of the very nature of transnational corporations. First, the international nature of the production location decision was motivated by cross-national differences in environmental protection policies. The facility was established in Italy because it would have been illegal to manufacture its products in Switzerland -- though they were actually exported to Switzerland (and to the United States). Second, the complex international arrangements for waste disposal were inherently difficult to monitor because they involved firms from four different countries. Third, there were serious problems in assessing liability and imposing penalties because of legal limitations on the responsibilities of firms that are related but located in different countries.

Source: Adapted from United Nations Centre on Transnational Corporations, *Environmental Aspects of the Activities of Transnational Corporations: A Survey* (New York: UN, 1985), pp. 93-94.

Sectoral Patterns.

There are two shifts occurring in the sectoral composition of FDI flows that are relevant to the issue of the environmental effects of FDI. One is the increases in infrastructure in developing countries, especially in Asia. Significant increases in FDI in large-scale infrastructure projects make it especially important that TNCs become sensitive to the effects of such projects on sustainable development because of their potentially problematic and large-scale environmental effects – for instance, from the construction and operation of an electricity generating plant and distribution system. These increases in infrastructure FDI are evident in terms of both the absolute amounts of flows as well as their proportions in the total flows to developing countries (United Nations Conference on Trade and Development-Division on Transnational Corporations and Investment, 1996, pp. 18-29, 285-295). Thus, by the end of 1994, the levels of FDI stocks in infrastructure were approximately US\$3.1 billion in Central and Eastern Europe and US\$10.5 billion in South, Southeast Asia and East Asia (excluding China). However, the stocks were barely more than US\$1 billion in Africa or in Latin America and the Caribbean; and the amounts of inward FDI in infrastructure in developing countries in flow and stock measures were still far below the levels in developed countries. In any case, it should be noted that any data on FDI flows and stocks significantly underestimate the contributions of TNCs to infrastructure projects because their non-equity contributions in the form of technical know-how, in-kind contributions in equipment, R&D cost-sharing, lease financing, and trade credits are typically quite large, though not easily measured and aggregated in national economic statistics.

The second shift in the composition of FDI is that the percentage of FDI in the services sector has been increasing while the proportion in the extractive sector has been declining over the past decade. Of course, such a shift is only indirectly and approximately indicative of a decline in the environmental degradation potential of FDI—and only in relative terms in any case. They do, however, at least belie a common popular image of TNCs as being concentrated in pollution-intensive extractive and manufacturing industries. In fact, they are increasingly in light manufacturing, high-tech and service industries – in developing economies as well as in developed economies. One implication of the decreased FDI in extractive industries, though, is that “the responsibility for environmental protection has been shifting, at the margin, from transnational enterprises to local” firms in that sector (United Nations Centre on Transnational Corporations, 1985, p. 47).

F. FDI and Social Capital

As for the effects of FDI on social capital, in the absence of data we can again only offer a few generalized comments. There is one opportunity that is uniquely available to TNCs to circumvent government policy – namely through the manipulation of transfer prices – and thus contribute to the corruption of business and political relationships. Because the prices of the goods and services that are traded internationally among entities of TNCs are administered prices, they are determined within firms -- and not market-based prices resulting from arms-length negotiations between unrelated entities. They are therefore subject to considerable

manipulation as firms seek to minimize tariffs and/or corporate tax liabilities in a world with highly variable rates across countries. Because the topic of transfer pricing is in itself complex and far beyond the scope of this paper to explore in detail, we can only acknowledge that the issue of the propriety of TNCs' transfer pricing practices is a legitimate concern of governments and that it is inherently difficult to monitor.

A second area in which TNCs are sometimes subject to criticism about their effects on the social capital component of sustainable development, as defined above, is that they are intrusive in the local culture. To the extent that social capital is defined to encompass notions of community and cultural integrity, then TNCs may sometimes be detrimental to social capital. However, they may also represent and foster an open, and inclusive cultural cosmopolitanism that is beneficial to the host society and thereby make important positive contributions to social capital. The entire topic of social capital formation – and its relationship to foreign investment – is of course one that needs much more systematic research in the future than it has received.

