DIRTY INDUSTRY MIGRATION AND THE ENVIRONMENT
—CHINA AS A MAJOR CASE FOR STUDY

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SUMMARY

This thesis is a systematic legal study on "Dirty Industry Migration" ("DIM"). The hypothesis of DIM postulates that free trade and investment without an adequate consideration on environmental factors would drive pollution-intensive industries to migrate to countries with laxer environmental regulations or to the "pollution havens". Developed countries generally tend to deny the existence of DIM while developing countries exhibit a vigilant attitude towards its trueness. In this thesis, the author first poses an important empirical question—"have dirty industries migrated to China". Based on the theoretical analytical model established by the author and empirical evidence collected through the author's fieldwork, this thesis concludes that in specified industries there is solid evidence for DIM from developed countries to China. Based on this finding, the thesis explores the causes of DIM and the problems it creates. It examines the available international / domestic legal frameworks which formally regulate DIM, as well as voluntary codes relating to corporate environmental citizenship and social responsibility which bear implications on the regulation of DIM.

This thesis selects the Chinese regulatory framework of DIM as a major case for study. It aims at providing law and policy suggestions on a national development strategy that moderates the adverse environmental effects of dirty industry migration, without sacrificing the country's continued economic growth and international competitiveness. The experience of China provides useful guidance to other developing countries seeking to emulate or draw lessons from China's management of DIM.

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List of Symbols

APEC	Asian and Pacific Economic Cooperation
APL	Administrative Procedure Law of PRC (1989)
ASEAN	Association of Southeast Asian Nations
ASRCC	Annual Statistics Reports of Chinese Customs
ATCA	Alien Torts Claim Act
BIT	Bilateral Investment Treaties
BVI	British Virgin Islands
CCP	Chinese Communist Party
CEC	Corporate Environmental Citizenship
CERD	Committee on the Elimination of Racial Discrimination
CESCR	Committee on Economic, Social and Cultural Rights
CJV	Sino-foreign Contractual Joint Venture
CPDF	IFC China Project Development Facilities
CPI	Consumer Price Index
CRC	Committee on the Rights of the Child
CSR	Corporate Social Responsibility
CVD	Countervailing Duties
DIM	Dirty Industry Migration
DSI	Domini 400 Social Index
EAI	East Asian Institute
ECHR	European Commission on Human Rights
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EJV	Sino-foreign Equity Joint Venture
EPB	Environmental Protection Bureau
ERIC	Environment Related Investment Claims
ERTC	Environment Related Trade Claims

EST	Environmental Sound Technology
FDI	Foreign Direct Investment
FIE	Foreign Invested Enterprise
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Production
HPII	High Pollution Intensive Industry
IACHR	Inter-American Commission on Human Rights
ICCPR	International Covenant on Civil and Political Rights
ICJ	International Court of Justice
ICSID	International Center for Settlement of Investment Disputes
IFC	International Finance Corporation
IREC	Investment Related Environmental Claims
ISIC	International Standard Industry Classification
ISO	International Organization for Standardization
LDC	Less Developed Countries
MAI	Multilateral Agreement on Investment
MFN	Most-Favored-Nation
MIGA	Multilateral Investment Guarantee Agency
MNC	Multinational Corporations
NAFTA	North American Free Trade Agreement
NAICS	North American Industrial Classification System
NBS	National Bureau of Statistics (China)
NGO	Non Governmental Organizations
OECD	Organization of Economic Cooperation and Development
PACE	Pollution Abatement Capital Expenditures
PAOC	Pollution Abatement Operating Costs
PII	Pollution Intensive Industry
PIIP	Pollution Intensive Industrial Products

RCA	Revealed Comparative Advantage
REPI	Index of Relative Export Performance
SA8000	Social Accountability 8000
SDRC	State Development and Reform Commission (PRC)
SEM	Supplier Environmental Management
SEPA	State Environmental Protection Agency (PRC)
SIC	Standard Industrial Classification
SITC	UN's Standard International Trade Classification
SME	Small and Medium Enterprises
SOC	State-owned corporations
SOE	State-Owned Enterprises
SPS	Agreement on Sanitary and Phytosanitary Measures
SRI	Socially Responsible Investment
TBT	Agreement on Technical Barriers to Trade
TREC	Trade Related Environmental Claims
TVE	Township and Village Enterprise
TVS	Total Value of Shipments
UNCED	United Nations Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development
UNHRC	United Nations Human Rights Committee
WB	World Bank
WFOE	Wholly Foreign Owned Enterprise
WHO	World Health Organization
WTO	World Trade Organization

CHAPTER I INTRODUCTION

1.1 Prelude: The Origin of "Dirty Industry Migration" Debate

On February 8, 1992, an article titled "Let Them Eat Pollution" was published in *The Economist*, which leaked an internal memo by Lawrence Summers, the World Bank's chief economist at the time. He suggested, on the basis of his economic analysis, that the World Bank should consider encouraging the migration of pollution intensive industries to developing countries.[1] This, of course, aroused significant unrest and controversy among economic theorists, environmentalists and the general public.

The term "Dirty Industry Migration" (hereinafter DIM), in a narrow sense, refers to the hypothesis that free trade and investment without an adequate consideration on environmental factors drives pollution-intensive industries to migrate to countries with laxer environmental regulations or to the "pollution havens".

According to the classical trade theories based on comparative advantage, countries will generally produce and export goods manufactured with factors that are abundant within the country and will import those for which factors of production are scarce. On this basis, economic theorists, policymakers from both industrialized and industrializing

[1] In urging the World Bank to encourage the migration of dirty industries to Less Developed Countries ("LDC"), Summers argued that worldwide welfare will be maximized by locating dirty industries in LDCs because: (1) the income lost through health-impairing pollution will be lower in countries with lower wage levels; (2) many under-populated LDCs are under-polluted (as compared to Los Angeles or Mexico City); and (3) the demand for a clean environment for aesthetic and health reasons will be greater in wealthy countries than in poor countries. *The Economist*, (Feb. 8, 1992). at 66.

nations, spokesmen for international agencies and private corporations all tend to assume that highly polluting industries would gradually move from industrialized countries with scarce environmental factor endowments to countries where such factors are abundant.[2]

China is the largest developing country in the world with a population over 1.3 billion. Like other developing economies, China has taken an open attitude towards international trade and investment. In 2002, China has surpassed the U.S. and became the world's largest foreign direct investment ("FDI") recipient.[3] Since 2004 it has become the world's 3rd largest trading country in both import and export.[4] In the meantime, China had a notorious record for mass industrialization at the cost of environmental protection.[5] In a sense, China has the potential of becoming a "pollution haven" as Summers suggested. Furthermore, as China's international influence increases with its expanding economic power, many other developing countries tend to emulate China in their economic and social policies. Hence a clear understanding on China's attitude towards DIM not only has policy implications for the country itself, but

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[2] See Low, P. & A. Yeats, "Do 'Dirty' Industries Migrate?", in P. Low, *International Trade and the Environment*, World Bank Discussion Paper No. 159 (Washington, DC: World Bank, 1992), at 2.

[3] United Nations Conference on Trade and Development ("UNCTAD"), World Investment Report 2003, "FDI Policies for Development: National and International Perspectives" (New York and Geneva, 2003)

[4] World Trade Organization ("WTO") statistics, <http://stat.wto.org> Accessed June 10, 2006.

[5] It was suggested that the mass industrialization of the 1950s led to increased environmental deterioration. The worst period occurred during the "Great Leap Forward" (1958-60) when factories were built without giving proper consideration to environmental protection measures. During the "Cultural Revolution" (1966-76), urban construction defied all existing planning and regulations. The polluting factories were built right in the middle of residential areas, causing serious damage to their surroundings. More recently, with the adoption of the open-door policy since the early 1980s, the implementation of the government initiative for opening up the Western Region and China's accession to the WTO, industrial expansion, municipal growth, highway construction, energy development and mineral extraction were promoted both as ends in themselves and as the means by which the lives of the 1.3 billion population would improve. See Zhao Yuhong, "Environmental Dispute Resolution in China" (2000) *Journal of Environmental Law* Vol 16 No. 2, at 157 and Wang Canfa et al (Eds), *Studies on Environmental Pollution Disputes in East Asia: Cases from Mainland China and Taiwan* (Japan: Institute of Developing Economies, 2001).

also for other developing countries which are seeking similar development strategies to that of China.

The author's selection of this topic for his Ph. D research is based on the above background. The basic questions this thesis is going to address are: Have dirty industries migrated to China? If yes, how is that achieved? To what extent is DIM a result of China's environmental laxity? What international and domestic regulations on dirty industry migration are available? Are they adequate, fair, and effective? Other than the international and domestic regulation of DIM, what other factors contribute to the regulation of DIM? Carrying these questions, the main objective of this thesis is to examine the DIM hypothesis in the context of China. Based on theoretical analysis and empirical findings, the author will evaluate the role of law and other institutions in China's regulation of DIM.

1.2 DIM under Globalization—Some Basic Understandings

The dichotomy between "clean" and "dirty" industries is made here in definitional terms to test out certain hypotheses common to the debate on globalization. Those who favor globalization argue that increased globalization through liberalization of the flow of assets will lead to greater prosperity for all and a resultant reduction of poverty in the developing world. On this basis, all foreign investment must initially at least be regarded as clean and beneficial to the developing world, including China, the largest developing economy.

In this thesis, clean industry is contrasted to dirty industry. In Summers' definition, a dirty industry was confined to highly pollutive industries and Summers exhorted such industries to go to developing countries. Here, although our research will focus on the environmental aspect of DIM, it must be understood that the definition of dirty industries is wider than that the environmental aspect of industries. A dirty industry is the opposite of the clean industry in the neo-liberal scheme.[6] It is the type of industry which does not produce the economic development that the neo-liberal model demands of all foreign investment. While the neo-liberal model is averse to the idea of the existence of dirty industries in this sense, there is no doubt that dirty industries exist and a large number of such industries go into the developing countries.[7] These industries are clearly detrimental to economic development and their entry obviously should not be encouraged by the developing countries. Quite apart from this, the usefulness of these flows has to be assessed not only from the value of the flow to the host state but also in the context of the newly articulated values of the international community. These new values stress economic development, the absence of pollution, the non-abuse of human rights, the eradication of corruption and similar aims. Globalization may promote economic liberalization but it also brings about situations in which the values of the international community interact with local values, giving strength to the latter so that

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[6] The "Neo-liberal Scheme" or "Neo-liberalism" is a set of economic policies that have become widespread during the last 30 years or so. Neo-liberalism as a strategy for economic development can be summarized to include several aspects: (1) the flow of capital, goods, and services free from state or government interference; (2) deregulation, allowing the market forces to self-regulate; (3) privatization of public enterprise and state owned economic assets; and (4) a greater move to individualism and individual responsibility. The removal of trade barriers such as tariffs, regulations, certain standards, legislation and regulatory measures, as well as removal of restrictions on capital flows and investments play a crucial role in accomplishing the economic and political goals of neo-liberalism. See generally Stigliz, Joseph E. *Globalization and its discontents* (New York: W. W. Norton & Co., 2002).

