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Economic Development in Asia and Environmental Issues: Looking at Foreign Direct Investment

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I. INTRODUCTION OF FOREIGN DIRECT INVESTMENT (FDI) AND PROGRESS IN INDUSTRIALIZATION

The sustained economic development that began in East Asian countries more than 20 years ago has been led by the diversification of manufacturing industries, sophistication of industrial structure and active exports. In the course of this economic development, FDI has played an important role in both financial and technological terms. In the latter half of the 1980s, the East Asian economy expanded rapidly to become the "growth center" of the world, in large part because of increased FDI from other parts of the world as well as from within East Asia.

Soon after World War II, developed countries realized the importance of FDI as a means of helping corporate growth at home. As a result, industrial countries accounted for the greater part of international investment flows until the early 1980s, when developing countries began to attract FDI and to make active use of such investment to facilitate their own economic development. FDI drew the attention of developing countries in the early 1980s because of the slump in the world's major economies, slower growth in official development assistance from industrial countries and a series of crises among debtor countries beginning with Mexico in 1982. Many developing countries rushed to open their markets to foreign corporations, expecting that FDI would not only bring in capitals that didn't have to be repaid but would also facilitate the transfer of advanced production and management knowhow and create new markets.

As a spring board for their own economies, Japan and other developed countries, as well as Asian newly industrializing countries actively promoted FDI to developing countires where had began to guarantee free corporate activities through deregulations.

As a result, FDI grew rapidly in the late 1980s, showing an annual average increase of 33.3% and replacing trade as the prime vehicle for global economic growth. Especially in 1990, FDI around the world reached an annual record of $222.4 billion, or 1.6 times as large as the cumulative total for the five years from 1985 to 1989.

Table 1 Average Inflows of Foreign Direct Investment to Developing Regions, by Region, 1970-1979, 1980-1985 and 1986-1990

Host region and economy	*1970-1979*	*1980-1985*	*1986-1990*	*1970-1979*	*1980-1985*	*1986-1990*	*1970-1979*	*1980-1985*	*1986-1990*
	(Billions of dollars)			*Share of all inflows (%)*			*Annual growth rate (%)*		
All countries	22	50	150	100	100	100	16	–1	24
Developing countries	5	13	26	24	25	17	21	4	22
Latin America and the Caribbean	3	6	9	13	12	6	20	–5	17
West Asia	0.3	0.4	0.5	1	1	0.4	—	53	37
East, South and Southeast Asia	1	5	14	6	9	9	16	7	28
Oceania	0.02	0.1	0.1	0.1	0.3	0.1	28	–1	–5
Africa	1	1	3	3	3	2	22	52	6
Others [a]	0.03	0.04	0.05	0.1	0.1	0.03	15	–8	—
Least developed countries	0.1	0.2	0.2	0.5	0.4	0.1	27	–16	116
Ten largest host countries [b]	1970-1979	1980-1990		1970-1979	1980-1990		1970-1979	1980-1990	
	4	13		16	13		23	11	

Notes: a. Malta and Yugoslavia.
b. Argentine, Brazil, China, Egypt, Hong Kong, Mexico, Malaysia, Singapore, Taiwan and Thailand
Source: *World Investment Report 1992,* United Nations, 1992.

East Asia, along with industrializing countries, emerged as a major destination of foreign investment. Table 1 shows the trend of FDI flows to developing countries by region since the 1970s. As shown in the table, Asia (East, South and Southeast Asia) chalked up an annual average growth of 28% in the latter half of the 1980s, higher than the global average, despite a slowdown in FDI to the Third World as a whole. From 1986 to 1990, Asian countries attracted huge foreign investments totaling $14 billion on the back of their having continued to industrialize for more than 20 years and also because of their market-opening efforts through deregulation for FDI. Also helpful in luring foreign investors was Asia's political and social stability as well as the high quality and abundance of labor in the region. East Asian countries actively pursued export-based industrialization policy for strengh their comparative advantage using huge foreign capital and foreign technology.

A large part of FDI in East Asian countries has come from Japan and Asian NIEs, which attained rapid economic growth by promoting export-oriented industrialization. Japan and Asian NIEs succeeded in upgrading their industrial structures by emphasizing FDI. They progressed further on the path of export-oriented industrialization and then fresh FDI to other export-oriented countries in East Asia, helping those countries to make rapid progress along the same route to prosperity. Progress in achieving export-oriented industrialization in Southeast Asian countries, China and other emerging economies is outpacing the previous growth records of Asian NIEs, which achieved rapid economic expansion on the strength of capital inflows and technology transfers from developed countries such as Japan. The high growth rates of these emerging economies in an ideal progression of investment from abroad, development of domestic manufacturing industries and increased exports, is an almost exact reproduction of the "condensed growth" model of the Asian NIEs.