In any case, the environmental and other effects on the host economy of FDI projects depend on the policies of the host government as well as the practices of private investors. The contributions of foreign capital flows are a consequence of the combination of public sector policies and private sector practices. In particular, the domestic regulatory policies as well as the international trade policies, investment policies, and intellectual property protection policies, among other host government policies, are all crucial to improving the contributions of foreign investment to sustainable development. We thus turn to issues concerning government policies and how they can increase the contributions of foreign capital flows to sustainable development.

IV. Improving the Contribution: Policy Implications

The issue of how best to improve the contributions of foreign capital to sustainable development can be divided into three parts: how to attract more of it (on the assumption that it is on balance beneficial to sustainable development); how to increase its beneficial consequences; and how to reduce its detrimental consequences. These questions are addressed below in regard to the policies of host governments, home governments, multilateral and regional organizations, and transnational corporations.

A. Attracting Foreign Capital

Investors are particularly interested in the totality of the investment climate in any individual developing country as they assess its prospects for a project. This is true whether the project is for market access or production efficiency reasons or some other strategic objectives. The specific elements of the macroeconomic environment of interest thus include real income growth and price stability, as affected by overall macro policy regime. In addition, they are interested in the degree of openness, transparency and stability in a broad range of international economic policies, including policies toward foreign investors, trade and intellectual property.

Host country policies are therefore a principal determinant of the amount and character of private capital flows that it receives. In this respect, consistent and stable macroeconomic policies are fundamental for establishing creditworthiness and fostering a private sector conducive to investment and attracting foreign capital in the form of both debt and equity. Particularly important are ensuring sustained growth of domestic savings, a low rate of inflation, a stable and realistic exchange rate, and the avoidance of relative price distortions. Appropriate macroeconomic policies and an open foreign exchange regime alone, however, may not be sufficient for developing countries to sustain large private capital inflows. Equity flows in particular, whether portfolio or FDI, also depend on a healthy private sector which demands an adequate legal framework, transparent tax codes, and modern and cost-effective transportation and telecommunications. In some cases, regional integration conforming with multilateral standards can help to promote private sector development through creation of larger domestic markets and the coordination of infrastructure initiatives.

Weak institutions and obtrusive regulations discourage flows. Institutional problems are found in areas such as over-stringent bureaucracy and the involvement of too many institutions. In a number of countries (e.g. Czech Republic, Mexico, and Thailand), the streamlining of inter-agency procedures and the creation of a single investment enabling agency have facilitated increased FDI, and similar arrangements could be considered elsewhere. In addition, inefficient regulatory structures for FDI often create distortions in the economy. Foreign interest can also be discouraged by high-cost public sector monopolies that raise the price of basic services, by limits on entry into certain sectors of the host economy, and by excessive restrictions on the freedom to employ expatriates. It is important for developing countries to sustain efforts to establish a transparent regulatory framework that is internationally competitive and does not discriminate between domestic and foreign investors.

These issues on the stability of macroeconomic policy and political environment are typically more important to investors than incentive packages that may be developed for particular projects. Although foreign direct investors do, of course, often seek and obtain a variety of subsidies for their projects from host governments, the value of these incentives for enticing investors and their cost-effectiveness for host governments remain controversial. There is much research (e.g. Guisinger and Associates, 1985) on such incentives – and associated performance requirements -- and they have recently begun to attract renewed interest in international policymaking circles (Brewer and Young, 1997). Further, the agreements from the Uruguay Round of trade negotiations on Subsidies and Countervailing Measures and on Trade-Related Investment Measures (TRIMs) have put investment subsidies and performance requirements on the agenda of the World Trade Organization. As a consequence, the use of investment incentives may become subject to more restraint in the future.

Increasingly, therefore, only those subsidies that can be justified on the grounds of externalities that create a wedge between the private and social benefits of investments are likely to be offered by host governments and found acceptable by multilateral rules and institutions. Of course, externalities concerning environmental protection and human capital formation are particularly deserving of attention within the context of the goals of sustainable development.

Thus, one important way in which host governments can improve the contribution of FDI to sustainable development is to focus their subsidies specifically on those projects that offer social benefits in terms of their contributions to natural capital and/or human capital that cannot be fully captured by the terms of private transactions. At the same time, host governments should make the complementary commitment not to offer subsidies that cannot be justified on such grounds and that instead merely transfer wealth from local taxpayers to foreign shareholders.

