

INCREASING THE CONTRIBUTION OF FOREIGN  
INVESTMENT TO SUSTAINABLE DEVELOPMENT:  
DOMESTIC AND INTERNATIONAL POLICY MEASURES

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EXECUTIVE SUMMARY

The developing world consists of two relatively clearly defined groups of countries: those which are growing at a sustainable rate, albeit with interruptions caused by short-term dislocations (industrializing/developing) and those whose performance is close to stagnation (poor countries). This distinction reinforces the observation of the Commission on Sustainable Development, that “poverty elimination” had become the “poor stepchild” of the annual CSD session. The paper addresses an important aspect of the problem: can the inadequacy of official development assistance to nations in need of external finance can be remedied by private portfolio and direct investment and, if so, what are the necessary policy measures for both the investing and recipient nations?

The policies will hinge on the adequacy of the institutions needed by both the more developed countries and poorer countries if they are both to attract and retain inward flows of private portfolio equity investment and to avoid financial crises.

The need for external finance derives from the low level of domestic savings and, possibly, the inability to generate export revenues to meet the developmental need for hard currency. Private investments, direct and portfolio, are possible sources of the needed finance. Neither direct nor portfolio investment is likely to be available to the developing world in the amount needed because of inadequate resource bases and/or an inadequate “institutional infrastructure” and because of inadequate supplies of savings being generated in the consumer-driven economies of the industrialised world. Further, part of the supply of finance potentially available for the developing world has been siphoned off by the needs of “countries in transition”.

There is good reason to consider under-emphasis on poverty as a serious omission if, as seems reasonable, very poor countries will almost inevitably tend to devote any increase in available resources to consumption and to investment which generates consumption goods rather than to the other goals of Sustainable Development (“environmental protection and the creation of biodiversity” and “social programs”). A failure of the participants in the Rio Summit to officially acknowledge and to repair the inadequacy of financing available to the very poor countries is a major concern.

In a globalized economic system with liberalized international economic involvement, developmental strategy requires that nations seeking sustainable development take advantage of the benefits of international trade and investment (that is, follow a policy of outward industrialization allowing inflows and outflows of direct investment and utilising portfolio finance where this is expected to be “long-term”). Given that “The corporate sector was confirmed as the key actor in the ‘battle to save the planet’” (Ismail, 1996), this paper addresses two sources of private foreign financing (direct investment and portfolio investment). The paper can be seen as validating Jun and Brewer (1997) in the greater contribution of direct investment to sustainable development but it also shows the inadequacy of heavy reliance on the corporate sector because these channels of funding together will fail to eliminate the inadequacy of external funding, particularly for poor countries. The paper examines why this should be so and what steps must be taken if either direct and/or private portfolio investment are to be relied upon to eliminate the funding “gap” between the available flow and the amount which could be used efficiently.

It is necessary to recognize the need for developing countries to have sophisticated institutional infrastructure if they are to rely on private funds for financing sustainable development. In poor countries, such sophistication is probably not feasible because the ability to create the “institutional financial infrastructure” needed to attract private portfolio investment is acquired only as part and parcel of the process of the institutional evolution that is endemic in sustainable development. Middle-income or industrializing/development countries can benefit greatly from inflows of direct investment and, if they have developed or can develop the appropriate financial infrastructure, from inflows of modern portfolio investment.

## I. INTRODUCTION

The United Nations Commission on Sustainable Development recognises the sovereignty of individual developing nations as well as the three goals of: eliminating poverty;<sup>1</sup> the development of social programs; and the importance of limiting environmental degradation while recognising the dangers of reductions in biodiversity. Developing nations have, therefore, the acknowledged right to allocate such economic gains as they may achieve, according to their own set of priorities. The priorities among the goals will vary according to the level and rate of growth of income of individual countries and their cultures and, it may be reasonably assumed, the lower the level of per-capita gross domestic product, the greater will be the share of any incremental product that will be devoted to consumption (the elimination of poverty) and the smaller the share for the other goals identified by the Rio Summit.

Modern conditions divide the developing world into two relatively clearly defined group of countries: those which are growing at a sustainable rate, albeit with interruptions caused by short-term dislocations (industrialising/developing or I-D countries) and those whose performance is close to stagnation (poor countries). The Human Development Report, 1996 (UNDP, 1996, 3) identifies 101 (poor) countries (not including China or India but with 25 per cent of the world's population) as suffering from "failed growth" defined as having per-capita income lower in 1993 than before 1990. Boote and Thugge (1997, table 2) identify 41 heavily-indebted poor countries which stand in drastic need of debt relief. However, reliance on the corporate sector for foreign financing may be a legitimate policy goal for I-D countries.

The existence of such a large share of the world's population in countries with failed growth is both an important moral problem for the civilised world in the light of the goals agreed upon at the Rio Summit and it offers the possibility of substantial damage to the global commons as poor countries are likely to commit large amounts of environmental damage in their search for greater product.<sup>2</sup> Given this scenario, the distribution of income gains and sustainable development among the population of developing countries, has significant importance for the global benefits to be derived from the reduction of pollution spillovers. It is, therefore, important that the Commission on Sustainable Development address the foreign financing of economic development in the non-industrialised world as well as the conditions in the recipient countries necessary for such financing.

Investment in I-D and poor countries works its effect mainly by augmenting the rate of economic growth and by contributing to any evolution in the host economy that accompanies economic growth. While portfolio investment, unless it incorporates foreign expertise and training related to a specific project, will serve to supplement domestic savings so that the rate of capital formation can be increased and, possibly to ease any shortage of foreign exchange needed for the acquisition of foreign-made capital goods. Foreign direct investment (FDI) is likely to include technology transfer, foreign expertise and training of indigenous personnel, as well as a supplement to domestic savings. Access to foreign markets may also be generated when the affiliate is incorporated into a global network of production and distribution. The emphasis on economic growth leaves, as noted above, the partition of the economic gains among the three goals of the Rio Summit to the individual nation. This does not preclude some spillover gains to limiting environmental degradation and to the creation of social programs. The degree to which such spillover effects are generated will depend to a large degree on the concern of the multinational corporation with the aspirations of the host country: there will be wide variability among multinationals.

Jun and Brewer (1997) noted that the top twelve recipient nations (including China which we would contend is unique) receive about 80 per cent of FDI flows as well as a substantial part of private portfolio flows. These data reinforce the suggestion that the developing world has been effectively divided into two blocs and that the more affluent developing countries enjoy a virtuous cycle of self-reinforcing development at the same time that the poor countries suffer a vicious cycle of self-reinforcing stagnation.

The purpose of this paper is to examine the way in which private capital flows are attracted to developing countries so that savings can be transferred from the industrialized world in the form of direct and private

<sup>1</sup> The Commission on Sustainable Development cited, as a criticism of progress reports, that "poverty elimination" had become the "poor stepchild" of the annual CSD sessions (*CSD Update*, vol. 3, November, 1996).

<sup>2</sup> Damage to the environment committed by very poor nations has different characteristics than the damage perpetrated by the industrialised nations and the richer developing nations. The decimation of the rainforests of the Amazon basin and the generation of carbon monoxide from petroleum consumption are obvious examples of the two kinds.

portfolio investment flows to I-D and poor countries. Given that the Rio Summit relied upon the corporate sector to be the key actor in the "battle to save the planet" (Ismail, 1996), the role of private financial transfers and their distribution between the two groups of developing countries, must constitute a primary area of focus. The paper identifies the adequacy or inadequacy of "institutional infrastructure" as an important factor affecting the ability of a developing nation to attract (and to retain) inward investment. Institutional infrastructure comprises the institutional setting, the rules and regulations and the efficiency of their enforcement, which prevail in a country.<sup>3</sup> Inward private portfolio investment, particularly portfolio equity investment (modern foreign portfolio investment or MFPI) is extremely sensitive to the adequacy of "financial institutional infrastructure".

## II. THE ROLE OF PRIVATE CAPITAL IN SUSTAINABLE DEVELOPMENT

All developing countries need to attract a flow of net inward foreign investment in some form and for an extended period as a supplement to domestic savings during the process of development.<sup>4</sup> Thus, a nation must be able to generate inflows of foreign funds in the form of direct investment, traditional private and official portfolio investment, modern portfolio investment (denominated in host-country currency -- see below) or official development assistance (ODA) to supplement its sustainable development initiatives.

The financing of sustainable development must confront three problems: first, the adequacy of the total flow of available funds (the actual or potential flow relative to the amount which can be effectively and efficiently used);<sup>5</sup> second, the distribution of these funds among the two groups in the developing world; and third, the ability of the developing countries to avoid financial or environmental crises in which the direction of the flow of funds reverses and net capital flows return to the industrialized world.

In the absence of a substantial increase in ODA and other subsidised flows, the flow of private capital from the industrialised to the developing world is likely to be less than the perceived need of the developing countries. Since private capital seeks high risk-adjusted rates of return, global excess demand for savings can lead to competition among developing countries to attract inflows of investment and to turn the terms of trade against developing countries and in favour of multinational corporations and industrialised nations with surplus savings.<sup>6</sup> Even if the total foreign savings available for transfer to the developing world were, in some sense, adequate, it is probable that its distribution would be biased towards the I-D countries. It therefore is possible to perceive of a quasi-optimistic scenario in which the I-D countries do receive (almost) as much private investment as they can effectively utilise -- largely in the form of FDI and portfolio capital -- while poor countries continue to be underfunded.

The major problems facing poor countries are the lack of a policy framework that favours inward FDI, institutional infrastructure that allows FDI to be used effectively and the resources needed to attract inward FDI (Dunning and Narula, 1996), and the lack of financial infrastructure of the sophistication necessary to attract private portfolio capital even if the greater benefit allows a risk premium to be paid. I-D countries, however, may have local resources of sufficient quality to attract inward FDI and they may have financial infrastructure which is adequate to attract inward private portfolio investment under tranquil conditions but not adequate to retain inward portfolio investment in turbulent times.