[7] For a review of literatures recording evidences of industry-specific migration from developed to developing countries, see infra Chapter 2.6.2.

local solutions enhancing global values may be advanced. In view of such reality, we consider the construction of international and domestic laws on dealing with the migration of dirty industries to be necessary.

This thesis is a contribution to the study on the construction of laws to deal with DIM. It takes into account the fact that there is an emergence of values of the international community in certain areas which have been articulated and that these are in opposition to the values of neo-liberalism which seems to call for unrestricted flows of foreign investment on the belief that such flows are beneficial to development. These values which indicate support for the control of dirty industry migration are counterpoised with neo-liberalism. A balanced and nuanced approach finds their expressions in domestic and international trade, investment, and environmental legal instruments.

1.3 Current Research Status

Attentions on DIM started as early as 1970s when the United States suddenly tightened its environmental laws. As a result, some Multinational Corporations ("MNCs") have threatened to relocate to other countries with laxer environmental standards.[8] During the 1980s and 1990s there were heated debates on "whether or not dirty industries are

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[8] There is empirical proof confirms that at least some American industries' international location patterns have been significantly affected by environmental regulations in the U.S. See Barry I. Castleman, "The Export of Hazardous Factories to Developing Nations" (1979) 9 *Int'l J. Health Serv.* 569; Leonard, H. Jeffrey, *Pollution and the struggle for the world product* (Cambridge: Cambridge University Press 1988), at 111-112. In particular, "manufacturers of asbestos, arsenic trioxide, benzidine-based dyes, certain pesticides and a few other carcinogenic chemicals, some basic mineral processing industries, including those involved in copper, lead and zinc processing, and some producers of intermediate organic chemicals have exported their "dirty industry" to the developing world." See Alan Neff, "Not in Their Backyards, Either: A Proposal for a Foreign Environmental Practices Act" (1990) 17 *Ecology L.Q.* 477, at 484.

migrating from developed to developing countries”.[9] Applying different empirical research methods, different scholars came up with opposing conclusions. While most researchers agreed upon the evidence that some industries do migrate, they nevertheless deny that gaps in environmental standards between countries played a significant role in such “migration”.[10] So far the prevailing academic view seems to be that there was not much empirical evidence to support DIM hypothesis, mainly because environment compliance cost covers only a very small part of the total cost in the production.[11] In other words, compared to endowments of the traditional factors considered to characterize comparative advantage in neo-classical trade theory, differences in environmental standards might be negligible, and dirty industries do not have much incentive to migrate.”[12]

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[9] For a literature review on the debates and different arguments on this topic, see OECD “Environmental Issues in Policy-based Competition for Investment: A Literature Review” (2002) ENV/EPOC/GSP(2001)11/FINAL,<http://www.olis.oecd.org/olis/2001doc.nsf/LinkTo/env-epoc-gsp(2001)11-final> Accessed Dec, 27, 2006.

[10] Literatures that hold this view include: For example, Tobey, James A., “The Effects of Domestic Environmental Policies On Pattern Of World Trade: An Empirical Test”, (1990) 43 (2) *Kyklos*, World Bank Series Studies 191; Low & Yeats, supra note 2; Lucas, Robert E.B., David Wheelr and Hemamala Hettige, “Economic Development, Environmental Regulation and the International Migration of Toxic Industrial Pollution, 1960-1988,” in Patrick Low, ed., *International Trade and the Environment* (Washington, DC: World Bank 1992); Repetto, R. “Jobs, Competitiveness, and Environmental Regulation: What Are the Real Issues?” (1995) WRI Research Report, Washington, DC; Xing, Y, and C. Kolstad, “Do Lax Environmental Regulations Attract Foreign Investments?” (1995) Working Papers in Economics, 06/95, May 1995, University of California, Santa Barbara; Levinson, A., “Environmental Regulations and Manufacturer’s Location Choices: Evidence from the Census of Manufacturing”, (1996) *Journal of Public Economics* (61), no. 1 (October), pp. 5-29.

[11] There has been some controversy over the true environmental cost among industries and in different states. It is mainly because the global costs of compliance with environmental regulations are hampered by a lack of available data, Studies by the WTO indicate that complying with environmental regulations in the United States (since U.S. published such data) accounts for 0.6% of production costs for most industries, rising to between 1.5% and 2% of the costs of production for the most pollution-intensive industries (petroleum and coal products, chemicals and allied products, metal industries, and paper and allied products). See WTO, *Trade and Environment* 35 (1999). By contrast to this, the Organization for Economic Cooperation and Development ("OECD") in Europe did a study of the costs of compliance in the iron and steel industries and found a larger range of compliance costs, concluding that “direct environmental costs are believed to account for 1-5 percent of production costs.” See OECD, The Effects of Government Environmental Policy on Costs and Competitiveness: Iron and Steel Sector, DSTI/SI/SC(97) 46 (1997), At country level, studies indicate that environmental protection expenditures account for one to two percent of Gross National Product in developed countries. See Sanford E. Gaines, “The Polluter-Pays Principle: From Economic Equity to Environmental Ethos”, (1991) 26 *Tex. Int'l L.J.* 463, at 465.

[12] Tobey, supra note 10, at 205.

The prevailing academic view seems to be a reassuring finding both for industrialized countries concerned with a loss of competitiveness from strict environmental standards, and for developing countries as they contemplate stronger environmental protection. However, despite the plausibility of this argument, there is not much conclusive empirical evidence. Furthermore, as there is previously little empirical research on DIM which focuses on China,[13] the applicability of this argument in a China context is questionable. Up till now the DIM remains a debatable issue in economics and other areas of social science.

1.4 Originality of this Research

Compared with the previous research in this area, this research has the following strengths:

(1) It challenges the previous conclusions by re-defining DIM under globalization

The author holds the opinion that previous conclusions on DIM require re-examination because the term "dirty industry migration" requires further clarification under globalization. In particular, what criteria are used to determine whether an industry is "dirty"? "Dirty industries", if interpreted from a broader perspective, may apply to most

[13] To the author's knowledge this thesis is the first comprehensive study on the dirty industry migration on China, although there are a few previous research papers which partially touched upon this problem from different perspective; see e.g. Dean, Lovely, and Wang, "Are Foreign Investors Attracted to Weak Environmental Regulations? Evaluating the Evidence from China", (2005) World Bank Policy Research Working Paper 3505 (Estimating the strength of pollution-haven-seeking behavior by foreign firms in investing in China in the presence of inter-provincial differences in stringency of environmental regulation). Ma Li et al, "The Impact of Foreign Direct Investment and International Trade on the Environment of Coastal China" (外商投资与国际贸易对中国沿海地区资源环境的影响), (2003) 18 *Journal of Natural Resources* 5, 603 to 609; Yang Tao, "Empirical Study on the Impact of China's Environmental Regulation on FDI" (环境规制对中国 FDI 影响的实证分析), (2003) 5 *World Economy Studies*, pp 65-68..

natural-resource-depleting, pollution intensive and hazardous industries. While certain heavy industries have a high pollution potential such as steel, pulp and paper, petrochemicals, some labour-intensive manufactures and processes can be also highly polluting, such as leather tanning and the dyeing and processing of textiles. "Dirty industries" can also be analyzed from a human rights perspective. From this perspective it implies that any industry that forces people to work and live in an unhealthy or degrading environment qualifies as a dirty industry. Such values and ideas might not be anticipated in the earlier works on DIM.

An equally important issue is whether the migration of dirty industry refers only to the plant relocation by individual firms or includes other forms of "migration"? Under globalization the dirty industries from one country may take various forms to enter another country such as international trade, merger and acquisition, etc. The extent to which these forms of "migration" have been taken into consideration in previous research is inadequate. To summarize, by re-examining the term "dirty industry migration" under globalization, this thesis brings new issues into analysis and broadens the perspectives of scholarly studies on DIM.

(2) An inter-disciplinary approach with emphasis on legal analysis

Dirty industry migration is a complex economic and social phenomenon driven by a variety of factors. To understand it we need to take interdisciplinary approaches. In this thesis, the author has made original distinction between "active DIM" by way of foreign direct investment and "passive DIM" by way of international trade. Based on this

distinction, the author applies economic and statistical methodology to examine the extent of active and passive DIM respectively. Among the research methodologies of social science, the author emphasizes the law as a major driving factor as well as regulatory method. Previous research on DIM has focused more on how trade and the environment interact with each other. The issue has been discussed in the context of the relationship between economic incentives in trade and in the determination of environmental quality.[14] However, only a few scholars have ever extended economic analysis to the legal aspect and examined its implication on the national economic and environmental regulations. The law and policy study of this thesis is going to fill this gap. In this thesis, the author examines both international and domestic trade, investment, environment, and human rights laws that bear implications for the dirty industry migration. Special attention is given to the construction of an international and domestic regulatory framework on DIM.

(3) First hand materials collected from China based on the author's fieldwork

Previous research on DIM was funded mainly by the World Bank, OECD, and institutions from developed countries. A common shortfall is that they relied too much on the developed world sources and statistics, but often failed to seriously evaluate the data and materials produced by the developing countries.[15] Similarly, a general

[14] See the World bank series studies Tobey, supra note 10; Low, P. & A. Yeats, supra note 10; Grossman, G.M. & A.B. Krueger, "Environmental Impacts of A North American Free Trade Agreement", (1991) *Princeton University and NBER Working Paper*; Xu, X., *International Trade and Environmental Regulation—A Dynamic Perspective Huntington* (New York: Nova Science Publishers Inc, 1999) and Wilson, "Dirty Exports and Environmental Regulation—Do Standards Matter to Trade?" (2002) Development Research Group, World Bank, http://www.sice.oas.org/geograph/environment/otsuki.pdf Accessed Nov 10, 2006. These studies analyze the link between trade and environmental regulations by treating environment as a production factor which creates a comparative advantage in producing "pollution-intensive goods."