FDI may also be facilitated by appropriate tax and regulatory policies in source countries.⁵ Bilateral investment treaties between host and source countries can help to ensure that tax policies do not distort investor decisions to unduly discourage FDI. A number of industrial countries provide incentives for outward FDI. While this has encouraged direct investment from these countries, it may also discriminate against host country investors and other foreign investors who do not have access to subsidies. Industrial countries have worked to develop general rules against subsidizing foreign investment as well as guidelines for foreign investment aimed at increasing the responsiveness of FDI to host country development objectives (OECD, 1991).

B. Maximizing the Beneficial Effects

There are two key ways by which host governments can maximize the beneficial contributions of FDI to sustainable development. One is to adopt strong competition policies internally, and the other is to adopt liberalized trade and investment policies internationally. The two, furthermore, are consistent and complementary.

Strong domestic competition policies are important in order to maximize the beneficial, efficiency-increasing effects of having more competitive domestic industries and in order to minimize any monopolistic tendencies of TNCs. In the past, in the context of import-substitution economic growth policies, many host governments in developing countries offered foreign investors protected positions in the domestic market. Such an approach not only stifled import competition, it also often stifled domestic competition as well when investors were assured favored treatment, for instance in government purchasing of goods and services. Such policies constrain some of the potentially most beneficial effects of foreign investment through increases in the efficiencies of firms that must adapt to a more competitive industry structure created by new, foreign-based entrants. In contrast, strong competition policies that constrain firms' restrictive business practices and that foster competitive industry structure will maximize the efficiency-enhancing effects of the entrance of foreign investors into local markets.

At the same time, it is important that TNCs be allowed to link their local operations to international networks of suppliers and customers including their own affiliates and parent firms in other countries in order to maintain internationally competitive operations. This means liberalized international economic policies concerning trade and technology transfer as well as investment. These policy directions have already been well established in recent years through

⁵ A detailed review of policy measures to facilitate foreign direct investment flows to developing countries was provided to the World Bank Development Committee in Spring 1991. See Section III of World Bank (1991).

many unilateral actions by developing countries and by the array of multilateral liberalization agreements being implemented by the World Trade Organization.

Cross country experience suggests host country policies leading to greater benefits of capital inflows. Aside from the need for non-distortionary policies conducive to sustained growth and stable business environment, an open economic regime to promote closer linkages with global markets is important (Jun and Singh, 1996). In addition, the adequate development of physical infrastructure as well as human resources are essential to enhance the productivity of foreign investment (Stiglitz, 1993).

C. Minimizing the Detrimental Effects

Host governments can develop more effective environmental protection regimes – and other policies that are conducive to sustainable development. Not only host governments, but also home governments, multilateral and regional institutions and the TNCs themselves all have opportunities and responsibilities to limit some of the detrimental effects of FDI, including environmental degradation in particular.

Regional and inter-regional organizations can be instrumental in reducing the potentially negative consequences of FDI for natural capital, for instance, through the binding rules concerning environmental protection contained in the North American Free Trade Agreement (NAFTA)⁶ or the non-binding statement of principles concerning investment of the Asia Pacific Economic Cooperation forum (APEC).⁷ Whether the new Multilateral Agreement on Investment (MAI) being negotiated at the Organization for Economic Cooperation and Development (OECD) will have any provisions concerning environmental protection remains to be seen.⁸

At the multilateral level, the project finance operations of the International Finance Corporation (IFC), the political risk insurance operations of the Multilateral Investment Guarantee Agency (MIGA), the lending operations of the IBRD and IDA, along with the supporting research work and policy dialogues in many parts of the World Bank Group, have begun to integrate environmental concerns in Bank activities. At the United Nations, the analytical work on environmental practices, technology transfer policies, employment practices of transnational corporations by UNCTAD can increase understanding of the linkages between FDI and sustainable development. The increasing interest in the nexus between environmental and trade issues at the World Trade Organization (WTO) may also enhance the contributions of FDI to sustainable development – particularly since at least some investment issues are also now being addressed within that organization.⁹

⁶ NAFTA allows the signatories, for instance, to maintain or add environmental regulations that are not discriminatory and that have a reasonable scientific basis, even though they may limit trade.

⁷ The APEC “Non-binding Investment Principles” include a provision that “Member economies will not relax health, safety, and environmental regulations as an incentive to encourage foreign investment.”