Not all components of the gross inflow are equally valuable per unit of inflow. What matters is that they accumulate to the amount which the country can use them effectively; there is therefore, substantial substitutability among the different components. ODA is probably the most valuable because it carries no corresponding liability, but the shortfall of ODA for countries seeking sustainable development is well recognised and the authors see little evidence in the United States, at least, of any quick turnaround in attitude. Direct investment with its concomitant transfers of proprietary technology, environmental management techniques, and

<sup>3</sup> The concept is developed below. Institutional infrastructure must be clearly distinguished from "physical" infrastructure whose role in development is well recognized. The two types of infrastructure have features in common and some aspects, such as the existence of good communications networks, might be classified in either category.

<sup>4</sup> This is an assumption which could be disproved by reference to the remarkable success of Taiwan, Province of China, which has run current account surpluses and has a substantial positive balance of foreign assets owned over liabilities to foreigners. Taiwan's example is more honoured in the breach than in the observance.

<sup>5</sup> The volume of funds which can be efficiently used depends, importantly, on the efficiency of the recipient government. Doubts about this efficiency are probably responsible for the current emphasis on private capital flows.

<sup>6</sup> This fact is best established and is most sophisticated in the competition to attract inward FDI (Guisinger and others., 1985).

human capital and possible access to foreign markets for value added in the host country is very valuable (Fry, 1996). The per unit value of inward portfolio investment depends upon the degree to which the foreign saving is locked into the recipient nation and upon the efficiency with which it is allocated to projects with a high expected rate of return.

Data on recent flows of all categories of capital (foreign savings) to developing countries are given in table 1. This paper focuses on three kinds of private capital flows: direct investment, traditional portfolio debt flows and portfolio equity flows. The two categories, direct and portfolio equity, are central to this paper because they are effectively denominated in the currency of the recipient country and have different characteristics from debt flows which is usually defined in hard currency. What is of significance here is the division of the flows (of each kind) between the top twelve recipients and the rest of the developing world. Details of the division in all three kinds are given in tables 2, 3 and 4.

Table 1. Net long-term resource flows to developing countries, 1990–1997(\$ billion)

	1990	1991	1992	1993	1994	1995	1996	1997	1998*
Net long-term resource flows	100.8	123.1	152.3	220.2	223.6	254.9	308.1	338.1	275.0
Official flows	56.9	62.6	54.0	53.3	45.5	53.4	32.2	39.1	47.9
Private flows	43.9	60.5	98.3	167.0	178.1	201.5	275.4	299.0	227.1
From international capital markets	19.4	26.2	52.2	100.0	89.6	96.1	149.5	135.5	72.1
Private debt flows	15.7	18.6	38.1	49.0	54.4	60.0	100.3	105.3	58.0
Commercial banks	3.2	4.8	16.1	3.3	13.9	32.4	43.7	60.1	25.1
Bonds	1.2	10.8	11.1	37.0	36.7	26.6	53.5	42.6	30.2
Others	11.4	3.0	10.7	8.6	3.7	1.0	3.0	2.6	2.7
Portfolio equity flows	3.7	7.6	14.1	51.0	35.2	36.1	49.2	30.2	14.1
Foreign direct investment	24.5	34.4	46.1	67.0	88.5	105.4	126.4	163.4	155.0

Source: Calculated from World Bank, *Global Development Finance*, 1999.

\* 1998 levels are estimated.

Table 2. The distribution of foreign direct investment flows to developing countries, 1990–1997 (\$ billion)

	1990	1991	1992	1993	1994	1995	1996	1997
Foreign direct investment to all developing countries	24.5	34.4	46.1	67.0	88.5	105.4	126.4	163.4
Direct investment in the top 12 developing countries	17.3	23.2	33.5	49.8	68.5	76.1	94.3	114.0
Direct investment in all other developing countries	7.2	11.2	12.6	17.2	20.0	29.3	32.1	49.4
Sub-Saharan Africa	0.8	1.6	1.6	1.9	3.3	3.5	4.3	5.2

Source: Calculated from World Bank, *World Development Indicators 1999*.

Table 3. The distribution of private debt flows to developing countries 1990–1997 (\$ billion)

	1990	1991	1992	1993	1994	1995	1996	1997
Private debt - all	15.7	18.6	38.1	49.0	54.4	60.0	100.3	105.3
Private debt in the top 12 countries	9.6	16.3	23.6	31.5	49.9	49.4	86.7	75.6
Private debt - all others	6.1	2.3	14.5	17.5	4.5	10.6	13.6	29.7

Source: Calculated from World Bank (1999). *World Development Indicators 1999*.

Table 4. The distribution of modern foreign portfolio investment flows to developing countries, 1990-1997 (\$ billion)

	1990	1991	1992	1993	1994	1995	1996	1997
MFPI, all countries	3.7	7.5	14.1	51.0	35.2	36.1	49.2	30.2
MFPI, top 12 countries	2.5	6.7	12.9	47.7	25.3	24.8	29.4	18.7
MFPI, all others	1.2	0.8	1.2	3.3	9.9	11.3	19.8	11.5

Source: Calculated from World Bank (1999). *World Development Indicators 1999*.

Private portfolio flows have surged, particularly in countries located in regions where sustained development seemed and seems feasible. The success of countries in East Asia, prior to 1997, and Latin America is identified in the tables. Some East Asian developing countries are beginning to attract more inward investment as they have successfully begun to overcome the disruption caused by the 1997 crisis. However, the contribution of foreign investment to sustainable development depends upon the growth of the stock of the inward investment: hence the importance of the ability to retain inflows from past years. Direct and modern portfolio investments have very different degrees of reliability (sensitivity to a lack of confidence in the host economy) and, therefore, provide different levels of benefit per dollar of investment: this is largely due to the different characteristics of the assets.<sup>7</sup>

The benefits (and the potential costs) of inward FDI are well known and are discussed in detail in Jun and Brewer (1997). Here we are concerned with the lack of volatility and the steady growth of the stock of inward FDI. While the physical assets acquired in consequence of FDI are defined in the currency of the recipient country, the real assets will not be vulnerable to a depreciation or devaluation of the host country currency brought on by an excessive rate of inflation (a traditional macroeconomic problem) and financial assets of affiliates can be protected against weakness in the host currency by borrowing locally. When a weakening of the host currency follows overvaluation of the host currency brought about by excessive inflation, what has happened is that the terms of trade facing host-country enterprises have improved without fundamental reason. Thus, a depreciation is merely restoring the original terms of trade or there will be, at most, a relatively minor weakening of the currency's real rate of exchange (the nominal rate adjusted for different degrees of inflation). The capitalised value of the affiliate's physical assets in the parent company's home currency and the price-competitiveness of exports from the affiliate will not be seriously affected in the long run (Gray and Miranti, 1990).<sup>8</sup>

While a host country's policy framework may explicitly attract or deter inflows of FDI in a macroeconomic sense, the detrimental effects of inadequate institutional infrastructure can be offset through the

<sup>7</sup> Data on FDI flows include changes in the outstanding portfolio of assets and liabilities of established MNC affiliates.

<sup>8</sup> This does not mean that the local affiliates benefit from the excessive inflation: indeed they may temporarily lose their price competitiveness and find the host-country market depressed as the authorities seek to fight the inflation without depreciation. Further, a change in the real rate of exchange (terms of trade) that will engender a given current balance will, self-evidently, affect the value of the FDI asset in the home-country currency.

creation of special enclaves which contain adequate (or, at least, less inadequate) institutional infrastructure, such as export zones, by the host country. These measures may not be needed by the more affluent developing nations in their attempts to attract inward FDI but they offer a means for poorer nations to buffer any inward FDI from domestic malfunction.<sup>9</sup>

When branches or affiliates of foreign banks are present in the enclave, they can shelter multinationals' foreign affiliates from any adverse effects of inadequate financial infrastructure. He (1999) shows the importance of the presence of foreign banks. When foreign banks were allowed to establish themselves in the Shanghai region of China, their presence brought about spectacular increases in inward (non-financial) FDI and in gross regional product. Inadequate institutional infrastructure can affect the benefit to be derived by a foreign affiliate in a developing country because of differences in the ability of affiliates in developing economies to engage in activities which rely on sophisticated practices. One such possibility is the difficulty which obtains in assessing the likelihood that certain transferred technologies could precipitate a disaster because of inadequate supervision by the host government.<sup>10</sup> Per contra, Lundan (1996) shows that inward FDI in pollution-intensive industries can improve the pollution standards of the host country because the multinational corporation is limited in its pollution capability by the demands of its customers or because the firm finds the world-wide standardisation of equipment to be beneficial.

Inward FDI may be expected to grow steadily as reinvested profits expand existing affiliates and as growth in the host economy increases the capability of accommodating higher levels of technology thereby inducing the creation of new affiliates. The realised benefits of FDI also should provide confirmation that a policy framework supportive of FDI consistent with the goals of sustainable development complements well the return-seeking motives of FDI. Still, the type of FDI flowing into a country is not always under the control of the country; it simply may not possess assets and/or resources that can be exploited in an economical way without some sort of incentive housed within the policy framework. It therefore is crucial for sustainable development that incentives geared to attract FDI are consistent with the environmental concerns and objectives of the Rio Summit.

Inward debt investments constitute "traditional portfolio investment" and are ordinarily denominated in hard currency (that is, not the borrower's currency).<sup>11</sup> Such loans made to governments and or private entities in a developing country, usually have long maturities and are endangered only by serious economic problems in the debtor country. A serious recession or a crisis can affect the ability of the debtor to service the debt or even result in default.<sup>12</sup> The long (original) maturities of these loans means that they can be traded in secondary markets in periods of stress but that they cannot bring about a capital flight unless local firms (including the debtor) buy them back and, improbably, use hard currency to effect the purchase. Of course, reliance on debt investment is vulnerable to the drying up of supply in the event of bad performance by the debtor's economy and/or an increase in the risk premium when lending ultimately resumes.