The spread of high economic growth through FDI has made the East Asia region one of the world's major export and manufacturing centers.

II. Characteristics of Industrialization in East Asia and Areas for Future Improvement

It can be said that the history of industrialization in East Asia, with Japan playing the role of "locomotive," is the history of successful development and increasing sophistication of industries enjoying comparative advantage. Each country in East Asia has continued to place strategic priority on nurturing comparatively advantageous industries that best meet the needs of the times, and to promoting exports by those industries. Such industrial development requires relatively high-quality, abundant labor and energetic entrepreneurship. It was also necessary for governments in the region to effectively allocate resources and make the best use of foreign capital and technologies. Asian NIEs began to follow such a growth path in the 1960s, and efforts to catch up started in Southeast Asia in the late 1980s and in China in the last few years. One of the characteristics of industrialization in East Asia is the concentrated allocation of limited resources in specific strategic industries. Industrialization in the region is also characterized by the spread of each country's economic development beyond national borders through complementary ties between countries with relatively advanced financial and technological resources and others having advantages in land and labor availability. Such countries, with different comparative advantages, formed a regional economic zone.

The formation of a diversified regional economic zone in East Asia is now helping create a network of international division of labor in the region. At the hub of this extensive and sophisticated network are Japanese and NIEs companies boasting capital, technology and marketing knowhow. The network is being expanded beyond the production and sales fields into the area of research and development.

Due to the establishment of this network, East Asia outdoes any other Third World region in terms of diversity and competitiveness of manufacturing industries. East Asia is becoming the "production center" of the world, while rapidly expanding consumption in the region backed by sustained economic growth is increasing the dynamism of the whole of Asia.

East Asia, however, is now feeling the cost of high economic growth, as it has run up against various impediments to growth. One such barrier is extremely serious environmental destruction, particularly urban pollution as a consequence of industrialization in and near cities, as well as industrial pollution as a whole.

Table 2 shows the annual average increases in production by pollutant industries in major Asian countries from 1976 to 1985.

Table 2 Annual Average Production Growth Rate of Pollutant Industry in Asian Countries

(%)

	India	*Indonesia*	*South Korea*	*Malaysia*	*Philippines*	*Singapore*
Chemical: industrial	7.7	19.1	8.9	5.3	13.9	17.3
others	2.6	7.9	13.3	—	—	9.9
Electrical equipment	5.0	9.3	18.3	9.7	22.4	10.9
Steel	2.3	27.0	16.3	7.6	—	7.3
Pulp and paper	5.9	7.1	11.1	—	10.9	–2.3
Food	5.4	3.8	13.0	5.1	17.3	1.9
Average of manufacturing	5.0	—	11.4	7.2	12.5	—

Source: UN, Center on Transnational Corporations, *World Investment Directory 1992.*

Many of the industries shown are strategic industries that played key roles in each country's industrialization and which were given priority in attracting FDI. It is noteworthy that despite some country-by-country differences, production increases are generally high for industries that pose problems of pollution or consume large amounts of energy, such as the chemical, steel and electrical-machinery industries.

Economic development backed by industrialization led to dramatic increases in per-capita gross domestic product, but it also caused energy consumption to rise, as shown in Figure 1.