⁸ For preliminary discussions of the provisions of the MAI, see OECD (1996).

⁹ For an analysis of international environmental institutional arrangements and rules, see Preston and Windsor (1992, pp. 211-234.)

The home governments of TNCs can also play an important role in protecting against the detrimental effects of FDI. For example, they can screen projects for their environmental effects before granting them “political risk guarantees.” Since environmental effects of course often transcend international boundaries – through air or water pollution, for instance -- and thus occur even in the home countries of the TNCs, the governments of those countries have an incentive and responsibility to take into account the environmental impact of projects that they subsidize through their guarantee and other incentive programs for FDI projects in developing countries.

Finally, transnational corporations themselves have incentives and responsibilities to minimize the detrimental consequences of FDI projects, including their environmental degradation effects in particular. Toward this end, guidelines have, in fact, been developed by both private sector and public sector organizations. Thus, “The Business Charter for Sustainable Development” developed by the International Chamber of Commerce is appended as Annex A. Such guidelines must be adapted to the circumstances of particular projects; however, they provide useful starting points, from which corporations can develop more tangible, operational programs that prevent environmental degradation.

V. Summary and Conclusions

In sum, although FDI flow data provide approximate indicators of changes in the absolute and relative magnitudes of FDI over time and differences across countries, they are not fully indicative of the overall significance of FDI to physical capital formation—let alone the other three types of capital identified above in the notion of sustainable development. Indeed, data on FDI as a financial flow do not fully reflect the technology transfers that accompany FDI, nor do they fully reflect the contributions of FDI to human capital. And it is precisely the technology spillovers and their contributions to human capital that offer much potential for the contributions of FDI to sustainable development. Yet, the precise contributions of foreign capital flows, especially in the form of FDI, to the development of natural capital and social capital in host countries are inherently difficult to assess through rigorous empirical analysis (and perhaps even impossible in many instances).

The contributions of FDI to sustainable development, in any case, depend very much on combinations of project features and host government policies. Thus, for example, both theoretical and empirical analysis indicate that import-substitution projects that are protected by high tariffs (or non-tariff barriers) can have negative social rates of return.

A variety of public sector institutions, as well as transnational corporations themselves, can develop policies that will increase the contributions of foreign capital flows to sustainable development. These include host government policies that create sound macroeconomic environments for business – and in some instances carefully targeted incentives that do not transfer wealth from local economies to foreign investors.

Improving the contributions of foreign capital to sustainable development, however, requires much more than simply increasing the amounts of foreign investment in developing countries. It also requires host government policies that foster competition (and control restrictive business practices) within the economy and that allow the diverse types of international transactions that are essential to the successful operation of typical FDI projects. Such policies will maximize the potentially beneficial contributions of FDI projects to sustainable development.

Host governments – as well as home governments and international institutions – must also be mindful of the potentially harmful effects of FDI projects. Because of the common interests and responsibilities inherent in many environmental issues, all of these public sector agencies need to monitor FDI projects for their environmental consequences. And, finally, of course the transnational firms themselves also have similar responsibilities.

Annex A

THE BUSINESS CHARTER FOR SUSTAINABLE DEVELOPMENT: PRINCIPLES FOR ENVIRONMENTAL MANAGEMENT

[Editor's Note:] The Business Charter for Sustainable Development: Principles for Environmental Management was adopted at the 64th Session of the International Chamber of Commerce Executive Board on 27 November 1990, and first published in April 1991. It was prepared for the ICC Commission on Environment.

Introduction

Sustainable development involves meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Economic growth provides the conditions in which protection of the environment can best be achieved, and environmental protection, in balance with other human goals, is necessary to achieve growth that is sustainable.

In, turn versatile, dynamic, responsive and profitable businesses are required as the driving force for sustainable economic development and for providing managerial, technical and financial resources to contribute to the resolution of environmental challenges. Market economies, characterized by entrepreneurial initiatives, are achieving this.

Business thus shares the view that there should be a common goal, not a conflict, between economic development and environmental protection, both now and for future generations.

Making market forces work in this way to protect and improve the quality of the environment - - with the help of performance-based standards and judicious use of economic instruments in a harmonious regulatory framework is one of the greatest challenges that the world faces in the next decade.