Modern foreign portfolio investments (MFPI) usually comprise acquisitions of equities in (emerging) stock markets in developing countries: there are also some investments in debt instruments denominated in local currency and traded locally. The assets are, therefore, denominated in the currency of the host country and, unless closely tied to exports, are sensitive to economic conditions in the host country. The existence of an equity market of adequate efficiency in a developing country usually indicates that the country perceives itself to have achieved sustainable growth. Thus, poor countries are unlikely to be able to attract noteworthy inflows of MFPI.

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<sup>9</sup> Enclaves are often made still more attractive by the offer of various investment incentives (Guisinger and others, 1985). Of course, the creation of enclaves only makes inward FDI more attractive and the local resources must be attractive enough to foreign multinational corporations to warrant inward FDI. This requires, at a minimum, a reliable well-trained workforce which, in turn, requires good educational infrastructure.

<sup>10</sup> There exist modern technologies which are disaster-capable meaning that a malfunction can cause great harm outside of the confines of the property of the producer ("disasters" are distinguished from "accidents" which take place within the confines of the producer's property). When the operation is deprived of adequate supervision by the parent multinational corporation and of adequate regulation by the host country, the result could be a disaster. The disaster in the Union Carbide (India) Ltd., pesticide plant in Bhopal causing over 1,750 people to be killed by poison gas is perhaps the best example (Gladwin and Walter, 1985). On the subject of sales of baby formula in developing countries with unsanitary water supply, see Beauchamp (1983).

<sup>11</sup> However, see the account of the Thai crisis below.

<sup>12</sup> The existence and transparency of bankruptcy law is a component of the institutional infrastructure.

In recent years investments in equity markets in I-D countries by asset-holders based in industrialised countries have increased substantially (tables 5 and 6). The most important way in which this flow of funds occurs is through the creation of mutual funds (unit trusts) in industrialised countries which specialise either in equities in one country or in a region. These funds are able to reduce transaction costs for investors, provide country-specific knowledge and proselytise investors on the virtues of international portfolio diversification as a sales promotion technique (notwithstanding caveats in the prospectus). Mutual funds can also give ultimate beneficiary owners of equities the impression, not always warranted, that, by having a country specialist provide local day-to-day control over their assets, their capital will be reasonably secure against sudden financial crises.<sup>13</sup>

Table 5. Equity funds in emerging equity markets<sup>a</sup>

<i>Country</i>	<i>Total Assets (\$ million)</i>	<i>Number of Funds</i>	<i>GDP(\$ billion)</i>
Argentina	230	6	297.5
Brazil	1,497	53	759.2
Chile	1,200	7	67.1
China	6,680	108	835.7
Colombia	40	2	73.1
India	3,450	60	311.4
Indonesia	597	27	233.5
Korea	5,150	94	461.8
Malaysia	875	20	
Mexico	1,348	12	330.0
Philippines	654	13	82.9
Taiwan, Province of China	3,953	29	272.0
Thailand	2,855	31	183.2
<i>Regions</i>			
Asia	40,125 <sup>b</sup>	375	–
Latin America	9,750 <sup>b</sup>	155	–

*Sources:* UNCTAD (1997, Table A.19)

*Note:* The number of funds includes funds from the more developed countries as well as from the industrialised countries.

<sup>a</sup> asset values and the number of funds are taken as of September 30, 1996.

<sup>b</sup> assets do not include the asset values of the country funds.

As of September, 1996, there existed 375 equity mutual funds specialising in Asian markets with asset values in excess of \$40 billion (table 5). There also existed 31 funds which specialised in Thai securities with assets of \$2.8 billion. While this was small in relation to international claims by foreign banks of about \$70 billion, it was important because of its ease of encashment and lack of any fixed maturity (table 6). Equity investments are inevitably denominated in the capital importer's currency. Equities have no predetermined maturity and are traditionally regarded as long-term liabilities. However, in a liberalised system of markets and from a narrow international flow-of-funds aspect, the foreign-owned equities are easily-encashable assets (though not, in a technical sense, liquid). They can be sold at the going market price in an established market quite quickly and promptly converted to the creditor's home currency in the foreign exchange market (subject to any dislocations which exist in a crisis situation and subject to the existence of capital controls). To the extent that the capital importing countries use these inflows to finance investment in long-term projects, the capital-importing country is financing long-term investments with easily-encashable liabilities and is contravening good financial practice of matching the maturities of asset and liability. Only if the financial system is robust enough so that equity flows

<sup>13</sup> Certainly, an individual could never hope to manage effectively a portfolio of assets in a series of apparently unrelated volatile markets.

are not volatile or the central bank has sufficient reserves of foreign exchange or lines of hard-currency credit to negate any lack of confidence, could financing investment with easily encashable funds be an appropriate policy.

Table 6. Private capital flows and private equity flows into I-D countries  
(\$ billion)

Country	1986	1990	1991	1992	1993	1994	1995	1996	1997
Argentina									
NPCF	0.9	-0.2	2.9	5.6	13.6	10.1	9.7	16.1	19.8
PI(eq)	nil	0.0	0.4	0.4	5.5	1.2	0.2	0.9	2.2
Brazil									
NPCF	-0.1	0.5	3.6	9.7	16.2	12.3	20.0	29.7	43.4
PI(eq)	nil	nil	0.8	1.7	5.5	5.1	4.4	4.0	3.8
Chile									
NPCF	-5	2.1	1.5	1.8	2.4	5.1	5.5	7.4	9.6
PI(eq)	nil	0.3	0.0	0.3	0.4	0.9	0.3	0.1	0.5
Colombia									
NPCF	1.6	0.3	0.2	0.7	2.1	4.3	4.7	7.7	10.2
PI(eq)	nil	nil	nil	nil	0.2	0.3	0.1	0.3	0.1
Indonesia									
NPCF	0.8	3.2	3.4	4.6	1.1	7.7	11.5	16.2	10.9
PI(eq)	nil	0.3	0.0	0.1	2.5	3.7	4.9	3.1	0.3
Malaysia									
NPCF	0.8	1.8	4.2	6.1	11.3	8.5	10.1	12.8	9.3
PI(eq)	nil	0.3	0.0	0.4	3.7	1.3	2.3	4.4	-0.5
Mexico									
NPCF	0.6	8.3	12.0	9.2	21.2	20.7	16.0	25.2	20.5
PI(eq)	nil	0.6	4.4	5.4	14.3	4.5	0.5	3.9	2.1
Philippines									
NPCF	0.4	0.6	0.4	-0.7	3.3	3.9	4.3	5.0	4.2
PI(eq)	nil	nil	nil	0.3	1.4	1.4	2.0	1.3	0.1
Thailand									
NPCF	-0.2	4.4	5.0	4.3	7.5	4.4	10.0	13.6	3.4
PI(eq)	0.0	0.4	0.0	0.0	3.1	-0.5	2.2	1.6	-0.3

Notes: NPCF = net private capital flows; PI(eq) = portfolio investment in equity markets (annual flow). Source: *Source: World Bank (1999c). World Development Indicators* (Washington, D.C.: World Bank)  
The data set did not provide data for either Korea or Singapore.

The existence of foreign-owned equities in an internationally-liberalised system drastically increases the host country's optimum volume of foreign-exchange reserves. This quantum has traditionally been defined in terms of necessary imports (a flow) but should now allow for the inclusion of encashable liabilities to foreigners (a stock). This represents a fundamental change in concept and sharply reduces the benefits of the MFPI. Note too that the benefits derived from the inflow of foreign saving into a local equity or stock market depends upon the efficiency of that market as an allocative device (Singh, 1992) as well as upon the additional volume of new issues of equity by locally-owned firms attributable to the reduced cost of equity capital.

Competition among mutual funds in the industrialized world has forced some firms to seek out new areas for investment. Helliard and others (1998) report on the criteria by which emerging equity markets are opened up for investment by British mutual funds. Clearly, foreign fund managers will seek to escape from the effects of a local crisis as best they can. The result of the infusion of foreign funds into local equity markets is a substantial overhang of potentially volatile foreign exchange. A crisis, whether originating in the domestic economy or in the foreign exchange market, is likely to generate a sudden outflow of funds and to expand a domestic political or economic crisis into a foreign-exchange crisis.<sup>14</sup> In principle, a country with a sophisticated macro-financial policy could instruct its monetary authority to hedge the value of foreign-owned equities but this seems to call for almost as much financial sophistication as liberalization and will substantially raise the cost of the funds.

<sup>14</sup> Note that traditional portfolio investment has the lender's asset specified in the lender's (hard) currency so that it is the possibility of inability to service the debt not the foreign exchange rate that is crucial in traditional portfolio investment.

According to Singh (1992) the purpose of the original plan for emerging nations to develop stock markets was to attract portfolio investment which would replace debt as a source of hard currencies given that commercial banks in industrialized countries were likely to be unwilling to make loans or buy bonds in emerging markets. This original plan (put forward by the World Institute of Development Economics Research in 1990) argued for the abandonment of control over international capital movements<sup>15</sup> and seems to show a sublime faith in the idea that equity investments in countries which cannot sell debt to foreign banks are long-term and not subject to sudden withdrawals.

### III. PORTFOLIO EQUITY INVESTMENT

Classical economic theory sees net international capital inflows as a source of saving which can be used for capital formation and, at the same time, constitute assets that can be used by investors as a means of achieving a diversified portfolio with a high risk-adjusted rate of return. This interpretation and the argument that the freedom of international capital movements will increase global allocative efficiency both rely on the assumption that economic systems are inherently stable with no important exogenous (or endogenous) shocks to engender a financial crisis. The emerging equity markets must be assumed to have significant depth, breadth and resiliency. Indeed, in the absence of some assurance of the possibility of repatriation of funds in a time of stress, the volume of private portfolio equity investment in developing countries would remain quite small.