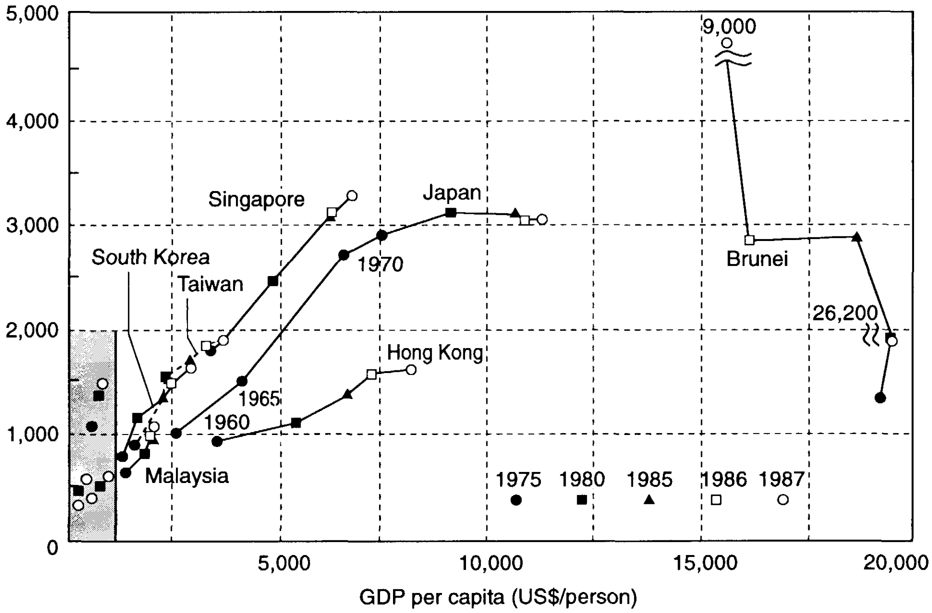
The figure indicates that the correlation between economic growth and energy consumption is best exemplified by Japan's case, and that energy consumption in the 1980s was relatively slow given the economic expansion that occurred in that decade. The slower increase in energy consumption in the 1980s can be traced to energy-saving efforts made after the first and second oil crises in the 1970s. The figure also shows that energy consumption in South Korea and Taiwan has reached roughly the same levels achieved by Japan during the latter country's high-growth period from the latter half of the 1960s. The rapid increases in energy consumption in South Korea and Taiwan are attributable to their emphasis on energy-consuming heavy and chemical industries. But it remains to be seen whether energy consumption in the two countries will slow down, as Japan's did after the mid-1970s, because South Korean and Taiwanese companies tend to emphasize investment aimed at improving production technologies and productivity, rather than on energy conservation.

III. FDI from Asian NIEs Countires: Emergence and Their Influence

Asian NIEs countries, which had long been recipients of FDI, started rapid expansion of their own investment in other countries in the mid-1980s, becoming major investors in East Asia almost on the same scale as Japan. Taiwan, for instance, invested a meager $44 million in developing countries in 1980, but that amount jumped to $2,393 million in 1991, with investment mainly directed to Southeast Asia, South Asia and China.

The emergence of Asian NIEs corporations as major investors has had various effects on recipient countries. Before discussing such effects, it is useful to take a look at these cor-

Figure 1 Relationship between per Capita GDP and per Capita Primary Energy Consumption in Asia by Country



Source: Science and Technology Agency, National Institute for Science and Technology Policy, *Energy Consumption Structure and Emission of SOx, NOx, CO_2 in Asia*, November 1991.

porations' investment motives. According to a U.N. survey, multilateral investments are mainly intended to secure the following: sales markets, export competitiveness backed by cheap labor, natural resources, advanced technology and corporate efficiency. Among these five motives, investment in developing countries is prompted particularly by corporate desire to expand exports by utilizing cheap labor and to secure natural resources. These two motives are the major forces behind FDI by Asian NIEs corporations in other Asian countries, as these corporations are struggling to prevent their competitiveness from being eroded by shortages of labor and natural resources in their home countries.

The U.N. survey also points out that FDI by developing countries tends to be directed to neighboring developing countries (particularly those with cultural and national similarities) and that technological transfers by these developing countries are focused on low-level technologies. These characteristics of investment by developing countries match the investment motives of Asian NIEs corporations in other Asian countries. Asian NIEs companies, many of which are still weak, not only in terms of their technological but also their financial bases, often seek to minimize costs involved in foreign investment.

FDI by Asian NIEs corporations, as indicated by their motives, is largely in resources-related industries such as lumber, furniture and rubber and in labor-intensive industries such as electrical machinery, metal processing and textiles. Investment in these industries greatly contributes to the economic development of the host countries through improvement in the value of natural resources and effective use of labor. At the same time, however, investments lacking sufficient technological and financial bases sometimes have adverse effects on the host countries.

One such effect is the transfer of industrial pollution via FDI. Asian NIEs countries, except Singapore, face so-called "NIEs-type environmental problems" caused by the simultaneous occurrence of industrial and urban pollution. These problems stemmed from the rapid industrialization that has occurred since the 1960s, at a pace three times faster than the average among developed countries. The Asian NIEs countries also face the problem of high-level energy consumption, as discussed in Section II.

Each country is tackling its environmental problems through legislative and other efforts, but private-sector resources, both financial and technological, are far from satisfactory in terms of overcoming the problems of industrial pollution. Many NIEs corporations, while still unable to cope effectively with pollution at home, are expanding FDI due to the pressing need to maintain external competitiveness and secure natural resources.

FDI by Asian NIEs companies is thus creating concern that NIEs-type environmental problems might be transferred to host countries.