[15] It must be recognized that developed country sources of data are more systematically prepared and readily for use

overview of previous literatures reveals that a great majority of them are written by developed country-authors, and a great many of them are economists. There is a general lack of literatures on dirty industry migration from the perspective of law, management and public policy.[16]

It was suggested that the basic difficulty for social and policy researchers operating in China is to establish an appropriate "point of entry" into the system under study. As an indispensable part of this research, during the period April to August 2004, the author has conducted a five-month fieldwork in mainland China. The fieldwork covers 9 provinces and 18 cities. Throughout the research, a total number of 98 face-to-face interviews and telephone interviews, as well as 14 on-site visit of corporations were successfully conducted.[17]

The fieldwork is designed to achieve three primary objectives: first to collect China sourced industrial and environmental data for the testing of the author's hypothesis on DIM to China; second to obtain a true and fair picture of problems arising from DIM in

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by researchers than data from developing country sources. However, this thesis stresses the importance of certain developing country data that provides valuable insight to our study. For example, to test whether or not dirty industries have an incentive to migrate, previous research focuses more on the pollution abatement cost rather than the cost of nature conservation. In fact, even if the dirty industries have to meet the same pollution abatement cost in developing countries as in developed ones, so long as the nature conservation cost is not adequately internalized into the production cost in developing countries, the dirty industries still have an incentive to migrate. In addition, for job and competitiveness considerations, many developing countries are reluctant to disclose the information on dirty industries that migrated to their states. As a result, such sources of information can only come from developing countries. See Repetto, supra note 10, at 13.

[16] There are numerous literatures on globalization and multinational corporations and many of them discussed the environmental aspect of globalization and corporate behavior, including the problems arising from dirty industry migration. For example, see Stigliz, supra note 6; Peter T. Muchlinski, *Multinational Enterprises and the Law* (Oxford, Cambridge MA: Blackwell Publishers 1995), and Leonard, supra note 8. However, to the author's knowledge there is no monograph which specifically addresses the dirty industry migration problem. Existing academic articles on this topic mostly applied economic methodologies to testify this hypothesis, but few went forward to examine the law and policy implications if this hypothesis is confirmed.

[17] For a detailed description on the author's fieldwork methodologies, results and analysis see infra chapter 6.4 ("About the Fieldwork").

China and its regulation by interview experts in related areas and conduct factory site visits; finally to examine the level of the corporate environmental citizenship and social responsibilities in China by interview selected corporations and their stakeholders.

Throughout the fieldwork a combination of literature search, face-to-face interviews and factory site visits was used to collect data. Snowball sampling method was used when necessary to access a larger sample. The information has been collected from a variety of sources including enterprises, academic institutions, government bodies, NGOs, media, as well as international organizations that have a presence in China. A special feature of the author's fieldwork is the author's extensive communication with Chinese government officials.[18] The in-depth interviews with officials have helped the author to understand the work of various Chinese governmental agencies and how China's huge bureaucracy functions to regulate the dirty industry migration in China.

(4) In-depth research on China as a major case for study

Making China the country for study has its value. China is among the few developing countries that have maintained a rapid economic progress in the last nearly 30 years. Due to its large territory, special political arrangements and imbalanced development

[18] It was suggested that a traditional difficulty in carrying out China related law and policy research is that the Chinese officials and agencies tend, not surprisingly, to be suspicious of the motives of researchers, whether they be from China itself, or from abroad. Chinese governmental officials, though rather more open than in the past, are extremely sensitive to critical research findings. This is not simply a matter of language or culture. It also reflects the deeply entrenched mentality of secrecy that pervades large and powerful state bureaucracies. Furthermore, given the tensions that can, and does, exist between agencies at different levels in the bureaucratic hierarchy, which are further compounded by the sensitivities of central–local government relations. Successful research initiatives must inevitably involve a long and careful process of building trust between the researcher and the target agency. Once trust has been established, then the flow of information is likely to increase steadily, and a more relaxed working relationship will develop between the researcher and agency staff. See Peter Hills and C.S. Chan, "Environmental Regulation and the Industrial Sector in China: the Role of Informal Relationships in Policy Implementation" (1998) *Business Strategy and the Environment* 7 53-70, at 59.

stage of each part, many developing countries can mirror their development dilemmas with ones experienced by China. At the same time it is a country in drastic transition from a semi-market economy to a market one, and from the rule of man to the rule of law. Having learned from its historical lessons of reckless economic growth at the cost of environment, China is now officially promoting a "balanced and scientific development perspective" ("he xie fa zhan" and "ke xue fa zhan") policy and propose to legislate on it. On December 11, 2001 China joined the WTO and became one of the largest FDI recipients in the world in 2002. It is a location where MNCs feel that they ought to be present, despite numerous obstacles.

While the whole world is looking at the economic miracles in China, the social impact of foreign trade and investment on China is an aspect that is often overlooked. A series of problems created by DIM require disclosure and intensive study. This thesis is a contribution to this study. It analyzes in detail the economic and social impacts of DIM on China and their regulation. Besides the regulations of law, the alternative regulatory methods such as market and self-regulation of DIM are also discussed in the context of corporate environmental citizenship and social responsibility. The conclusion and suggestions of this study not only bear law and policy implications to the Chinese government, but also to other developing countries seeking to manage the DIM.

1.5 Structure of the Thesis

This thesis is divided into seven chapters. Chapter one is the introduction. Chapter two

starts to identify the issues and construct the author's theoretical framework for the studying of the DIM hypothesis in China. Chapter three starts with an empirical literature review and goes on to construct the author's empirical models in testing a series of DIM hypotheses in China. Chapter four presents a legal analysis on the international regulatory framework of DIM. Chapter five shifts the discussion from the international to the domestic context, it presents the author's examination on China's comprehensive laws which bear implications on the regulation of DIM. Chapter six shifts the focus from the public to private sector. It analyzes private initiatives in China and globally on the regulation of DIM, in particular the corporate environmental citizenship ("CEC") and corporate social responsibility ("CSR"). Chapter Seven is the conclusion of this thesis.

CHAPTER II DIRTY INDUSTRY MIGRATION AND ENVIRONMENT: THEORIES AND APPLICATION

2.1 A Summary of Existing Theories on DIM

The existing theories on DIM come mainly from three sources. The primary source is the research on trade and environment. It mainly deals with the conflicts between the values of free trade and environmental protection.[19] Another source is the research on the environment and competitiveness, which focuses on the gap among inter-state environmental standards and studies how environment stringency will affect the international competitiveness of a specific industry or country.[20] The third source is the study on the interactive mechanism between stringency in environmental standards and technological innovation.[21]

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[19] For an excellent survey of this literature, see Tisdell CA. Free Trade, "Globalization, and Environment and Sustainability: Major Positions and the Position of WTO" (2000) Economics, Ecology and the Environment Working Paper 39, the University of Queensland: Brisbane; Beghin J, Potier M., "Effects of Trade Liberalization on the Environment in the manufacturing sector" (1997) *World Economy* 20(4): 435–456; Ferrantino MJ, "International Trade, Environmental Quality and Public Policy" (1997) *World Economy* 20(1): 43 – 72; Dean JM. "Trade and Environment: A Survey of Literature. In International Trade and the Environment" in Low P (ed.) *International Trade and the Environment* (World Bank: Washington, DC. 1992) at 15 – 28.

[20] For a review of this source of studies, see Adams J. "Environmental Policy and Competitiveness in A Globalized Economy: Conceptual Issues and A Review of Empirical Evidences" in OECD, *Globalization and Environment: Preliminary Perspectives* (Paris: OECD 1997), pp53-100, also see infra Chapter 2.6.1 and 2.6.2 on a literature review in relation to "Race to the Bottom" and "Pollution Haven".

[21] See infra Chapter 2.6.3 on research in relation to "Pollution Halo". Also see Warhurst, A., and G. Bridge, "Economic Liberalization, Innovation, and Technology Transfer: opportunities for cleaner production in the minerals industry" (1997) *Natural Resources Forum* 21(1):1-12.

2.1.1 "Pollution Haven" Hypothesis

This hypothesis derives from classical theories of comparative advantage. It regards the environmental standard of a country as an important factor which shapes the country's comparative advantage in international trade and investment. On this basis, it postulates that there exists "pollution havens" whose lax environmental regulation has become the primary incentive for foreign dirty industries.[22] For example, it was suggested that certain developing countries with laxer environmental standards tend to become the pollution havens of dirty industries from developed countries, especially those in neighboring countries.[23]

2.1.2 "Race to the Bottom" Theory

Based on theories of comparative advantage but from a different angle, the "race to the bottom" theory postulates that governments of countries would be involved in a "prisoner's dilemma" where they collectively would be better off by not offering lower environmental standard but each feels compelled to offer the incentive to maintain a competitive business environment. A reasonably expected outcome is that governments would engage in the race of lowering environmental standards in order to attract FDI or

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[22] See Walter, I. & Judith Ugelow, J.L., *Environmental Policies in Developing Countries* (Ambio, 1979), pp. 102-109. Also see Walter I, "Environmentally Induced Industrial Relocation in Developing Countries", in J.S. Rubin & R. Tomas Graham (eds). *Environment and Trade* (Totowa NJ: Allanheld, Osmum and Co., 1982), pp67-101.

[23] An example could be the case between Mexico and the United States. See Cropper, M. & W. Oates, "Environmental Economics: A Survey", (1992) 30 *Journal of Economic Literature* 675.

to avoid domestic industries being lost to others.[24] Under this theory, the likely result would be that every country adopts the environmental standard lower than the standards that would exist in the absence of competition.

2.1.3 "Porter" Hypothesis

Porter's theory focuses on the interactive mechanism between stringency of environmental regulation and international competitiveness.[25] He found that in the short term, strict environment policy will increase a company's costs and further affect its competitiveness. However in the long run, stringency of environmental regulation will trigger a series of technological innovation, management innovation, etc. These innovations will enhance productivity and thereby offset the increase in environmental cost. [26] Furthermore, the government plays an active role in safeguarding the international competitiveness of its products against domestic stringency of environmental regulation, for example by subsidizing its pollution intensive industries or setting restrictions on those imported goods with lower environmental standards, etc.