A financial system consists of a series of inter-linked financial markets which function under known sets of regulations and procedures (including the existence or non-existence of a lender of last resort and of insurance against the failure of deposit intermediaries). The greater the number of financial products traded and the greater the inter-temporal and geographic range of those products, the more sophisticated is the system and the greater is its ability to promote allocative efficiency under tranquil conditions. A well-functioning financial system will be regulated by the financial authorities (in a national system, the central bank) and the set of policies in force and effectively administered (macro-financial policy). Given the existing set of statutes, macro-financial policy is designed to generate a combination of products, practices and regulations which will promote an effective mix of allocative and stability efficiencies.<sup>16</sup>

Such policies are enhanced by central bank co-operation (lines of credit) and by the creation of supranational bodies, (for example, the IMF) which are designed to provide temporary assistance. Policymakers must recognize the need for transparency of regulations and practices and for the availability of reliable information so that people who are engaged in any part of the system may have a full appreciation of the way in which the system is designed to work and works (or have reliable access to someone who has such knowledge).<sup>17</sup> People for whom an understanding of the system is necessary include executives of both financial and non-financial corporations – especially executives engaged in international financial transactions – and people employed in the regulation and administration of the system. All of these people need to be aware of the potential for the foreign sector to generate adverse shocks.

The industrialised countries of the world have developed their financial sectors over the last century and a half (and more) and possess a series of highly specialised firms and operatives who are both well-trained and well-equipped to cope with slow change: these specialist firms create linkages among major financial markets across space and time and provide information. Within the industrialised countries, a relatively fast rate of innovation resulting from the liberalisation of capital markets, the adoption of new and different exchange-rate systems, the introduction of computers and the ability quickly to transact financial operations throughout the integrated sector has been accomplished with relatively little stress (although the crises of the pound sterling and the Italian lire in 1992 could be attributed in part to a failure of national central banks and/or treasuries to understand the degree to which new financial instruments, such as derivatives, could be profitably used by private firms to punish badly

<sup>15</sup> This required the elimination of section 3 of Article VI of the International Monetary Fund's Articles of Agreement. The question of the absence of capital controls is considered in Section IV below.

<sup>16</sup> Macro-financial policy can be seen as the financial equivalent of macro-organizational policy (Dunning, 1992) which is designed to make the country attractive to internationally-mobile productive activities. This paper does not address “monetary policy” designed to reduce the variability of GDP around its trend.

<sup>17</sup> People who are active in only one aspect of the system, for example, depositors in a financial intermediary, need have a knowledge only of the institutions which they use and any related institutions.

overextended, vulnerable national currencies).<sup>18</sup> Even given that advanced capitalist economies are likely to have efficient financial infrastructures does not mean that mistakes cannot happen and that crisis is impossible. In addition to the foreign-exchange crises of sterling and the lire, the near failure of Long-Term Capital Management in the United States in 1998 was only resolved by astute and massive rescue operations.<sup>19</sup> That these experiences did not result in major instability offers proof of a good measure of stability efficiency in the financial system of the industrialised countries.

Generally, the financial sectors of the industrialised countries have avoided severe crises despite the development of domestic and international strains as new regulatory frameworks, new technologies (including new financial instruments) forced new awareness of different dimensions of risk and as portfolio managers and other operators push their analytic models to the limit. Advanced capitalist economies can, then, be expected to have efficient financial infrastructures provided that the rate of technological change does not exceed the capacity of operators to keep up-to-date with the intricacies of innovations and provided that prolonged tranquillity does not introduce underestimation of the probability of adverse shocks in the mindset of operators in the market.<sup>20</sup> One consequence of the generally adequate financial infrastructure in industrialised countries is that models of the financial sector in and transactions among these countries have substantial resistance to shocks and models of international transactions did not need explicitly to specify the components of financial infrastructure. Unfortunately, most pre-1997 analyses neglected to consider the question of the adequacy of financial infrastructure in developing countries.<sup>21</sup>

An efficient financial infrastructure implies the existence of a financial policy framework that provides for adequate prudential regulation. The latter is a static concept and as, Herring and Litan (1994) and Maehara (1994) suggest, the goal of having prudential regulation keep up with technological innovations in a times of rapid change, may not, even in sophisticated systems, be feasible. This point overlaps with the idea that as technology increases, problems of enforcement grow and regulation will distort capital markets without an adequate increase in stability-efficiency. This is a strong argument for greater reliance on market forces (i.e. for liberalisation) as a means of disciplining firms exposed to excessive risk.<sup>22</sup>

Good financial infrastructure requires: good macro-financial policy and the power to introduce the needed constraints and support systems be vested in the central bank; the acceptance by the financial community of the authority of the central bank; good data so that the central bank and operators in financial markets are able to make rational decisions on a reliable basis; and ongoing research into the operations of the system. The greater the number of specialist institutions linking together markets for different kinds of assets and liabilities, the quicker the speed of reaction of these institutions to new information, the more reliable the information, and the higher the levels of operator experience and skill in acting in the existing system of financial markets, and the greater the mass of financial resources at the disposal of stabilizing institutions, the greater is the adequacy of financial infrastructure of the country. However, there is an internal problem here. The ability to generate good financial infrastructure depends upon the existence of good financial infrastructure. Macro-financial policy must be able to rely on the existence of good data and responsive financial firms if it is to be able to generate good macro-financial policy. Currently, the Chairman of the Board of Governors of the Federal Reserve System is regarded by the

<sup>18</sup> For a discussion of the contribution of computer links to the growth of international financial flows, see Minsky (1986). For an assessment of central bank policy in Italy in 1992, see Salvatore (1998).

<sup>19</sup> The bail-out of Long-Term Capital Management in August, 1998, in New York required an infusion of \$3.5 billion.

<sup>20</sup> The latter is the essence of Minsky's (1986) theorem, which can be seen as a variant version of "adaptive expectations". The theorem identifies a subtle but potentially serious reduction in the quality of the financial infrastructure as operators are lulled into a sense of false security by a prolonged absence of adverse shocks or by the creation of unidentified speculative bubbles, possibly caused by general or sectoral "irrational exuberance" (Canterbery, 1999).

<sup>21</sup> The crisis in East Asia in 1997 served as a catalyst to analysis of "why things went wrong". In general, analysts have focused on what may generally be termed "inadequacies of capital markets" rather than on the broader range of characteristics of ID and poor countries contained within the rubric of "institutional infrastructure" as the idea is developed here. Eichengreen and others (1998) have conducted the most broad-based assessment of which the authors are aware.

<sup>22</sup> Herring and Litan (1994) and Maehara (1994) both advocate allowing individual firms/banks to fail in the expectation that this will not generate a crisis and should cause others firms/banks to reduce their vulnerability and to enhance the stability efficiency of the system. In a system with good stability-efficiency, this is very likely to be so, but the stakes are high and, in many cases, the odds are not knowable. The proposal can be seen as compatible with ensuring that Minsky's (1985) fears of operatives being lulled into a sense of false and overoptimistic security, will not occur but it neglects the possibility that one failure can, in a taut system, start a chain reaction.

financial sector of the United States as a central banker par excellence. He would not be as successful were he to be the central banker in a country in which good financial infrastructure did not exist.

The lack of an adequate financial infrastructure implies three things.<sup>23</sup> First, the transaction costs of using the system of financial markets will be higher, the greater the degree of inadequacy of the infrastructure. Second, the allocative efficiency of the system will be reduced as individual investors make sub-optimal decisions as a result of their lack of understanding of the fine points of the system, from the inferior quality of information available, or from misguided attempts to steer funds to “cronies”. Third, the probability of a major crisis is greater than would exist with adequate infrastructure because economic units will not correctly assess uncertainty and the danger of a vicious cycle. The last possibility is significantly enhanced in an open economy allowing transactions on both goods-and-services and capital accounts: it is this possibility of substantial instability that tends to be neglected in traditional analysis.

A system of markets, linkages and skilled operators (good financial infrastructure) is not created overnight and is likely to be very sensitive to culture, tradition, established practices as well as to the set of “formal institutions” inherited from the past.<sup>24</sup> An I-D country may very well have a financial sector which operates with more-or-less satisfactory effectiveness in allocating capital in a closed economy and/or in an environment which is evolving only slowly and the country may have financial infrastructure which enables it to withstand some domestic shocks without creating a financial crisis.<sup>25</sup> Unsatisfactory financial infrastructure is likely to build up stresses over time so that the adequacy of a country's financial infrastructure is likely to deteriorate in the absence of a pause in economic growth and/or advances in financial technologies.<sup>26</sup> Given that institutions and expertise (infrastructure) require time to develop, a system that has been inherited from the past, can tolerate only some (unknowable) rate of innovation of financial markets and practices without potentially drastic loss of effectiveness. The critical rate of innovation may easily be exceeded in a developing economy either when the economy has experienced rapid growth over a period of years — and expectations have adapted to assume the inevitable continuation of that growth (Tversky and Kahneman, 1982) — and/or has, in the process, become deeply exposed to the substantially more sophisticated global financial system developed by the industrialised economies with all of the possibility of exogenous shock which “membership” in the global system creates. All of the indigenous participants in a national financial system cannot be expected to have a full appreciation of the benefits and the potential costs of the new internationally-open system. Under these circumstances, there will be a gap between the quality of financial infrastructure in existence and the quality required if stability efficiency is to be adequate in the new more open and sophisticated financial system. It is this gap between the existing and the required quality of financial infrastructure which can be held largely responsible for the crises in Thailand and, through contagion, in other East Asian economies.<sup>27</sup> From a policy framework perspective, then, it is important that adequate regulations and procedures are created to support the function of a solid financial infrastructure: this is an example of (financial) institution building.<sup>28</sup>

In Thailand, financial infrastructure fell short of what was required in virtually every dimension: exchange-rate policy; the sophistication of private financial institutions, recognition of the need to hedge foreign-exchange exposures; culture; the accuracy of firms' financial statements; the effectiveness of prudential

<sup>23</sup> Qualifications to the efficiency of the market system usually emphasize the first aspect of greater transaction costs but neglect the second which derives from imperfect, and possibly asymmetric, information. Asymmetric information receives great stress in Eichengreen and others (1998) and the possibility of (deliberately) bad data relatively little analysis. In financial systems in developing countries, the second issue is of major importance because it contributes to the potential for instability (Rahman, 1998).