IV. Industrialization and Responsibility of Foreign Corporations

The need for sustainable economic development consistent with global environmental protection is now widely recognized. However, proponents of industrialization can still argue persuasively that industrialization is an important way of attaining various economic development goals, such as supporting growing populations, ending poverty and developing a more sophisticated industrial structure. In order to achieve these goals as soon as possible, developing countries are competing more vigorously among themselves to attract FDI. As is widely known, even socialist countries such as China are steadily improving their infrastructure in order to attract foreign companies as part of their industrialization policy. The world has yet to see the establishment of a mechanism of sustainable growth that harmonizes environmental protection and economic development in developing countries. Under such circumstances, developing countries in the course of their economic growth through industrialization led by foreign corporations should expect foreign corporations that have already overcome problems of industrial pollution in their home countries and have expertise in pollution prevention to pass on such expertise. In actuality, however, most developing countries still lack a system of effectively utilizing foreign knowhow regarding pollution prevention and environmental protection. On the contrary, many developing countries, in a bid to attract more FDI, are easing their checks on foreign corporations by simplifying examination of their investment plans and other deregulatory measures.

In the light of such a situation, the United Nations has been devoting attention to the environmental impact of multinational corporation's activities, particularly in developing countries, and has been conducting international surveys on those corporations' environmental policies and the environmental programs they have actually implemented. The U.N. is also considering a mechanism requiring investing corporations to report their environmental-protection measures, including investment plans for environmental protection, to the host countries. Under this mechanism, investing corporations will be required to report details of their environmental-protection programs and relevant internal checking systems as well as the environmental-protection criteria they have adopted and their pollution-prevention budgets.

The investor side has also been slow in establishing public arrangements requiring investing corporations to protect the environment in host countries.

In Japan, the Federation of Economic Organizations (Keidanren) and other business organizations compiled the Guideline for Overseas Investments in 1987 to clarify the overseas investment criteria that should be observed by Japanese corporations. In 1989, the Industrial Structure Council, an advisory panel of the Ministry of International Trade and Industry, worked out guidelines titled "Expected Corporate Behavior in Overseas Business Activities." The council revised the guideline in 1993. The previous guidelines, prepared by the Japanese business community, barely referred to the issue of environmental protection, merely calling on Japanese corporations to "make careful efforts to preserve living and natural environments in the host country." The MITI council's latest guidelines state that Japanese corporations, "in addition to their natural obligation to comply with environmental standards and other environmental-policy measures of the host country, are expected to exert environmental protection efforts based on their experiences in Japan if the environmental standards of the host country are not as strict as in Japan or have yet to be established." The guidelines make it clear that Japanese investors are required to set up special in-house groups to deal with environmental issues, disseminate information on their environmental-protection efforts and train experts to promote technological transfers aimed at ensuring environmental protection in the host country.

It remains to be seen how effective the guidelines will be, as they only define ideal corporate environmental-protection efforts, stopping short of setting up a supervisory organization or stipulating penalties. It is at least clear that corporate investors abroad are increasingly being required to pay heed to environmental protection in host countries and the surrounding region at a time when East Asian countries are intensifying their economic interdependence through FDI.

V. Responsibility of Host Country

In 1992, the High Court in Ipoh, Malaysia, ordered a joint venture company set up by Japanese and Malaysian firms to suspend its operation and dispose of its industrial wastes. The sentence was in line with the demands of local residents. The joint venture claimed that the company was set up under the Malaysian government's investment encouragement policy and that its operations were in line with local environmental standards. However, the Japanese partner of the joint venture as well as the Japanese government were finally forced to take account of the residents' feelings. It is still difficult to decide whether this incident is an isolated, unfortunate case or will be followed by similar cases in the future. It can be said, however, that this type of incident is apt to occur under conditions such as those that obtain at present, when industrialization, amid intensifying competition among developing countries to attract FDI, is spreading from urban to adjacent areas and from labor-intensive to high-tech industries. It is therefore important not only for investing corporations but also host governments to step up their efforts to prevent pollution by implementing practical measures.

As mentioned before, ASEAN, China and other fast-growing countries are promoting the policy of export-oriented industrialization. Recent trends in FDI in those countries are discussed in the following section.

As discussed in Section I, the main characteristic of FDI in these countries is the surge in investment since 1986 and the diversification of investment sectors. This rapid investment growth has brought about dynamic changes in the host countries' industrial structures. Those changes can be partly traced to external factors such as the emergence of new competition environments due to the yen's appreciation against the dollar. But in large part the changes are also attributable to the host countries' need to attract FDI. Reasons for the need to encourage FDI differ from country to country depending on the production factors in each country. ASEAN and China, however, are not so different from each other in terms of the purposes and principles of their investment-promotion policies. Such similarities explain the growing rivalry among ASEAN and China in pursuit of FDI. There are many common features in the investment-promotion policies of these countries whose economies have grown continually since the mid-1980s. They place priority on investment liberalization and deregulation with the aim of early attainment of export-oriented industrialization and development of high-tech industries. They also offer various investment incentives in a bid to attract more foreign investors. Countries that have chosen the path of economic growth led by industrialization must continue their efforts to strengthen industries that enjoy comparative advantage. But they are unable to independently build up their financial and technological resources as well as management knowhow fast enough to continue outperforming other countries. As a result, they face the dilemma of not being able to afford to stop encouraging FDI.