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[24] See generally David Wheeler, "Racing to the Bottom? Foreign investment and Air Quality in Developing Countries" (2000) Development Research Group World Bank, <http://econ.worldbank.org/files/1340_wps2524.pdf> Accessed Feb 13, 2007.

[25] See generally Porter, M, *The Competitive Advantage of Nations*, (New York: Free Press 1990). Also see Porter, M.E. & C. van der Linde, "Towards A New Conception of The Environment–Competitiveness Relationship", (1995) 9(4) *Journal of Economic Perspectives* 97, pp. 97–118.

[26] Anthony Barbera & Virginia McConnell, "The Impact of Environmental Regulations on Industry Productivity: Direct and Indirect Effects" (1990) 18 *Journal of Environmental Economics and Management* 50, pp. 50-65.

2.1.4 "Pollution Halo" Hypothesis

The "pollution halo" hypothesis argues that foreign firms, which are subject to more stringent regulations at home, tend to diffuse cleaner technologies, environmental management systems and standards when they operate in the host country.[27] Hence the environmental standards of the host state are improved as a result of FDI imports of newer and cleaner technologies and environmental management systems.[28] It also asserts that multinational firms are more exposed to the environmental demands of governments, Non-Governmental Organizations ("NGO"), shareholders and customers. Considering the resources that foreign firms bring in improving efficiency, transferring technology and addressing existing pollution, their investment might pull-up industry standards of host countries.[29]

All these four theories are supported by empirical evidence.[30] The "pollution haven" and "race to the bottom" hypotheses were based primarily on the rationale of economics. Their views are pessimistic from the environmentalist's perspective. The "porter hypothesis" stands in the position of competitiveness, its findings serve to reassure those industrial countries who took the lead in setting up high environmental standards

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[27] For studies which support the arguments that MNCs are upgrading the environmental standards for the plants regardless of location, see Weiss, E. B., "Environmentally Sustainable Competitiveness: A Comment" (1993) 102 *Yale Law Journal* 2123; Vogel, D., "Trading Up and Governing Across: Transnational Governance and Environmental Protection" (1997) 4:4 *Journal of European Public Policy* 556-571; Vogel, D., "Environmental Regulation and Economic Integration, (2000) 3:2 *Journal of International Economic Law* 265-280.

[28] For example, Blackman & Wu has found such trend in the Chinese energy sector. See Blackman, A. & Wu, X, "Foreign Direct Investment in China's Power Sector: Trends, Benefits and Barriers" (1998) Discussion Paper 98-50 (Resources for the Future: Washington, D.C.).

[29] Zarsky, L, "Havens, Halos and Spaghetti: Untangling the Evidence about Foreign Direct Investment and the Environment", (1999) Paper presented at OECD Conference on Foreign Direct Investment and the Environment, 28th and 29th January, The Hague, Netherlands.

[30] For a discussion on the empirical evidences supporting each of the four theories see infra chapters 2.6.1-2.6.4.

yet remained concerned with a loss of competitiveness. "Pollution Halo" hypothesis was in line with the neo-liberal views of foreign trade and investment. It was often used to justify the investment of MNCs in certain environmentally sensitive industries in the host countries.

2.2 DIM and Related Hypotheses

The author's research on DIM starts with an exploration of its definition. Very often, the term "Dirty Industry Migration" is used generically and sometimes confused to researchers as to its specific meaning. Therefore, in order to clarify the issues under the study of this thesis, the author's approach is to first compare it with other common but differentiated terms. Then the author shall study its three components: i.e. "Dirty", "Industry" and "Migration" respectively. Based on the elaboration the author attempts to give the DIM a concrete definition.

"Pollution Haven" vs. "Dirty Industry Migration"

The two hypotheses are inter-related but they are of different research focus. The "Pollution Haven" hypothesis focuses on the jurisdiction of "pollution haven" whose lax environmental regulation has become its primary comparative advantage to attract foreign dirty industries. By contrast, "Dirty Industry Migration" hypothesis focuses on the migration of dirty industries. In other words, it studies the destination, mechanism and driving forces of such migration. In this sense, the primary incentive for these dirty industries to migrate may or may not be the environment considerations.

"Industrial Flight" vs. "Dirty Industry Migration"

"Dirty Industry Migration" can be regarded as a branch of the framework research on "industrial flight". The industrial flight is a well studied phenomenon after the Second World War. Research on "industrial flight" focuses on the lifecycle of a particular industry and studies its shifting mechanism. By contrast, the research on DIM studies the shifting mechanism of industries that are pollution intensive. Specifically, it focuses on the "push" and "pull" factors for dirty industry migration, such as their motive, condition, barrier, and locational choice, etc.

Some economic theories of "industrial flight" can be useful references to the research on DIM, especially:

(1) *Classical Theories of comparative advantage.*[31] These theories assume that countries will generally produce and export goods manufactured with factors that are abundant within the country and will import those for which factors of production are scarce. On this basis, highly polluting industries would gradually move from countries with scarce environmental factor endowments (presumably industrialized states) to countries where such factors would be abundant (presumably industrializing states).

[31] For the old literature on theories of comparative advantage, see Smith, Adam, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) (New York: Kelley, 1966); Ricardo, David, *On the Principles of Political Economy and Taxation* (1817) (edited with an introduction by R. M. Hartwell, Harmondsworth, Penguin, 1971); Mill, James, *Elements of Political Economy*, (London: Baldwin, Cradock & Joy, 1821); Mill, John Stuart, Principles of Political Economy (1848).

(2) *Theories of Central and Peripheral Economies*.[32] Developed by Argentinean economist Raul Prebisch, this group of theories claimed that the "industrial flight" is inevitable as the Third World countries were defenseless to the distortive development brought by trade-induced interaction with heavily-financed First World monopolistic capitalism. As a result, the Third World has been coerced into a state of "dependency" upon the First World, and becomes the producer of raw material for the First World manufacturing development—a "Center-Periphery" relationship.

(3) *Theory of Product Cycle.*[33] Developed by Vernon, this theory put less emphasis on the factor-proportion theory of comparative advantage. It is in essence a production oriented trade cycle explanation of some international trade patterns. According to Vernon's research, the industrial flight is a result of enterprises voluntarily following the product's lifecycle and adjusts its production and market strategies.

(4) *The "flying geese" theory.*[34] Developed first by Japanese scholar Kaname Akamatsu in the 1930s based on his study on the development history of Japanese cotton textile industry, this theory was utilized more frequently to explain the pattern of regional industrialization, particularly in East Asia. Its basic idea is that: A group of economies advance together because of mutual interactions between countries through demonstration effects, leaning and

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[32] See generally Raul Prebisch, *Towards A Dynamic Development Policy for Latin America* (New York: United Nations, 1963).

[33] Vernon Raymond, "International Investment and International Trade in Product Cycle" (1966) *Quarterly Journal of Economics*, Vol. 80.

[34] Akamatsu, Kaname, "Historical pattern of economic growth in developing countries" (1962) 1 *The Developing Economies* 3.

emulation, with the transmission mechanism being flows of people, trade in goods and services, flows of FDI, technology and other MNC-related assets. According to Akamatsu, the industrial flight is a interactive and spontaneous process.

The above theories interpret the nature of industrial flight from different perspectives. To sum it up, the following factors drive the industries to migrate from one country to another: (a) Difference in the comparative advantages among countries (e.g. theories of comparative advantage and "flying geese" theory); (b) A product's life cycle and market change (e.g. theories of product lifecycle); and (c) Impact of trade & investment liberalism (e.g. theories of central and peripheral economies). It is to be emphasized that often the migration of industries is not driven by a single factor. Which factors are dominant will depend on factors such as the nature of that industry, its development stage, and the overall environment of that industry in the specific country, etc.

As mentioned above, certain theories regarding "industrial flight" can be helpful to the understanding on DIM, especially when differences in the production cost are largely caused by the gaps in the environmental regulation between countries. Despite this, theories on "Industrial Flight" cannot cover certain factors that are unique to DIM. For example, in the case that environmental legislation of the home state directly prohibit certain materials or production processes, then industries are left with only two choices: to close or migrate. Consequently, it can be inferred that the government regulations are also an important factor in driving dirty industries to migrate..

"Pollution Migration" *vs.* *"Dirty Industry Migration"*

People sometimes equal dirty industry migration with pollution migration. In fact, DIM does transfer pollution, as dirty productions which generate pollution relocate from one country to the other. However, pollution migration is not necessarily caused by dirty industry migration. For example, when a country's industries have environmental effect that flows across national boundaries and cause environmental harm in other states, or when the emission or leakage from the dirty production in a specific country causes harm to the global commons, such as air, ozone layer, or high seas. In such cases, it is the pollution effect rather than pollution source that is migrated. The former case is mainly regulated by international environmental law. DIM, in contrast, focuses on the shifting mechanism of the pollution source from home to the host states. Often these cases are governed by international trade and investment laws, in addition to domestic regulations.

2.3 Dirty Industry Migration, Sustainable Development and Environmental Justice—Constructing the Conceptual Framework

2.3.1 Principle of Sustainable Development and Dirty Industry Migration

The normative content of sustainable development was provided by the Brundtland Commission (the "Commission") in its 1987 document "Our Common Future". According to the Commission, it means the kind of "…development that meets the

needs of the present without compromising the ability of future generations to meet their needs."[35] The principle of sustainable development seeks to reconcile the different goals of development and environmental protection—two goals which are often considered as incompatible. According to Sands (1999), "Customary principles of international law such as sustainable development, insofar as they are used to interpret treaties to be consistent with them, seek to reconcile seemingly contradictory principles (e.g. the neo-liberal views of international trade and investment and the principle of environmental protection) in order to make the two regional areas of regulation consistent with the overarching principles of international law."[36] Proponents of sustainable development characterize the object of sustainability as "the ongoing need to better align economic, social and environmental goals, and, similarly, to develop policies and practices that consider how these three pillars are interdependent."[37]

It has been suggested that there are two temporal dimensions to this principle: the responsibility to present generations, or what is often called "intra-generational" responsibility, and the responsibility to future generations, often called "inter-generational" responsibility.[38] Both dimensions have been utilized by developing countries to rectify the serious socio-economic asymmetry in resource access,

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[35] World Commission on Environment and Development, *Our Common Future* (Oxford: Oxford University Press 1987). Also see Vaughan Lowe, "Sustainable Development and Unsustainable Arguments" in Alan Boyle & David Freestone (eds.) *International Law and Sustainable Development* (1999) at 26 (recognizing sustainable development as an "umbrella concept" encompassing a number of congruent norms).
[36] Philippe Sands, "Sustainable Development: Treaty, Custom, and the Cross-fertilization of International Law" in Alan Boyle & David Freestone (eds.) *International Law and Sustainable Development* (1999) at 39.
[37] David Monsma & John Buckley, "Non-Financial Corporate Performance: The Material Edges of Social and Environmental Disclosure" (2004) 11 *U. Balt. J. Envtl. L.* 151, at 171.
[38] G. F. Maggio, "Inter/intra-generational Equity: Current Applications under International Law for Promoting the Sustainable Development of Natural Resources" (1996) 4 *Buff. Envt'l. L. J.* 161, 163.

distribution, and consumption between nations. [39] This asymmetry, at present, has led to severe environmental degradation and the inability of a large part of humanity to meet its basic needs in an adequate manner.[40]

The dirty industry migration is against the principles of sustainable development in that, on one hand, it exacerbates the intra-generational inequity by meeting the consumptive demands of the developed countries by transferring pollution to the developing countries. On the other hand, the large exploitation of natural resources and enhanced environmental pollution in the developing countries as a result of foreign DIM imposes threats on the principle of inter-generational equity by leaving insufficient resources for future generations in these countries to meet their needs.