<sup>24</sup> North (1990) distinguishes between formal institutions which are the result of statutes and informal institutions which derive from culture.

<sup>25</sup> One of the major benefits from the establishment of branches and affiliates of major global banks in an industrializing country is the introduction of better banking techniques which multinational banks bring with them. These techniques may spill over to indigenous banks if competition between the two groups is allowed.

<sup>26</sup> There is a similarity here to Minsky's theorem: small shocks will allow the financial infrastructure to be improved at some cost of short-run and localized dislocation (Cf. Maehara, 1994).

<sup>27</sup> The problem of contagion is not addressed in this paper. Contagion has clearly been a problem in the East Asian crisis but it operates largely through the mindsets of foreign asset holders who, having misread the effectiveness of financial infrastructure in the country in crisis, take steps to reduce their positions in countries with similarly inadequate financial infrastructure and which are suddenly perceived to be potentially subject to similar adverse shocks. For analyses of the East Asian financial crises, see Letiche (1998) and Rahman (1998).

<sup>28</sup> For a definition of “institutions” see World Bank (1999, 22-23).

regulation; and the vulnerability to a panic withdrawal of non-residents investments in equities.<sup>29</sup> No single dimension was crucial in bringing about the ultimate flight from the baht and the abandonment of the dollar peg on July 2, 1997: all contributed, directly or indirectly, to the crisis. The individual strands of inadequacy can be examined sequentially.

In any crisis which finds its roots in the international sector, foreign-exchange policy needs to be examined first. In an attempt to attract foreign capital and to limit domestic inflation, the Thai government had, with the encouragement of the International Monetary Fund, tied the baht to the United States dollar so that its rate of exchange was fixed. Note that this policy optimistically assumed that the Thai economy had the stability efficiency to withstand any adverse shock that the U.S. economy could withstand. In practice, this proved to be untrue. At a time when the dollar strengthened against other major currencies in 1997, some relative inflation in Thailand caused the baht to strengthen in real terms against the currencies of its competitors on two counts. The net result was that the price-competitiveness of Thai exports was eroded.

In consequence, the central bank needed, if the pegged rate was to be sustained, to raise the yield on loans denominated in baht to finance the reductions in the rate of growth of exports. Banks and non-financial firms which had access to dollar or yen loans, were able to borrow in these currencies at substantially lower rates and, in this way, to reduce apparent borrowing costs. Clearly, more sophisticated bankers and executives of non-financial firms would have recognised an interest rate premium to be a sign of potential weakness and would have borrowed in hard currency only if they could have saved a sum large enough to allow for an exchange rate-hedge and would have hedged their positions. It seems that both non-financial firms and banks which borrowed in hard currency to finance activities which yielded baht were naively relying on the continuation of the dollar/baht rate of exchange.<sup>30</sup> Once the peg to the dollar was seen to be in danger of collapse, the baht was subjected to serious withdrawals of foreign capital.

In Thailand, as elsewhere in East Asia, culture made transparent disclosure of financial conditions much more difficult to achieve with the net result that balance-sheet data hid the very highly-leveraged positions of many large firms (as well as the foreign exchange exposure of banks and some large non-financial firms). One way in which the vulnerability was hidden, in addition to lax accounting standards, was through substantial reliance on related-party transactions and through off-balance sheet financing of debt. These conditions made it possible for bankers and executives of non-financial firms to take undue risks without these risks being fully appreciated by foreign lenders and investors.<sup>31</sup> One study (Rahman, 1998) emphasises the inadequacy of the auditing process in Southeast Asia – particularly by international firms. The study reports “horror stories” of firms given a clean bill of health by an international accounting firm only to fail weeks later. Of course, the local managers of country- or regional unit trusts/mutual funds should have been aware of the inadequacies of the auditing process in a region in which they were, ostensibly at least, specialists.

The level of prudential regulation of the financial sector was simply inadequate (as the lax accounting reporting suggests). In part, this was due to a traditional antipathy for disclosure on the part of the Thai banks.<sup>32</sup> The general disregard for accurate data and the suspicion of authority both make the task of imposing adequate standards of prudential regulation more difficult as did the lack of apparent need for concern with malfunction.<sup>33</sup>

<sup>29</sup> What happened in Thailand was an exemplar for Indonesia, Korea, Malaysia and the Philippines except that these countries (with the exception of Korea) were shocked by contagion rather than by the original loss of confidence in a national currency.

<sup>30</sup> This was not as naive as it may appear *ex post facto*. Rahman (1998) notes that rating agencies in New York did not reduce their ratings on sovereign debt of the five East Asian countries until well after the start of the crisis.

<sup>31</sup> This lack of familiarity of East Asian practice indicates a substantial weakness in the financial infrastructure of industrialised countries: financial firms were prepared to lend money and to acquire equities without a thorough understanding of the lack of reliability of their data. Clearly, the investment was not sufficient to precipitate a system-wide crisis in the larger and more robust global system.

<sup>32</sup> The Thai banking system contains a large number of banks owned by overseas Chinese who have a very strong antipathy for disclosure and which tend to operate within a network of overseas Chinese firms in the region (Australian Department of Foreign Affairs and Trade, 1995).

<sup>33</sup> Eichengreen and others (1998, 21-22) puts great emphasis on the contribution of the inadequacy of prudential regulation to crisis (to the point that the expression, “inadequacy of prudential regulation” is used six times in one paragraph). The study correctly points out that liberalisation magnifies any inadequacy in the network of prudential regulation. Of course, opening the financial system up to a more sophisticated system will magnify the shortcomings substantially more.

One major weakness of central bank policy was the fact that it used up by far the greater part of its foreign exchange reserves in trying to maintain the peg (in accordance with the IMF policy). When renunciation of the dollar peg proved inevitable, there were no reserves left to support the baht against the swings of speculation which occurred.<sup>34</sup> In consequence, the damage inflicted on Thai firms burdened with debt denominated in foreign exchange was unnecessarily great. The social cost of the crisis was substantial in the region.<sup>35</sup> The crisis was reinforced when domestic banks became insolvent when the prices of real assets fell drastically and firms declared bankruptcy.

#### IV. THE DIVISION OF PRIVATE FLOWS BETWEEN INDUSTRIALIZING/DEVELOPING AND POOR COUNTRIES

It is useful to summarise the argument to this point: Both I-D and poor countries need inflows of private foreign investment to achieve sustained development.

Inward FDI requires a certain degree of institutional infrastructure (both financial and legal) which is likely to be available in the higher-income I-D countries but which must be steadily improved through time as MNCs develop higher levels of expectation about the needed level of sophistication in the institutional infrastructure.<sup>36</sup> Poor countries can only hope to achieve inward FDI if they have specific assets which attract MNCs in industries which rely heavily on available assets (Dunning and Narula, 1995).<sup>37</sup> For this they will require a high level of institutional infrastructure which is likely to be most effectively supplied in an enclave. Poor countries are also likely to need to have the capability of negotiating with MNCs and of formulating an inward-investment policy framework (with a full knowledge of the potential costs of such a plan). While the resources needed to attract inward FDI probably have high opportunity cost, the direct benefits and positive externalities should also be high.

Inward traditional portfolio investment also requires a discernible degree of institutional infrastructure but will be judged mainly on the ability of the economy to avoid financial crises. Failure to exhibit a satisfactory level of institutional infrastructure will probably result in a higher cost of borrowing for some countries rather than a complete lack of availability. While financial infrastructure is important, the other dimensions cannot be neglected.

Inward modern foreign portfolio investment must be sustained in the event of recession or financial stress lest its exodus aggravate adverse conditions and instigate a financial crisis. Poor countries will not be able to attract MFPI because of the absolute lack of financial infrastructure. Industrialising/ developing countries must recognise the vital importance of good financial infrastructure and must take conscious steps to generate it.

Attracting inflows of private portfolio investment to a developing economy can be valuable as a supplement to other types of investment inflow. However, if the inflows are not retained and are dissipated by outflows, a policy of attempting to attract easily-encashable foreign capital may not be a good one (irrespective of the efficiency of the local equity market). The damage inflicted by a crisis is simply too great. The key to the retention of MFPI is strong financial infrastructure. Since one purpose of strong financial infrastructure is to deter the existence of financial stress and to preclude panic repatriation of funds in such times of financial stress, there is a question as to whether completely unimpeded capital mobility is appropriate for developing countries.<sup>38</sup>

<sup>34</sup> This point was made by Peter B. Kenen at the twenty-fifth Annual Conference of the Eastern Economic Association, March 12, 1999, at Boston, Mass.

<sup>35</sup> In addition to the usual indicators of cost, there is a real possibility that the Thai economy suffered as Thai-owned firms were so weakened by the crisis as to be acquired relatively cheaply by foreign MNCs. As yet there are no data on this phenomenon and it presents scope for a very interesting inquiry.

<sup>36</sup> The Commission of Sustainable Development highlights the important role of government in institution building for financial sector development.

<sup>37</sup> Dunning and Narula (1996, 1-3) identify the deficiency in "location-bound created assets" as a cause of the low rate of inward FDI in poor countries. This concept comes close to the idea of institutional infrastructure since the assets have to be created by the local (host) economy and cannot be supplied by the MNC except in a defined enclave in which event the foreign affiliate is effectively cordoned off from the host economy.