The 1987 report of the World Commission on Environment and Development, "Our Common Future," expresses the same challenge and calls on the cooperation of business in tackling it. To this end, business leaders have launched actions in their individual enterprises as well as through sectoral and cross sectoral associations.

In order that more businesses joint this effort and that their environmental performance continues to improve, the International Chamber of Commerce hereby calls upon enterprises and their associations to use the following principles as a basis for pursuing such improvement and to express publicly their support for them. Individual programs developed to implement these Principles will reflect the wide diversity among enterprises in size and function.

The objective is that the widest range of enterprises commit themselves to improving their environmental performance in accordance with these Principles, to have in place management practices to effect such improvement, to measuring their progress, and to reporting this progress as appropriate internally and externally.

Note: The term environment as used in this document also refers to environmentally related aspects of health, safety and product stewardship.

PRINCIPLES

1. **Corporate priority.** To recognize environmental management as among the highest corporate priorities and as a key determinant to sustainable development; to establish policies, programs and practices for conducting operations in an environmentally sound manner.
2. **Integrated management.** To integrate these policies, programs and practices fully into each business as an essential element of management in all its functions.
3. **Process of improvement.** To continue to improve corporate policies, programs and environmental performance, taking into account technical developments, scientific understanding, consumer needs and community expectations, with legal regulations as a starting point; and to apply the same environmental criteria internationally.
4. **Employee education.** To educate, train and motivate employees to conduct their activities in an environmentally responsible manner.
5. **Prior assessment.** To assess environmental impacts before starting a new activity or project and before decommissioning a facility or leaving a site.
6. **Products and services.** To develop and provide products or services that have no undue environmental impact and are safe in their intended use, that are efficient in their consumption of energy and natural resources, and that can be recycled, reused, or disposed of safely.
7. **Customer advice.** To advise, and where relevant educate, customers, distributors and the public in the safe use, transportation, storage and disposal of products provided; and to apply similar considerations to the provision of services.
8. **Facilities and operations.** To develop, design and operate facilities and conduct activities taking into consideration the efficient use of energy and materials, the sustainable use of renewable resources, the minimization of adverse environmental impact and waste generation, and the safe and responsible disposal of residual wastes.
9. **Research.** To conduct or support research on the environmental impacts of raw materials, products, processes, emissions and wastes associated with the enterprise and on the means of minimizing such adverse impacts.

10. Precautionary approach. To modify the manufacture, marketing or use of products or services or the conduct of activities, consistent with scientific and technical understanding, to prevent serious or irreversible environmental degradation.

11. Contractors and suppliers. To promote the adoption of these principles by contractors acting on behalf of the enterprise, encouraging and, where appropriate, requiring improvements in their practices to make them consistent with those of the enterprise, and to encourage the wider adoption of these principles by suppliers.

12. Emergency preparedness. To develop and maintain, where significant hazards exist, emergency preparedness plans in conjunction with the emergency services, relevant authorities and the local community, recognizing potential transboundary impacts.

13. Transfer of technology. To contribute to the transfer of environmentally sound technology and management methods throughout the industrial and public sectors.

14. Contributing to the common effort. To contribute to the development of public policy and to business, governmental and intergovernmental programs and educational initiatives that will enhance environmental awareness and protection.

15. Openness to concerns. To foster openness and dialogue with employee and the public, anticipating and responding to their concerns about the potential hazards and impact of operations, products, wastes of services, including those of transboundary or global significance.

16. Compliance and reporting. To measure environmental performance; to conduct regular environmental audits and assessments of compliance with company requirements, legal requirements and these principles; and periodically to provide appropriate information to the Board of Directors, shareholders, employees, the authorities and the public.

Source: International Chamber of Commerce, *The Business Charter for Sustainable Development: Principles for Environmental Management*. ICC Publication No. 210/356 A, Paris, 1991; reprinted, with introductory note added by the editor, in United Nations Conference on Trade and Development, Division on Transnational Corporations and Investment, *International Investment Instruments: A Compendium, Volume III: Regional Integration, Bilateral and Non-governmental Instruments*. Geneva: United Nations, 1996; pages 361-364.

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¹⁰ The authors are indebted to Irene Ring for help in the development of the bibliography for the paper and also for her comments on a draft.

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