2.3.2 Principle of Environmental Justice and Dirty Industry Migration

Born in the United States in early 1980s as a vehement reaction to the disproportionate imposition of environmental hazards on racial and ethnic minorities and the poor,[41] the

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[39] It was argued that natural resources are now exploited in unprecedented quantities and rates of consumption are continuing to increase. In relation to their population sizes, the "Northern" industrialized countries are responsible for a vastly disproportionate amount of the natural resources being consumed or adversely impacted. Issues concerning the access to and consumption of global resources, and responsibility for the resulting environmental degradation and depletion, have become focal points for much current thinking on intergenerational equity and have taken on a distinctly "North" v. "South" dimension. See Lynch, *Human Rights, Environment, and Economic Development: Existing and Emerging Standards in International Law and Global Society*, Chapter IV, <http://www.ciel.org/Publications/olp3iv.html> Accessed Feb 13, 2007.

[40] This goal has been a major feature of the international legal and politico-economic agenda of developing countries since at least the early 1970s, as evidenced by the adoption of resolutions in the U.N. General Assembly calling for the creation of a "New International Economic Order", as well as efforts to obtain greater control over natural resources. Id.

[41] As a grassroots social justice movement combining the principles of civil rights and environmental protection, environmental justice emerged in the 1980s within the anti-toxics movement and was soon adopted by social justice leaders and environmental activists in the struggle against the sitting of hazardous waste facilities in their communities. See E. Andrew Long, "Protection of Minority Environmental Interests in the Administrative Process: A Critical Analysis of the EPA's Guidance for Complaints Under Title VI", (2003) 39 *Willamette L. Rev.* 1163, 1168-69

environmental justice movement provides a relevant and effective construct for addressing institutional and doctrinal imbalances inherent in the multilateral trade and investment system.[42] As a community-led grassroots movement, the environmental justice was originally based on the idea "that the burdens of environmental pollution should not fall disproportionately on poor and minority communities".[43] In its brief history, the environmental justice movement has focused primarily on perceived domestic abuses.[44] However, over the time the definition of environmental justice has evolved considerably.[45] Many of the environmental justice concerns have gone beyond the legal domain of equal protection or civil rights law involving state and federal regulatory actions such as hazardous waste sitting permits, but involve the disproportionate impacts from lawful pollution attributable to private sector decisions or practices at facilities and in communities where companies operate.[46]

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[42] See Giovanna Di Chiro, "Nature as Community: The Convergence of Environment and Social Justice" in William Cronen & W.W. Norton (eds.) *Uncommon Ground* (1996) 298, at 300-301,.

[43] It was recalled that the direct result of the environmental justice movement in the U.S. was the Executive Order 12898 issued by U.S. President William J. Clinton on 11 February 1994. The Order has the force of law and it requires that "...each Federal Agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories..." See Jason Pinney, "The Federal Energy Regulatory Commission and Environmental Justice: Do the National Environmental Policy Act and the Clean Air Act Offer a Better Way?" (2003) 30 *B.C. Envtl. Aff. L. Rev.* 353, at 354.

[44] See generally Olga L. Moya, "Adopting an Environmental Justice Ethics" (1996) 5 *Dick. J. Envtl. L. & Pol'y* 215, 217 (surveying "the environmental justice movement and actions taken by communities, government, the courts, and industry").

[45] See Hillary Gross et al., "Environmental Justice: A Review of State Responses" (2001) 8 *Hastings W.-Nw. J. Envtl. L. & Pol'y* 41, 42 (discussing emerging themes in state and federal responses to environmental justice); Alice Kaswan, "Environmental Justice: Bridging the Gap Between Environmental Laws and "Justice"", (1997) 47 *Am. U. L. Rev.* 221, 223 (examined the gap between environmental laws and equal justice under law, and analyze how environmental justice contributes to social and political debates about fair treatment).

[46] On the whole, the "principles of the environmental justice movement include not only equal protection from environmental risks, or life and health issues, but also the right for people to live in communities that are environmentally safe, regardless of their race or income." See R. Gregory Roberts, "Environmental Justice and Community Empowerment: Learning From the Civil Rights Movement", (1998) 48 *Am. U.L. Rev.* 229, at 265 (quoting Deeohn Ferris & David Hahn-Baker, Environmentalists and Environmental Justice Policy, in Environmental Justice: Issues, Policies, and Solutions 66 (Bunyan Bryant ed. 1995)).

In 1991, the First National People of Color Environmental Leadership Summit was held in Washington, D.C. Minority leaders at the Summit articulated “a seventeen-point statement entitled Principles of Environmental Justice, and pledged to build a national environmental justice movement to address the ecological threats facing minority and disadvantaged communities.” Some of these principles, according to some scholars, “still provide the best definition of what environmental justice means”.[47] For example, Principle 3 stated that environmental justice, among other things, “mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things.”[48] Furthermore, it was stated that environmental justice “opposes the destructive operations of multinational corporations" (Principle 14) and “demands the cessation of the production of all toxins, hazardous wastes, and radioactive materials and demands that all past and current producers be held strictly accountable to the people for detoxification and the containment at the point of production”(Principle 6).[49] Although these asserted principles sounds expansive and potentially unmanageable from a business management perspective, they nevertheless have provided us with useful insights on the inter-linkage between principle of environmental justice and the rationale for the regulation of dirty industry migration in an international context.

[47] See David Hahn-Baker, “The 20th Anniversary of Love Canal: Lessons Learned” (2001) 8 *Buff. Envt'l. L.J.* 225, at 236 Also see generally Robert D. Bullard, “Essays on Environmental Justice: Environmental Racism and Invisible Communities” (1994) 96 *W. Va. L. Rev.* 1037, 1046.
[48] See Julian Agyeman and Tom Evans, “Rethinking Sustainable Development: Toward Just Sustainability in Urban Communities--Building Equity Rights with Sustainable Solutions” (2003) 590 *Annals* 35, at 49 (listing principles of environmental justice as stated in the First National People of Color Environmental Leadership Summit).
[49] Id.

The principles of environmental justice provide important conceptual justification for the regulation of dirty industry migration on a global basis. Environmental justice seeks to address the disproportionate impact of environmental pollution caused by the corporations operating around the world and the lack of equal environmental protection experienced by the disadvantaged people. As Suttles suggested, "operating beyond the traditional limits of both the civil rights movement and the environmental movement per se, and owing especially to its nonhierarchical formulation, the environmental justice movement provides an immensely adaptable vehicle for addressing the disparate imposition of environmental risks globally, in a wide variety of applications."[50] Indeed, to an extent, the movement's ability to elude an easy definition derives precisely from the fact that it constantly evolves to address imbalances that lead to disproportionate burden sharing rather than merely responding to particular actors in specific contexts.

2.3.3 Synthesizing Principles of Environmental Justice and Sustainable Development

Despite the historically different origins and their attendant movements of environmental justice and sustainable development, the theoretical compatibility between the two concepts has gained wide recognition among researchers. Tracing the "strikingly similar pathways" and "co-evolution of sustainable development and environmental justice," J.B. Ruhl (1999) theorizes that "environmental justice benefited from the increasingly broad policy acceptance that sustainable development enjoyed

[50] John T. Suttles, "Transmigration of Hazardous Industry: the Global Race to the Bottom, Environmental Justice, and the Asbestos Industry" (2002) 16 *Tul. Envtl. L.J.* 1, at 5-7.

across international and national lines which legitimized the more narrow message of environmental justice".[51] One group of commentators agreed that the "concept of sustainable development and environmental justice share many critical and defining characteristics" and that "each requires taking into account and integrating policies relating to social justice, environmental protection, and economic development".[52] At a less pivotal but more practical level, Fisher (2003) points out that "there exists a nexus of theoretical compatibility between sustainability and environmental justice, including an emphasis on community-based decision making; on economic policies that account fiscally for social and environmental externalities; on reductions in all forms of pollution; on building clean, livable communities for all people; and on an overall regard for the ecological integrity of the planet."[53] Thus, if the "race to the bottom" theory is to be adopted, then the resulting downward trend of environmental, health and safety standards ("EHS standards") exacerbates the imbalance between developed and developing nations, thereby not only violates the intra-generational equity as advocated by the principle of sustainable development, but also "qualifies as precisely the type of disparity against which the principle of environmental justice movement contends".[54]

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[51] J. B. Ruhl, "The Co-Evolution of Sustainable Development and Environmental Justice: Cooperation, Then Competition, Then Conflict" (1999) 9 *Duke Envtl. L. & Pol'y* F. 161, 162 (discussing the co-evolutionary patterns and relations between sustainable development and environmental justice that can be explained by using concepts being developed through complex systems research).

[52] Barry E. Hill, Steven Wolfson, & Nicholas Targ, "Human Rights and the Environment: A Synopsis and Some Predictions" (2004) 16 *Geo. Int'l Envtl. L. Rev.* 359, 373 (noting that in "a recent article entitled, 'One Species, One Planet: Environmental Justice and Sustainable Development,' the Center for International Environmental Law (CIEL) concluded that environmental justice and sustainable development are virtually synonymous").