<sup>38</sup> The current policy of the IMF is, on the instructions of its policy-setting committee (which comprises finance ministers and central bankers) is to amend the Fund's Articles of Agreement so that the Fund can promote the orderly liberalization of capital movements (Eichengreen and Mussa, 1998, 16). Analyses of the process are now subject to more caveats than in 1997 (Fischer, 1997, 1998).

The major argument for complete liberalisation of capital movements (that is, the complete absence of controls on international funds transfers) is the enhancement of global allocative efficiency. There is nothing wrong with this goal<sup>39</sup> provided that the countries have adequate financial infrastructure and most analyses now address the ability of a country effectively to create various aspects of financial infrastructure (for example, prudential regulation and good macroeconomic policies). Indeed, financial capital movements are extremely difficult to control and have become more difficult in the light of recent technological innovations. Any regime of controls runs the danger of seriously distorting capital flows so that the cure may be worse than the disease.

Such a policy must address the level of sophistication of financial infrastructure in all of its dimensions. It is perfect freedom of capital movements which allows the easy encashability of assets and the concomitant conversion of local funds into hard currency.

A financial system in which data are not reliable and operators are ignorant of the implications of membership in a global system is in danger of having inadequate stability efficiency.<sup>40</sup> The benefits foreseen by advocates of complete mobility of international capital would, if adequate stability efficiency is to be maintained, require a highly sophisticated financial sector in each and every country.

Rahman (1998, 36) calls for international accounting firms to take the necessary steps so that the quality of audit services provided by their national practices all over the world does not fall short of practices in North America and Europe. This recommendation is based on the failure of firms which had received “clean bill of health” only a few months earlier but it conjures up severe problems of extraterritoriality. Clearly Rahman is correct in the sense that common accepted standards of accounting would preclude the possibility of bad investments by lenders and mutual fund managers in the industrialised world but, like the Panglossian vision of a world with completely liberalised movements of portfolio capital, the approach neglects the adequacy of financial infrastructure (the state of preparedness of the financial sector to conform to the conditions required). Eichengreen and others (1999) offer a sensible review of the problems that must be confronted before freedom of financial capital can be as widespread as liberalised international trade now is. But the study fails to consider the cost of the inordinately larger reserves of foreign exchange which are required as well as the (opportunity) costs of the expenditure of resources in developing the necessary financial infrastructure (with its heavy demands on human capital) as a cost to be offset against the marginal benefits of freedom of international capital movements.

#### V. THE SIMILARITIES OF THE DETERMINANTS OF THE TWO INFLOWS: AN EMPIRICAL STUDY

As important as ODA is to promote economic development, it is not sufficient to sustain development. Ultimately, other sources of capital will be needed, and I-D countries are turning increasingly to the private sector to foster economic growth. The private sectors of I-D countries, are, however not sufficiently strong to generate all the private capital needed for continuing economic development. What cannot be raised internally therefore must come from external sources. External private capital flows into a developing country in two forms, direct and portfolio, with portfolio consisting of modern portfolio investment (equity) and debt.

Generally speaking, those entities that engage in direct and portfolio equity investment do so for different sets of strategic reasons. Direct investment in real assets implies the desire to control assets, while portfolio investment uses the ownership of assets to earn a definable return or gain.<sup>41</sup> As the ability of firms, institutions and individuals to invest in the private sectors of other countries becomes more complex in a globalised financial marketplace, however, the distinction between what functions as direct or portfolio investment can become less clear. (Dunning and Dilyard, 1999) For example, it is conceivable that a firm can engage in a portfolio of several (relatively small) direct investments in several countries with the idea that those investments that do not meet previously-established criteria will be divested. On the other hand, a consortia of investing entities, each making

<sup>39</sup> Particularly with respect to direct and traditional portfolio investment.

<sup>40</sup> The real cost of a crisis in an I-D country depends very much on the degree to which the other countries in the world are able to maintain an open market for the crisis country's exports. This requires an importer of last resort and is a role to be filled by the world's financial hegemony. The cost to the crisis country exceeds the bankruptcies of existing firms: it includes the very weakened condition of surviving firms and the high probability that the better of these firms will be acquired by foreign multinational corporations at the expense of national net worth.

<sup>41</sup> The operational distinction between direct and portfolio equity investment actually revolves around control, with 10 per cent ownership of a company deemed (by the UN, World Bank and others) to be sufficient to exercise managerial control.

what essentially is a portfolio investment, could pool their resources to exert functional control over the firm in which the investment has been made.

Historically, studies addressing the determinants of private investment in I-D countries have treated direct and portfolio investment as distinct entities, concentrating primarily on internal country-specific (pull) factors to explain direct investment and external (push) factors to explain portfolio investment. Country-specific factors include domestic market size and/or growth, the history of exchange rate variability, and those such as interest rates, inflation, political risk and the existing stock of direct investment that address the general environment for direct investment. External factors, on the other hand, refer mostly to the interest returns available in alternative locations (developed countries) for portfolio investment; the expectation of higher rates of return on equity and bond investment in I-D countries pushes investment to those countries. Recent studies by Grosse (1997), Mody and Srinivasan (1998), Singh and Jun (1995), UNCTAD (1993), and Taylor and Sarno (1997), however, have expanded the list of explanatory variables for both types of investment to include internal and external variables. Recognising that the functional purposes of direct and portfolio investment can be similar, Dilyard (1999) developed a common set of explanatory variables applicable to both. Table 7 presents a summary of the variables identified in all of these studies.

In his empirical study of the net flows of direct and private portfolio<sup>42</sup> investment to three East Asian and three Latin American countries<sup>43</sup> from 1980 to 1995, Dilyard used the following set of variables to explain each type of flow.

- (a) Gross domestic product (market size);
- (b) The ratio of total annual interest paid on all debt (domestic and foreign) to gross national product (debt burden);
- (c) The ratio of short-term debt to total private debt (debt burden);
- (d) The difference between the average annual rate on US Treasury Bonds and the average interest rate on all new private debt added during the year (interest rate differences);
- (e) The difference between the average annual US prime lending rate and the average interest rate on all new private debt added during the year (interest rate differences);
- (f) A comparison of the country's credit rating as determined by Institutional Investor magazine and the average credit rating for all rated countries (credit rating);
- (g) The stock of all inward direct investment from all sources (stock of existing direct investment);
- (h) The combined gross domestic product of developed (OECD) countries (market size);
- (i) The stock of all outward-bound direct investment from OECD countries to I-D countries (a push factor);
- (j) The profitability of US direct investment in an I-D host country (investment environment);
- (k) The year-end capitalisation level of the I-D country's stock market (a pull factor);
- (l) The year-end capitalisation of developed country stock markets (a pull factor).

Dilyard modelled the combined net flows of direct and portfolio investment against these variables using time series analysis techniques. Adjusting for the incidence of high degrees of correlation among variables common to this type of analysis, he found that either or both direct and portfolio investment in each of the two regions was strongly influenced by GDP, credit rating, the profitability of direct investment, and the size of the country's stock market.

These variables are pertinent to the role of private investment in sustainable development because they point to the environment in which investment can flourish. A large domestic market (GDP), a growing private sector (size of stock market), signs that the economy can support private investment (profitability), and evidence of fiscal and/or monetary infrastructure (credit rating) are all viewed positively by potential private investors.

<sup>42</sup> Private portfolio investment was defined as equity and all non-guaranteed debt, including bonds and bank loans.

<sup>43</sup> The East Asian countries were Indonesia, Malaysia and Thailand, while the Latin American countries were Argentina, Brazil and Chile.

Thus, continuing inflows of private investment in all its forms is evidence that foreign investors view favourably the prospects of ongoing or sustained development in a country.

Table 7. Variables Used in Studies of Determinants of Direct or Portfolio Investment

<i>Grosse</i>	<i>Singh and Jun</i>	<i>UNCTAD</i>
Market Growth	Market Size	Market Size
Exports/Imports	Market Growth	Change in Market Size
Interest Rates	Exports	Exchange Rates
Credit	Wage Rates	Exchange Rate Variance
Inflation	Taxes	
Fiscal Balance	Work Days Lost	
Foreign Exchange Reserves	Political Risk	
GDP per Capita	Operating Risk	
Price of Oil	Debt Management	
	Home Country Factors	
<i>Mody and Srinivasan</i>	<i>Taylor and Sarno</i>	<i>Dilyard</i>
Market Size	Credit Rating	Market Size
Cost of Investment	Exchange Rates	Debt Burden
Taxes	US T-Bill Rates	Interest Rate Differences
Labor Costs	US T-Bond Rates	Credit Rating
Propensity for Trade	Real US Industrial Production	Stock of direct investment
Stock of direct investment		Profitability of direct investment
Country Risk		Size of Stock Market
Infrastructure		

Applying this analysis to the concentration of direct and portfolio investment shown in tables 2, 3 and 4 suggests that only a small number of countries are expected to have sustained development. In fact, the concentration of investment flows can be shown to be even more severe by focusing on the six countries used in Dilyard's study plus China and Mexico. During the 1990s, these eight countries have been the destination of the vast majority of direct and portfolio investment.

Table 8. Concentration of foreign direct investment in a select group of countries, 1990-1997 (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997
Share held by top 12	70.5	67.3	72.6	74.3	77.4	72.2	74.6	69.8
Share held by top 8	62.9	61.0	68.6	69.1	69.3	65.0	66.4	62.4
Share of top 12 held by top 8	89.2	90.6	94.6	93.1	89.6	90.1	89.0	89.4

Source: Calculated from World Bank, World Development Indicators, 1999.