Increased FDI has greatly contributed to the economic development of new-growth countries. In 1992, the United Nations evaluated foreign investment highly, terming it the "engine of growth." It is true that FDI has helped East Asian countries expand domestic employment and increase foreign-currency reserves through increased exports. FDI has also allowed these countries to develop heavy and chemical industries based on transferred technology and production facilities, enabling them to substitute domestic products for some imports and make better use of their own natural resources. At the same time, however, the negative effects of increased FDI have become conspicuous as impediments to sustainable growth. The concentration of production facilities in urban areas has brought about the concentration of labor and industrial functions in cities, resulting in economic gaps between arban and rural and the emergence of various urban problems. The spread of production facilities to rural areas has also undermined farming communities. Energy resources are being abused, while shortages of land and social infrastructure pose other kinds of problems. People are forced to pay more for public services, and trade imbalances are worsening due to increased imports of capital and intermediate goods. Another concern is that the diversification of investor countries may have negative effects. In the past, FDI in Asia's growth area mainly came from industrialized countries. Major companies from such countries made their investments based on accumulated knowhow, including that concerning pollution prevention. But the Asian NIEs corporations that are emerging as the new force of FDI in Asia are relatively inexperienced when it comes to investing abroad, tend to be smaller in size and have yet to build up pollution-prevention expertise. Host countries are thus confronted with the very difficult task of dealing with a variety of foreign investors at different stages of technological development, and of different corporate sizes and nationalities in order to protect the environment while minimizing the aforementioned negative factors of industrialization.

VI. Policy Coordination between FDI Introduction and Environmental Protection

Nations in the new-growth region have entered the stage of industrialization with the support of foreign investors. How are these countries trying to protect their social and natural environments through administrative and environmental policies? As mentioned before, their current policy on foreign investors and relevant laws are designed to attract foreign investors, rather than to control or regulate them. As a result, such laws only stipulate the range of allowable FDI and define incentives available to foreign investors. Some countries, though they are few in number, have provisions for the prevention and elimination of adverse environmental effects caused by the transfer of industry. Thailand is one such country, and its Investment Promotion Act of 1977 (Article 19) provides that investment projects that are approved by the Board of Investment must include appropriate measures for eliminating adverse environmental effects to ensure the continuity of general public life and the natural environment. In Article 20 of the law, the Board cites pollution-prevention measures as one of the conditions for approving investment projects and relevant incentives. While the Thai provisions call only in general terms for environmental impact to be taken into account, more specific regulations may discourage foreign investors. In particular, the currently prevalent policy of encouraging foreign investment is intended to promote export-oriented industrialization, not import substitution industry, and the emphasis under such a policy is on the maintenance of product quality and price competitiveness. Developing countries still lacking industrial knowhow have to guarantee foreign investors free rein to enable them to fully utilize their knowhow in achieving economic development. The current policy on FDI is oriented toward deregulation because of this need to reduce government regulations concerning foreign corporations' activities.

It is sometimes pointed out that many developing countries are steadily improving their legal systems but still lack appropriate administrative capabilities and functions. Under such circumstances, there is concern that policies toward foreign investors may not be adequately coordinated between investment-related and environmental protection-oriented government agencies.

Developing countries must now establish legal systems that can ensure environmental protection in line with their current stage of industrialization. They also need to promote policy coordination between the two goals of environmental protection and introduction of FDI. They urgently need to strengthen their administrative capabilities to enhance the effectiveness of such policy coordination.

The responsibility of foreign investors should naturally be clarified not only by those investors but also by the host government. The host government, needless to say, is required to prevent such problems as may arise with the introduction of FDI and to cope with problems as they actually occur. The role of the host government can be clarified by multilateral and bilateral agreements as well as by contracts between corporations. The importance of environment-related factors in the realm of international investment has just begun to attract attention. It might be wise therefore to start with bilateral accords in an effort to clarify the allocation of responsibility among parties concerned.

Environmental problems have become so serious that they can no longer be coped with by individual corporations, requiring joint efforts by industries as a whole or groups of companies.