[53] Emily Fisher, "Sustainable Development and Environmental Justice: Same Planet, Different Worlds?" (2003) 26 *Environs Envtl. L. & Pol'y J.* 201, 207-08 ("If sustainable development fails to prioritize issues of distributive justice, it will be little more than an accomplice to the ongoing exploitations of the market. Similarly, environmental justice cannot achieve its goal of distributive justice as long as there are burdens to distribute.")

[54] Debora L. Spar & David B. Yoffie, "Multinational Enterprises and the Prospects for Justice" (1999) 52 *J. Int'l Aff.* 557, at 560.

The international law principles of sustainable development and environmental justice have not only demonstrated the necessity to regulate DIM, but also offered a conceptual framework for the author's subsequent discussion on the international laws on DIM. The following sections intend to define the research scope of this thesis through a re-examination on the concrete meaning of the term DIM under globalization.

2.4 Re-examine the Term "Dirty Industry Migration" under Globalization

2.4.1 "Dirty"

To narrow down the research scope, "dirty" industry as referred to in this thesis generally means "pollution intensive" industry. In defining "pollution intensive", a conventional approach in the literature has been to identify pollution-intensive sectors as those which have incurred a certain high level of pollution abatement cost per unit of output.[55] According to the Economic Committee of Asian and Pacific Economic Cooperation ("APEC"), dirty industries, or what they call "environmentally sensitive industries" are those industries that incurred pollution abatement and control expenditures of approximately 1% or more of the value of their total sales.[56] Tobey

[55] Pollution abatement costs, according to US Census Bureau, refers to costs arising from "the reduction or elimination of pollution that is created by the production process and has the potential to produce undesirable environmental and/or human health effects or the removal of pollution created by prior years' production. Pollution abatement activities include pollution treatment, pollution prevention, recycling, and/or disposal in an environmentally sound manner." See US Census Bureau (1999) Surveys of Pollution Abatements Costs and Expenditures, available at: <http://www.census.gov/prod/2002pubs/ma200-99.pdf> Accessed Feb 10, 2007.

[56] By these definition, their list of dirty industries include all four-digit products in iron and steel (SITC 67); nonferrous metals (68); metal manufactures N.E.S. (69); pulp and waste paper (251); organic chemicals (512); inorganic chemicals (513, 514); radioactive etc. materials (515); coal, petroleum etc. chemicals (521); manufactured fertilizers (561); paper and paperboards (641); articles of paper etc. (642); veneers, plywood, etc. (631); wood

(1990) defines pollution intensive industry as one where pollution abatement costs in the United States were 1.85% or more of the total costs.[57] Levinson (1996) defines "high pollution intensity" as those pollution abatement capital expenditures as a percentage of total new capital expenditures exceeding 5%.[58] By these criteria, five sectors emerge as leading candidates for "dirty industry" status: Iron and Steel, Non-Ferrous Metals, Industrial Chemicals, Pulp and Paper, and Non-Metallic Mineral Products.

Another, more direct, approach is to select sectors which rank high on emissions intensity (i.e. emissions per unit of output). To determine high-ranking sectors by this criterion, Hettige, et. al (1995) use detailed emissions intensities by medium (i.e. air, water, and metals) for U.S. manufacturing at the 3-digit Standard Industrial Classification ("SIC") level.[59] By this approach, the result of average sectoral rankings for air pollutants, water pollutants, and heavy metals are displayed in

Table **1**.

Table 1 Candidature for "Dirty Industries" Ranked by Medium Emission Intensities

Rank	Air	Water	Metals	Overall

manufactures N.E.S. (632); petroleum products (332); agricultural chemicals (599) and cement (661) See APEC, Survey on Trade-Related Environmental Measures and Environmental-Related Trade Measures in APEC (1998) Wellington, New Zealand.

[57] Tobey, supra note 10, at 194.

[58] Pollution abatement capital expenditures include installation and retrofit that occurred for separately identifiable methods, techniques, or process technologies installed exclusively for the purpose of removing pollutants after their creation, from air emissions, water discharges, and/or solid waste or expenditures for technologies that reduce or eliminate the creation of pollutants. It includes the total expenditures for pollution abatement. See Levinson, supra note 10, at 5-29.

[59] Hettige, Mala, Paul Martin, Manjula Singh and David Wheeler, "IPPS: The Industrial Pollution Projection System," (1995) World Bank, Policy Research Department Working Paper.

Rank	Air	Water	Metals	Overall
1	371 Iron and Steel	371 Iron and Steel	372 Non-Ferrous Metals	371 Iron and Steel
2	372 Non-Ferrous Metals	372 Non-Ferrous Metals	371 Iron and Steel	372 Non-Ferrous Metals
3	369 Non-Metallic Min. Product.	341 Pulp and Paper	351 Industrial Chemicals	351 Industrial Chemicals
4	354 Misc. Petroleum, Coal Product	390 Miscellaneous Manufacturing	323 Leather Products	353 Petroleum Refineries
5	341 Pulp and Paper	351 Industrial Chemicals	361 Pottery	369 Non-Metallic Min Product
6	353 Petroleum Refineries	352 Other Chemicals	381 Metal Products	341 Pulp and Paper
7	351 Industrial Chemicals	313 Beverages	355 Rubber Products	352 Other Chemicals
8	352 Other Chemicals	311 Food Products	383 Electrical Products	355 Rubber Products
9	331 Wood Products	355 Rubber Products	382 Machinery	323 Leather Products
10	362 Glass Products	353 Petroleum Refineries	369 Non-Metallic Min. Product	381 Metal Products

Computed by the World Bank in Collaboration with the U.S. Environment Protection Agency and the U.S. Census Bureau in *Hettige, Mala, Paul Martin, Manjula Singh and David Wheeler, "IPPS: The Industrial Pollution Projection System," World Bank, Policy Research Department Working Paper, February 1995.*

Other than being intensive by the above criteria, “dirty” industries can also apply to industries which are intensive in other inputs, particularly bulk raw materials, energy and land.[60] Mani and Wheeler (1997) did an interesting research on the standards of dirty industries in the context of Japan. Using the abatement expenditure and emission

[60] It was suggested that dirty industries often deal with bulk raw materials because pollutants are waste residuals—harmful byproducts of industrial processes which are not profitable to recycle or resell at existing prices (including the price of pollution). The volume of such residuals is, almost tautologically, largest in weight-reducing industries which transform bulk raw materials into primary inputs for industrial production. Dirty industries should be land intensive, because some bulk material inventories must be stored on-site. Besides, dirty industries should also be energy-intensive, because transformation processes generally involve the application of high temperature, pressure, and /or mechanical force to raw material inputs. See Mani, M. & Wheeler, D., “In Search of Pollution Havens? Dirty Industry in the World Economy, 1960-1995” (1998) 7;3 *Journal of Environment and Development* 215-247.

intensity approaches, they first identified the five cleanest (Group 1) and five dirtiest sectors (Group 2); then computed the energy, land and labour intensities for each industry and compared the results of the two groups. Their results have shown that: The five dirtiest sectors are about three times more energy intensive than the five cleanest sectors, and there is striking uniformity within the two groups. Despite a within-group variation, such result is basically the same for land intensity (three times higher in dirty sectors)..Capital intensity is also substantially higher in the dirty sectors than clean sectors, with an average ratio around 2:1 for capital / output and investment / output.[61]

Apart from indicators based on technical measurements, from a human rights perspective the author would suggest the dirty industries to include any industries that force people to live and work in a hazardous or unhealthy environment. Despite the fact that there is no instrument that sets out the minimum environmental standards for human beings that industries are obliged to sustain, nobody would deny that an industry is dirty if it threatens people's life and health (in short or long term), or causes serious impact to the surrounding environments.[62] An example would be the migration of ship-breaking industry from developed countries to India, Bangladesh and other countries in South Asia which causes serious health and ecological problems.[63] Such industries are included in our definition of "dirty" industries for the purpose of this thesis.

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[61] Id, at 215-220.

[62] For an analysis on people's rights to a healthy environment under international law, see Hill et al, supra note 52. Also see Clarence J. Dias, "Human Rights, Environment and Development in South Asia: The Importance of International Human Rights Law" (2000) 6 *ILSA J. Int'l & Comp. L.* 415; For a brief summary of the history of the movement to establish minimum environmental standards as human rights, see Melissa Thorme, "Establishing Environment as a Human Right" (1991) 19 *DENV. J. INT'L L. & POL'Y* 301, 303-305.

[63] Anjana Pasricha, "Ship-Breaking Industry Brings Environmental Problems Along with Money", May 11, 2004, <http://en.epochtimes.com/news/4-5-11/21366.html> Accessed Feb 28, 2007.

2.4.2 "Industry"

The traditional rough categorization of industry includes the primary sectors of industry, which involve the conversion of natural resources into primary products, such as agriculture, agribusiness, fishing, forestry, mining and quarrying industries; the secondary sectors of industry which generally take the output of the primary sector and manufacture to a point where they are suitable for use by other businesses, or sale to consumers; and the tertiary sectors of industry which are also known as the service industry. Considering the fact that most energy is consumed and most pollutants are created in natural resource exploitation as well as manufacturing, the research scope of industries in this thesis shall mainly cover the pollution intensive sectors in the manufacturing industry. In addition, some admittedly pollution intensive industries in the primary sectors such as mining and quarrying industries will also be studied..

The present commonly applied methods for industrial categorization are the International Standard Industry Classification ("ISIC")[64] and North American Industrial Classification System ("NAICS").[65] Both methods use hierarchical codes (2- to 6-digit) to classify specific industries. Consequently, most pollution intensive industries studied by this thesis are 3- to 4-digit level industries described under the ISIC category "D"

[64] International Standard Industry Classification (ISIC) is defined by the United Nations Statistics Division and is a standard classification of economic activities. For a list of ISIC codes (Rev. 3.1), see <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=17&Lg=1> Accessed Jan 6, 2007.

[65] The North American Industry Classification System (NAICS) is the product of a cooperative effort on the part of the statistical agencies of the United States, Canada, and Mexico. It.has replaced the U.S. Standard Industrial Classification (SIC) system in 1997. For a list of 2002 NAICS codes, see US Census Bureau at <http://www.census.gov/epcd/naics02/naicod02.htm> Accessed Jan 6, 2007.

(manufacturing), or the NAICS category 31-33 (manufacturing).