The concentration of direct investment in these eight countries is demonstrated in table 8. On average, over 90 per cent of the direct investment going to the twelve countries in tables 2, 3 and 4 and roughly two-thirds of the direct investment flowing to all I-D countries have gone to these eight countries from 1990 to 1997. This trend is mirrored in private debt. As table 9 shows, the eight countries were the recipient of on average a little over 60 per cent of net private debt flows to all I-D countries. Debt flows, however, experienced more volatility than direct investment. Some of this volatility is due to the inclusion in debt flows of debt from private creditors that actually is guaranteed by a third party. Economically stronger countries tend to receive proportionally smaller amounts of this kind of debt than private, non-guaranteed debt. Thus, the large (\$40 billion) increase in private

debt going to I-D countries from 1995 to 1996 is likely made up of a significant portion of private, but guaranteed, debt.

Table 9. Concentration of private debt flows in a select grouping of countries 1990-1997 (percent)

	1990	1991	1992	1993	1994	1995	1996	1997
Share held by top 12	61.1	87.6	62.1	64.3	91.7	82.4	86.4	71.8
Share held by top 8	62.8	68.6	56.0	56.4	58.6	67.4	65.6	56.3
Share of top 12 held by top 8	102.9	78.4	90.3	87.7	64.0	81.8	75.9	78.5

If the distribution of direct investment and private debt suggests a strong relationship between a country's economic health and its receipt of private capital, what does the pattern of equity investment say? As is seen in table 10, the eight countries attracted anywhere from two-thirds to four-fifths of all equity investment in I-D countries from 1991 to 1993, but a lower amount from 1994 through 1997. Given the relative stability of direct and portfolio debt investment flows, one might expect the behaviour of portfolio equity investment to also be relatively stable.

Equity investment can be notoriously volatile and reacts quickly to any news that is expected to affect economic growth either positively or negatively.<sup>44</sup> Thus, even countries that appear to be an attractive location for direct investment may have undercurrents that frighten away portfolio equity investment. As evidence, examine the pattern of portfolio equity and direct investment in Argentina, Chile, South Korea, Malaysia, Mexico and Thailand from 1993 to 1997 (table 11). Each of these countries had at some point in that period either an economic crisis of its own or were adversely affected by the contagion of crises occurring in the region.

The response to these economic concerns in portfolio equity investment was rather immediate and dramatic capital flight. The problem was exacerbated as well by its suddenness; these countries had the outward appearance of internal economic strength. Once weakness was revealed, the assumption of stability disappeared. The duration over which this capital flight occurred was (and is) a combination of the severity of the problem, investor expectations about the future, and the existence of buying opportunities.<sup>45</sup>

Table 10. Concentration of portfolio equity flows in a select grouping of countries, 1990-1997 (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997
Share held by top 12	66.7	87.7	91.4	93.5	71.8	68.7	59.8	61.9
Share held by top 8	52.7	83.2	67.5	76.1	56.9	48.6	43.4	54.9
Share of top 12 held by top 8	79.0	94.8	73.8	81.4	79.3	70.7	72.6	88.6

Source: Calculated from World Bank, World Development Indicators 1999.

<sup>44</sup> As evidence of this statement, one only need examine the recent turmoil in the United States stock market being caused by a combination of inflation fears, disappointing corporate earnings reports, and expectations on Federal Reserve Bank policy pronouncements.

<sup>45</sup> Whenever a large amount of investment flows out of or into a stock market over a relatively short period of time, the possibility that investors are responding to a herd instinct in addition to (or in place of) more quantifiable factors is present. While this behaviour is not based on financial reasoning, its impact on the affected market can be profound.

Table 11. Portfolio equity and direct investment in a select group of countries, 1993–1997 (\$ billion)

	1993	1994	1995	1996	1997
<i>Direct investment in:</i>					
Argentina	3.3	3.1	4.8	5.1	6.6
Chile	1.0	2.6	3.0	4.7	5.4
South Korea	0.6	0.8	1.8	2.3	2.8
Malaysia	5.0	4.3	4.1	5.1	5.1
Mexico	4.4	11.0	9.5	9.2	12.5
Thailand	1.8	1.4	2.1	2.3	3.7
<i>Equity investment in :</i>					
Argentina	5.5	1.2	0.2	0.9	2.2
Chile	0.4	0.9	0.3	0.1	0.5
South Korea	6.0	2.5	3.6	3.7	1.3
Malaysia	3.7	1.3	2.3	4.4	(0.5)
Mexico	14.3	4.5	0.5	3.9	2.1
Thailand	3.1	(0.5)	2.2	1.6	(0.3)

Source: Calculated from World Bank (1999). *World Development Indicators* (Washington, D.C., World Bank).

Direct investment, on the other hand, did not experience the same kind of volatility as did portfolio equity investment. Indeed, in many cases direct investment actually increased. One reason this may have been occurring is that the flight of equity investment had created bargain basement buying opportunities for direct investment.<sup>46</sup>

It is difficult, of course, to use aggregate data to get inside the heads of those who engage in portfolio equity or direct investment, particularly with regard to their reactions to internal economic conditions. The empirical data presented here suggests that it is in portfolio equity where the most susceptibility to uncertainty occurs and where the lessons of East Asia (and, more recently, Eastern Europe) are most acute. As noted earlier, one of the problems that surfaced in Thailand in 1997, was the revelation of an amorphous financial infrastructure brought about a crisis that not only severely damaged Thailand's economy but infected other country's as well. It also is instructive to note that the underlying causes of Thailand's weak financial infrastructure were largely irrelevant to the consequent capital flight; all that mattered was that which was believed to be true was proven false.

It is impossible to know how less severe capital flight would have been from these countries had the underlying economic fundamentals been shown to be more robust. Likewise, it is impossible to know how less violent the more recent reactions to similar uncertainties about the financial infrastructure of Russia would have been had the events in Thailand not occurred. The badly negative responses to unfavourable news about I-D countries' financial sectors, however, reinforce our theme that a sound financial infrastructure is a necessary component of sustainable development.

Arguably, a different set of policies, particularly those relating to financial infrastructure and prudent supervision, could have kept the crisis in East Asia from occurring. While a greater degree of disclosure of financial conditions (both at the national and firm level), rules, regulations and practices might have made those entities investing in East Asia more aware of the full nature of the financial environment in which they were participating, it may also have depressed the level of investment in the first place. This relationship between financial infrastructure and policy frameworks and the level of FDI and portfolio investment, which is revealed

<sup>46</sup> For example, East Asian cement manufacturers, which are faced with high over-capacity and flagging demand, have been the target of much acquisition activity.

through empirical studies that address the determinants of those kinds of investment, thus becomes increasingly important when formulating and implementing policy.

## VI. POLICIES FOR INSTITUTION BUILDING

Both domestic and foreign private investment are responsive to the quality of institutions in a developing country. This fact requires that policymakers give active attention to the need for building institutions and that they recognise the difficulties of the task. Better institutions (North, 1990, Ch. 1) (World Bank, 1999 b, 22-3) facilitate economic growth in much the same way that improved physical infrastructure contributes to economic growth. However, where the need for upgrading physical infrastructure in both quantity and quality is made clearly apparent (to both taxpayers and policymakers) by bottlenecks and increases in transaction costs, the need for upgrading institutional infrastructure is less obvious. Moreover, improvements in institutional infrastructure may encounter resistance because they require reversing precedent, confronting cultural values, or even worse, when improvements may threaten the narrow economic interests of the members of the élite.

The need for good institutional infrastructure is not limited to the financial sector though there is a strong case to be made that the need for good institutions in that sector is paramount.<sup>47</sup> Foremost among these in a world in which the superior efficiency of a system relying on free markets and private sector development are the existence of property rights (legal) and the probity and constructive commitment of those in political power (government administration).

Foreign Direct Investment is, by definition, private. Nation seeking to attain sustainable development must compete among themselves for a share of the flow of FDI from richer to poorer countries. To attract FDI to generate offshore production of goods and services destined for markets in OECD countries, with all of the current account benefits that this genus of MNC affiliates promotes (Fry, 1996), an efficient set of institutions that both accommodates and nurtures private sector development, is essential. While the benefits of good institutional infrastructure apply to both foreign-owned and domestic firms, foreign-owned capacity is, because of its international mobility, much more locationally sensitive to the quality of institutional infrastructure.

Fortunately, inward FDI does not require that the availability of good institutional infrastructure be nationwide. Countries in the early stages of achieving sustainable development can create enclaves (restricted geographical regions) in which both good institutional and physical infrastructure are provided.<sup>48</sup> Successful development in enclaves can create spillover effects and lead to wider improvements in infrastructure and, in the process, provide a growth impetus to the rest of the national economy.

Traditional Foreign Portfolio Investment also requires good institutional infrastructure. Evidence of an example of this need is the decision of the Japanese Government in November, 1999, to shift the focus of its aid to Indonesia from financial ODA to the loan of financial experts.<sup>49</sup> The cited reasons for the change in policy are the "lack of legal know-how and the country's shattered banking system". The legal structure and the collapse of the banking system interact in that the non-existence of an operational bankruptcy law and the huge volume of bad debts in the banking system combine to render the banks incapable of transmitting financial transfers to firms in the export sector.

Modern Foreign Portfolio Investment is probably the source of external funds (saving) that is most sensitive to the quality of institutional infrastructure. Only very high quality institutions can both attract and retain MFPI which can be so subject to herd reactions by foreign portfolio managers.

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<sup>47</sup> Gray (2000) identifies eight areas in which the quality of institutions ("socio-economic infrastructure") is important: legal; educational; technological; financial; communications; cultural; government administration; and the political system. "Socio-economic infrastructure" is a slightly broader concept than "institutional infrastructure": the former includes the ability and the willingness of the population to work within an existing set of institutions, as well as the set of institutions itself. That this distinction can be important in the financial sector, is shown by some feature of the Thai financial crisis in 1997. With reference to FDI, this distinction may be taken to include the attitudes and work ethic as well as the skills of the labour force.