2.4.3 "Migration"

This section studies the vehicles of DIM. Normally the migration involves a flow of assets from one country to the other. Under globalization the transnational flow of assets is mainly achieved through international trade and foreign investment.

2.4.3.1 Distinction between "Active" and "Passive" Dirty Industry Migration

The distinction between "active" DIM and "passive" DIM is made here to untangle some confusion in the understanding of "migration" (see Chart 1). Traditionally people tend to understand the DIM as referring only to the plant relocation of dirty production plants from one country to the other. However, in the author's opinion, the migration of dirty industries can be achieved actively, i.e. MNCs *actively* invest abroad to flee from the high environmental regulations in their home country. Such active DIM can take the form of greenfield investment[66] in pollution intensive industries ("PII") in the host state, or financing on the expansion of existing production facilities, or acquiring the corporations in PII in the host state, etc. Alternatively, the migration of dirty industries can be achieved passively. Namely, through the closure of dirty production or other forms of exit from the dirty industry in their home countries, PIIs in the home state tend

[66] A Greenfield Investment is the investment in a manufacturing plant, office, or other physical company-related structure or group of structures in an area where no previous facilities exist. Source: http://en.wikipedia.org/wiki/Greenfield_investment (Accessed on Feb 28, 2007).

to import such products from producers in other countries. In other words, the total demand for Pollution Intensive Industrial Products ("PIIP") did not decrease but only the market share being filled by other countries. In both "active" and "passive" DIM, pollutions arising out of dirty production relocate from the home to the host countries.

The significance of making the distinction between active and passive DIM is to rectify a common deficiency with past literature on DIM. Previous researchers tend to focus on either DIM through FDI or DIM through international trade, yet very few researchers have attempted to combine the two for the assessment of DIM. In the author's opinion it is the aggregate environmental impact of both foreign trade and investment that gives a comprehensive picture of DIM in a particular country. Following this logic, in Chapter III the author conducts two empirical studies, one on the active and the other on passive DIM in China. Based on the aggregate empirical results of the two studies, the author draws his conclusion on whether there is evidence of DIM in China.

Chart 1 Distinction between "active" and "passive" Dirty Industry Migration

2.5 Motives of Dirty Industry Migration

In regard to why dirty industries decide to migrate, the author identifies three factors, namely cost advantage, production restrictions and investment restrictions. Cost advantage in DIM refers to cost advantages arising from the difference in environmental standards among states. Previous research tends to suggest that there was not much empirical evidence for DIM mainly because environment compliance cost covers only a very small part of the total cost of production.[67] In other words, compared to endowments of the traditional factors considered to characterize comparative advantage in neo-classical trade theory, differences in environmental standards might be negligible, and dirty industries do not have much incentive to migrate.[68]

In response to this argument the author must first stress that whether there is evidence of DIM and whether the environment cost advantage is the primary cause of DIM are two different questions. The former is a matter of fact while the latter is another hypothesis subject to empirical testing. Thus even if environmental cost advantage is proved to be a negligible factor for DIM, since DIM is driven by a variety of factors, denying on one factor does not necessarily render the DIM hypothesis invalid.

Despite the above argument, the author considers the environmental cost advantage as an important motive for DIM, mainly because such factor has previously been

[67] Studies indicate that environmental protection expenditures account for only one to two percent of Gross National Product in developed countries. See Gaines, supra note 11, at 465.
[68] See Tobey, supra note 10, at 194.

underestimated. For example, a popular approach of previous researchers is to use the survey method to test the motives behind trade and investment decisions. Usually a pre-set series of motives are available for the candidates to choose from, in which the intention to seek lower environmental regulation is often overlooked. Even if they are included, they are sensitive and candidates tend to avoid directly answering the question, with or without intention. Furthermore, the question "to what extent the environmental factor plays a role in driving the migration of dirty industries" is a difficult one because an investment decision is often a comprehensive one based on a variety of considerations. The environmental cost advantage is often intertwined with other motives which jointly drive the migration of dirty industries. Very often the low environmental standard in the host state is associated with low labour costs and other factors. It is impractical to single out the environmental factor and tell to what extent it affects the decision on migration.

In addition to the imperfection in previous research methodology, another common shortfall of previous DIM studies is that they only considered part of the environmental costs of industries, i.e. the pollution abatement cost, but failed to take into account environmental costs and expenditures of, for example, planning and monitoring activities, productivity loss, and research and development.[69] Other costs that are often excluded are occupational health and safety expenses.[70] For certain industries the total environmental cost can be substantial and may become the primary incentive of these

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[69] See Mabey, N. & McNally, R. *Foreign Direct Investment and the Environment: From Pollution Haven to Sustainable Development,* (WWF, UK: Surrey, UK 1999). (Analyzing other environmental cost of corporation other than pollution abatement costs) Also see Zarsky, supra note 29.

[70] Chapman, D., "Environmental Standards and International Trade in Automobiles and Copper: The Case for a Social Tariff" (1991) 31:3 *Natural Resources Journal* 449-461.

industries to migrate, actively or passively. Based on these considerations, Mabey and McNally (1999) suggest that a country's inability to internalize environmental costs into its economy might indirectly act as an incentive to woo FDI in pollution intensive industries.[71]

Besides cost advantage, a country's laws and regulations which impose restrictions on the production or investment in dirty industries have direct impact on DIM. In such circumstance producers are left with only two choices: To cease production in compliance with law or to relocate the production thereby evades the restriction. Small producers that are unable to relocate their production tend to exit such industry, and such decline in capacity is replaced by the increasing import from countries where there is no such restriction. The remaining producers are generally those being able to reform. Such reform may take the form of "green innovation" on their existing production process to meet the increased standards, or a change of strategy to access global production outside their own country.

2.6 Barriers to Dirty Industry Migration

2.6.1 Dirty Industries' Barriers to Exit

Usually the migration of dirty industries involves two processes: the dirty industries have to first exit their home state and then enter the host state. It is by no means a free

[71] Mabey & McNally, supra note 69.

flow of assets. Each process has its own barriers which constitute the cost of DIM.

The barriers to exit refer to the barriers that enterprise must encounter when it seeks to exit certain market or industry. According to Bain (1956), the barriers to exit generally fall into three categories: sunk cost, government dissuasion, and damage to the reputation.[72]

Sunk cost is generally determined by the capital intensity of that industry. The high capital intensity implies that such industry requires more workshops and production facilities. Industries with high sunk cost are often pollution intensive industries. Examples are petroleum, chemical, machinery, metal, smelt and paper. For these industries, to exit the home country and enter another country requires the often burdensome dismantlement and re-establishment. Therefore, from the perspective of sunk cost, "dirty" industries have both a higher exit and entry barrier for migration.

Capital-intensive industries are usually the pillar industry of a country. Its migration will affect the macro-economy of the home country and bring about a series of problems such as the loss of state revenue and domestic jobs. For example in the steel and iron industry, the steel producing nations usually have one dominant "flag bearing" firm, and such a firm has traditionally been protected for strategic reasons. The size of these firms allows them to enjoy increasing returns to scale in production, marketing, distribution, advertising and research and development. Given these competitive

[72] Bain Joe. S., *Barriers to New Competition* (Harvard University Press, 1956).

advantages, they are able to offset extra environmental costs and have few incentives to migrate. Even if they have enough reasons to relocate, the home state governments tend to dissuade them against such migration. The government dissuasion can take the form of incentives, such as government subsidy, technical support and tax deduction, etc. Alternatively, it can take the form of disincentives, such as direct governmental interference. All these measures have, to a certain extent, increased the dirty industries' barriers to exit.

Reputation is another important factor. For established MNCs, the environmental performance is an integral part of their public image, and this applies to their overseas operations and investments. If an MNC is reported to have migrated to other countries with the effect of transfer pollution, its reputation may be damaged, its stock price may drop, and it may lose its existing and potential customers worldwide. The cautions on reputation constitute the third barrier whenever established companies decide to migrate.

2.6.2 Dirty Industries' Barriers to Entry

The barrier to entry refers to the barriers that foreign corporations must encounter when they seek to enter a certain market or industry. From a broad sense, it not only refers to the pre-entry costs and requirements, but also includes all post-entry conditions and disadvantages that foreign corporations must encounter as against the domestic corporations in the host country. According to Bain (1956), barriers of this kind include barriers of cost advantage, barriers of scale-economy, barriers of required capital,

barriers of law and policies, etc.[73]

Interestingly, using pollution abatement cost as an indicator of pollution intensity, it is found that most pollution intensive industries considered to have high barriers of exit are also those found to have high barriers of entry. Although the entry requirements for dirty industries which constitute barriers of entry are country-specific, due to the capital-intensive nature, strategic role in the national economy and potentially large polluting effect on environment of these industries, host states generally keep a vigilant eye over their entry.

Generally, large MNCs have certain advantages over small and medium foreign industries in overcoming barriers to entry. For instance, large MNCs have the advantages in scale-economy so that the capital requirement of the host state doesn't create extra burden for them. Large MNCs also have extraordinary purchasing power over their small and medium counterparts in obtaining required inputs at competitive price. However, for reputation considerations large MNCs generally have to spend more on maintaining a socially responsible public image. But, this disadvantage can be mitigated by the factor that given the large economic contributions that MNCs bring to the host state, the host state government is always willing to make concessions in order to facilitate their entry.

[73] Id, at 140-170.

The government policy of the host state often plays a key role in determining the entry barriers for foreign dirty industries. For example, China has had its *Catalogue for the Guidance of Foreign Investment Industries* since 1995. The Catalogue serves to guide the sectoral flow of FDI according to China's national objectives. The criteria for the "encouraged", "restricted" and "prohibited" investment are provided in the 2002 *Provisions on Guiding the Orientation of Foreign Investment* (the "Provisions"), a governmental regulation that has the force of law. For example, Art.6 of the Provisions provides that "A project being of technology lagged behind or being adverse to saving resources and improving environment shall be a restricted foreign-funded project", and Art.7 provides that "a project that pollutes the environment, damages natural resources or harms human health shall be a prohibited foreign-funded project." A foreign industry that falls under the "restricted" or "prohibited" list simply means they are either denied entry to China or has to incur substantially higher cost of entry compared with those under the "encouraged" list. This reflects the general attitudes of Chinese government towards foreign pollution intensive industries.

To summarize, our conclusion is that in general the pollution intensive industries are also industries with a comparatively high exit and entry barrier. However, to what extent such barriers affect a firm's decision to migrate shall depend on a variety of factors and needs to be studied on a case by case basis.