<sup>48</sup> This is most clearly seen when the inward FDI is seeking to exploit (depletable) primary resources. Here it is essential that the host government have the inherent skills to negotiate an agreement with the foreign corporation that retains for the host country the Ricardian rent which belongs to the primary resources.

<sup>49</sup> "Japanese Aid to Jakarta to shift to Technical Expertise", *The Straits Times*, 13, November, 1999.

Policy Formulation depends upon awareness on the part of policymakers and elected legislators of the need for high quality institutional infrastructure. The first step in promoting institution building is the provision of evidence of the importance of institutions so that policymakers recognise the building of institutions as an integral part of the search for sustainable development.<sup>50</sup> From recognition in general it is a short step to identification of what constitutes qualitative improvements in the various sectors. Identification of those institutions which can most usefully be improved, does not mean that the process is simple: conservatism, vested interests, fear of foreign domination and cultural values and tradition can all impede institution building. The process is, then, a long one and it must be conducted with standing commitment and a long-term outlook (thus differing from physical infrastructure which usually can be identified with individual, possibly major projects). The upgrading of institutional infrastructure will require broad-based educational programs if new institutions are to be accepted by those affected.

Governments must recognise, in addition, the importance of both legislation and new, refined regulatory systems. The legal and regulatory dimensions must precede the upgrading of institutional infrastructure because there is an inevitable lag between facilitating more sophisticated practices and the ability of people working in the affected sector(s) to learn to adapt to the new system.

Finally, as the analysis of the recent financial crisis has shown, the rate of institution building required is positively related to the rate of change imposed by circumstance. In context, circumstances can be beyond the control of policymakers, as when new technologies force different procedures upon the national economy. However, a rapid rate of change can also be imposed by opening up the economy (or a sector) to a more sophisticated international system and this constraint must be recognized by policymakers in both countries and in supranational bodies. If institution building has some maximum rate of accomplishment built into the process, as the ability of ordinary people to accommodate (institutional) change approaches its limit then the recognition of that constraint must be explicitly identified in the decision-making process.

## VII. INWARD FDI AND THE ENVIRONMENT<sup>51</sup>

The thrust of this paper has been that for both ID countries and, where possible, for stagnating countries, inward direct investment is the preferable foreign conduit for financing sustainable development.<sup>52</sup> This raises the question of how direct investment can be expected to affect the two objectives of sustainable development other than growth in per-capita income: the preservation or improvement of the environment -- reducing the *rate* of environmental depredation -- and the development of desirable social programs. It is important to recognise, at this juncture, that any analysis of the effect of FDI on environmental depredation requires that a distinction be drawn between the direct and the indirect effects. The operations resulting from inward FDI generate the direct effect (for example, emissions from factories of affiliates of multinational enterprises (MNEs) or the side-effects of mining a primary resource) and the environmental repercussions of any induced economic growth constitute the indirect effects. A part of any consumption pollution brought about by economic growth may be offset by the reduction of some pollution generated by sheer pressure on resources. Clearly, the indirect effects are likely to include the generation of desirable social programs as well as increased pollution generated by additional consumption.<sup>53</sup> Since the indirect effects are unlikely to be very sensitive to the cause of economic growth (domestically-generated growth or FDI-induced growth) and since economic growth is seen as inherently desirable, this section does not explore the potential indirect effects.<sup>54</sup>

<sup>50</sup> The emphasis on the financial sector in this paper should not be seen as refuting the generality of the argument.

<sup>51</sup> This section draws heavily on OECD (1999), particularly the articles by Gentry and Zarsky.

<sup>52</sup> ODA possibly excepted for the stagnating countries unable to attract adequate amounts of inward FDI.

<sup>53</sup> OECD (1999, 15) seems unduly concerned with the indirect effects: "This approach recognises that although an investment might be judged 'environmentally-friendly' at the plant level, its operations may contribute to a larger-scale of economic activity at the macro level, which may in turn lead to additional environmental harms". If the source of net environmental damage is generated by the induced economic growth (an indirect effect), this implies that growth is harmful *per se* -- unless the role of cascading pollution is important (see below). The argument reverts back to the point made in the first footnote to the effect that poverty elimination had become the "poor stepchild" of the annual CSD sessions.

<sup>54</sup> It is certainly possible, and even probable, that the establishment of foreign affiliate enterprises will give impetus to the improvement of the quality of socio-economic infrastructure -- partly by spillovers from the affiliates' activities and partly by increasing the need for higher quality infrastructure.

There exist both favourable and unfavourable direct effects. Simple logic suggests that countries seeking to attract inward FDI will regard sacrificing environmental quality as one of many possible incentives which can be offered to internationally-mobile investments. This possibility suggests that these developing countries will become pollution havens and that their environmental quality will be sacrificed for the sake of FDI-generated economic growth.<sup>55</sup> The reverse of this possibility is that established affiliates will transfer to the host nation production processes from the parent corporation and affiliates in more environmentally-sensitive economies and, in the process, reduce the total rate of environmental depredation in the host.

Examples of both kinds of FDI can be found, of course, but it is difficult to substantiate the predominance of either: in part because the generation of reliable data is extremely difficult.<sup>56</sup> There is also a wide range of possible ways in which pollution can be measured and different measures are likely to provide conflicting results. The problems are enhanced when MNEs based in environmentally-sensitive countries attempt to preserve the image of being environmentally friendly by subcontracting out the "dirty" production processes to other, possibly host-country firms. This is referred to as "cascading pollution". Zarsky (OECD 1999) finds evidence that supports both hypotheses. In an attempt to clarify the puzzle, Zarsky (OECD 1999, 52-57) develops a conceptual framework of linkages of which the macro linkages are the most important. The most pessimistic of these is the inability of national or supranational governments to control the behaviour of firms whose activities are internationally-mobile in a world in which poor countries cry out for sources of greater output and the regulation of pollution generation has been consigned to the level of individual states. In some countries, voters have relatively short time horizons so that longer-term problems such as environmental depredation are not given the attention they deserve. This concern echoes Kindleberger's (1986) concern with the lack of international public goods in the modern global economy. While recognising the problems of both analysis and policy, it is worth noting that MNEs are, as a major global phenomenon, less than fifty years old: the society of nations has not yet addressed, with any degree of commitment, the problem of how to regulate the environmental implications of MNEs at the global level. Concern over the environment is necessarily urgent but there is need for commitment rather than despair. The beginnings of such a commitment are to be seen in the growth in the political strength of the environmentally concerned in the more affluent countries.

There is general agreement that MNEs from environmentally-sensitive countries are more likely to create "environmentally-friendly" affiliates because of the need to maintain a good environmental image in their home country and in other markets in which they compete. Concern for an MNE's general reputation can be an important lever for governments and non-government organisations (NGOs) which seek to ensure that FDI in developing countries is not motivated by the search for pollution havens. Perhaps more important in assuring that FDI is environmentally-friendly is that the lack of environmental regulation in an exporting country can be countervailed against under international trade law by constituting an implicit subsidy of "dirty production" (Lundan, 1996, Chap. 2).

Other factors which limit the potential of the polluter haven hypothesis is that cost savings from dirty production are more likely to be realised in countries which are badly in need of inward FDI. Often, industries which would manage to effect substantial cost savings from lax enforcement of environmental controls tend to be heavily capital-intensive so that the exposure to political risk and similar socio-economic weaknesses in potential host countries is substantial.

While Gentry (1999, 37-42) analyses the various options open to governments and NGOs in industrialised countries to exert some control over the degree of environmental depredation which can be exercised by affiliate enterprises, the OECD volume refers only tangentially to the level of socio-economic infrastructure available in host countries. In addition to a lack of voter concern in some countries, the world operates seemingly as a series of independent states so that there is no major collective political understanding and commitments.

To regulate an industry or to put together a winning incentive package calls for a sophisticated set of institutions. These institutions are most likely to be found in I-D countries in which the willingness to cater to pollution-unfriendly processes is likely to be small (or, at least, significantly smaller than in stagnating countries). Since "dirty production" can be seen as an implicit subsidy, affiliates in a pollution haven will be limited to

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<sup>55</sup> Given the fungibility among the various investment incentives and performance requirements, environmental quality may be sacrificed not only in terms of the affiliate's operations but also in terms of the mix of incentives offered (Gray and Walter, 1983).

<sup>56</sup> One way to improve the quality of empirical studies is to generate a series of interview-based studies at the industry level such as Lundan's (1996) study of the pulp and paper industry.

countries in which the affiliate is market-seeking. Countries with sufficiently large domestic markets are I-D countries and will not be sufficiently desperate for inward FDI that they will subsidise polluting industries.

## VIII. CONCLUSIONS

Reliance on the (private) corporate sector to be the key actor in achieving the goals of the Commission on Sustainable Development will not be adequate. The dichotomy of developing countries into those making steady progress and those in stagnation identifies a group of poor countries, which have not yet reached the level of sophistication in institutional infrastructure which is needed to attract substantial inward FDI or private portfolio investment. This conclusion does not mean that the corporate sector cannot play the major role in the further development of countries which have achieved (even low levels of) sustainable development and these are the countries which we have assumed to be those who will be most likely to divert a substantial part of incremental income to social programs and environmental protection.

Models of economic development have not sufficiently emphasised the need for adequate institutional infrastructure, particularly financial infrastructure. This may be due, in part, to the predilection of economists for analyses which fail to recognise instability in financial markets and interruptions in the development process because of malfunctions of any kind.

We recognise that many of the countries which are currently stagnating may not have institutional infrastructure which allows them to utilise adequately inflows of ODA. While governments and super-national global institutions may be responsible for the distribution of ODA, it would be valuable for the Commission on Sustainable Development to confront the question not only of how the volume of ODA can be increased but also to develop some criteria which might serve to guide the distribution of ODA among the stagnating economies.

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