2.7 Evaluation on the Existing Theories of DIM

Subject to the re-examination of the term "dirty industry migration" under globalization, this section will analyze the value of existing theories of DIM. Namely, the "race to the bottom" hypothesis, the "pollution haven" hypothesis, the "pollution halo" hypothesis and "porter" hypothesis.

2.7.1 "Race to the bottom"

Advocates for the race to bottom hypothesis are generally seeking evidence that the host governments have explicitly changed their environmental laws, and therefore lowered the standards, in order to attract investment. For example, the UNCTAD in its 1999 World Investment Report pointed out that developing countries are seen to be under pressure to gain high rates of economic growth and to secure FDI but that this, in some instances, can tempt them to accept environmentally risky activities.[74] In India, Mabey and McNally (1999) find that a British company pressured regional authorities in India to de-notify one of India's three designated eco-fragile areas so that they could go ahead with a port development. The state government initially offered six potential sites but since they did not receive many bidders, they allowed the company to use another site that was previously excluded under certain environmental protections.[75] They also report two cases where the host government was pressured to provide post-

[74] UNCTAD, World Investment Report 1999: Foreign Direct Investment and the Challenge of Development, (UNCTAD: Geneva 1999).
[75] Mabey & McNally, supra note 69.

establishment concessions, such as lowering regulations or preventing its enforcement: oil exploitation and drilling in Nigeria and mining in Southeast Asia.[76] Zarsky (1999) also points out that an investor may act as an "environmental renegade" after entering the country while environmental regulators may be lax in their enforcement of regulations.[77]

Despite anecdotal evidence, the author is of the opinion that the race to the bottom hypothesis might not be true. An irrefutable fact is that under the economic growth and intensifying competition, most countries and industries are better off than their original environmental standards. [78] Some scholars examined other factors to provide confirmation that there is no race to the bottom. For example, it was suggested that the local input in decision making, premised on the "Not in My Backyard" attitudes, can act as a countervailing force against the race to the bottom. [79] On the empirical side, conclusive evidence on host countries actively engage in altering environmental regulatory system to attract FDI is not forthcoming, partially due to the unavailability of evidence from the host countries themselves.[80] Instead, the prevailing empirical view is

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[76] Id.

[77] Zarsky, supra note 29.

[78] For example, Wheeler (2001) examined recent air quality trends in the United States and China, Brazil and Mexico, the latter 3 representing the top three shares of FDI for developing countries in the 1990's. A general improvement of air quality in the major cities of all four countries was reported, suggesting that any studies of the race to the bottom fail to account for political-economic aspects of pollution. See Wheeler, supra note 24. .

[79] See Swire, P., "The Race to Laxity and the Race to Undesirability: Explaining Failures in Competition among Jurisdictions in Environmental Law" (1996) *Yale Law and Policy Review/Yale Journal of Regulation* 67-110 (Symposium Issue). However, it was suggested that local pressure against the lowering of environmental standards to attract an investment will vary, depending on the educational and income levels of the community, see Zarsky, supra note 29. In addition, Afsah et. al (1996) studied factory environmental performance in China, Brazil, Indonesia and the United States, concluding that community and market pressure can play a significant role but that this ultimately depends on income, education and bargaining power. See Afsah, S., Lapalnte, B., & Wheeler, D. "Controlling Industrial Pollution: A New Policy Paradigm" (1996) Research Working Paper No. 1672. World Bank. Washington D.C., <http:www.worldbank.org/nipr/wor_paper/1672/index.htm> Accessed Nov 15, 2006.

[80] See Porter. G., "Trade Competition and Pollution Standards: 'Race to the Bottom' or 'Stuck at the Bottom'? (1999) 8:2 *Journal of Environment and Development* 133-151.

that the most significant impact of country differentia in environmental laws might not be a "race to the bottom", but a "chilling effect" on the harmonization process towards global minimum environmental standards.[81] This implies that competition and the fear of losing potential investors may keep new initiatives to enhance environmental standards "chilled", not allowing them to reach their socially optimal levels.

2.7.1.1 "Regulatory chill"

Some authors suggested that unlike the hypothesis of "race to the bottom", it is potentially easier to assert that a regulatory chill or political drag on regulation occurs since it is based on undocumented non-action by governments.[82] It is also for this reason that definitive empirical proof of government inactivity does not exist and only anecdotal evidence can be relied upon.

In industrialized countries, Neumayer (2001) suggests that many of the examples of regulatory chill are seen in the regulation of energy and taxation.[83] Esty and Geradin (1997) cite various country examples, such as Australia, the United States and the EU, where governments failed to enact energy tax regimes or other greenhouse gas reduction measures, to be motivated, at least in part, by competitive concerns.[84]

[81] See WTO, Trade and environment, at 5-6, 35 (1999) (discussing the effect of "regulatory chill"); see also Daniel C. Esty and Damien Geradin, "Environmental Protection and International Competitiveness: A Conceptual Framework" (1998) *J. World Trade* 5, at 19-20 (discussing examples of proposed environmental legislation in the United States, European Union, Australia, and Japan that were defeated on the basis of international competitiveness concerns).
[82] See Esty, & Geradin, Id.
[83] Neumayer, E., "Do Countries Fail to Raise Environmental Standards? An Evaluation of Policy Options Addressing 'Regulatory Chill'" (2001) 4(3) *Journal of Sustainable Development.*
[84] Esty and Geradin, supra note 81.

Erlandson (1994) cites that the U.S. federal government's introduction of a British thermal unit energy tax was ultimately terminated partly in response to complaints by several energy and oil lobbies, who claimed that such a tax would reduce their competitiveness, cause massive job losses and encourage a flight of capital.[85] Moreover, there are specific examples where energy companies threatened to leave jurisdictions due to proposed higher environmental costs and taxes, as was seen in the energy sector of Netherlands.[86]

Some evidence is brought forward on regulatory chill in developing countries. Mabey and McNally (1999) assert that Brazilian tanneries, specializing in low quality products, are trapped between being unable to compete with better quality competitors in Europe and the lower-cost producers in Asia. As a result, local authorities are unwilling to enforce more stringent regulations due to a concern for loss of employment and lower tax revenues.[87] Another case they raise occurs with the phosphate industry in Morocco and Tunisia, where the governments have been reluctant to increase the level of regulation partly out of fear that other destinations will become more attractive.[88]

To summarize, the theory of "regulatory chill" probably has more potential in explaining the host state's response to the migration of dirty industry, although solid empirical evidence to support this hypothesis is still lacking. Despite this, the author is

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[85] See Erlandson, D., "The BTU Tax Experience: What Happened and Why it Happened", (1994) 12:1 *Pace Environmental Law Review* 173-184.
[86] See Esty, D.C. *Greening the GATT: Trade, Environment, and the Future* (Institute for International Economics; Washington, D.C. 1994).
[87] Mabey & Mcnally, supra note 69.
[88] Id.

of the opinion that the chilling effect may hamper the initiatives of the host state to promote higher environmental standards or the zeal of the regulator to enforce existing regulations, but it generally would not result in the downgrade of existing environmental standards.

2.7.2 "Pollution haven"

The general difficulty in evaluating the pollution haven hypothesis is that often the environmental incentive is "stuck in the mud" with other factors and they collectively drive the trade or investment decision. Some countries are alleged as "pollution havens" because dirty industries are less regulated there, but the primary incentive for industries to migrate to these alleged pollution havens varies from sector to sector. While aggregate studies do not tend to support the pollution havens hypothesis, the pollution havens debate must not be conveniently aggregated away, as there is clear empirical evidence that not only certain country's low environmental standards serve as an incentive for foreign industries, but also companies have a locational preference over areas with low environmental standards.

The mining industry represents a natural resource sector that is highly polluting and where there is a great disparity between environmental regulations in developed and developing countries.[89] In most cases, mining legislation was practically non-existent in the latter, with the exception of a few basic standards for water quality and air

[89] UNCTAD, supra note 74.

quality.[90] Investors can select among a number of different sites within a region and therefore are in a position of strength to obtain the most attractive set of incentives that may include lowering environmental standards.[91] Jha et. al. (1999) report that in Zimbabwe, a country with a high percentage of foreign ownership in the mining sector, the *Mines and Minerals Act* supersedes all other legislation including acts for the protection of the environment. There are few restrictions on mining rights once an initial permit is issued, which is attributed to the need to secure foreign exchange earnings from mining.[92] In Papua New Guinea as well as Indonesia, mining operations are minimally or completely unregulated. Mining in Indonesia operated pursuant to a Contract of Work, which generally exempted mining corporations from environmental laws.[93] Moreover, in both of these countries, there were exemptions given to accommodate major mining disasters.[94]

Many authors cite the example of the *Maquiladora* region in Mexico as offering evidence of pollution haven.[95] It has been concluded by some that environmental abatement costs acted as a determinant for the movement of FDI to the region,[96] which

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[90] See Warhurst, A., "Environmental Management in Mining and Mineral Processing in Developing Countries" (1992) 16 *Natural Resources Forum* 39-48.
[91] Mabey and McNally, supra note 69.
[92] See Jha, V., Markandya, A. and Vossenaar, R. Reconciling Trade and the Environment: Lessons From Case Studies in Developing Countries (Elgar: Cheltenham, UK 1999).
[93] Id.
[94] Mabey & McNally, supra note 69; also see World Wildlife Fund, Foreign Investment in the Asia Pacific Mining Sector: National Policies, Economic Liberalisation and Environmental and Social Effects (WWF; Gland, Switzerland 1999).
[95] See generally Kumar, R. Environmental Policies and Industrial Competitiveness: Are They Compataible? (UNIDO: Vienna 1995).
[96] Molina, D., " A Comment on Whether Maquiladoras are in Mexico for Low Wages or to Avoid Pollution Abatement Costs", (1993) *2:1 Journal of Environment and Development* 221-241. Jha, V., "Environmental Regulation, Finance and TNCs" (1998) (Paper presented at the Trade, Investment and Environment Conference, Chatham House, London 29-30 October 1998).

has been confirmed by industry polls.[97] In the Maquiladora region, evidence of industrial flight was seen in the chemical industry where investment increased by over twenty fold from 1982 to 1990, following a tightening of environmental regulations in the United States.[98] Production of some hazardous chemical products banned or strictly regulated in the U.S., such as pesticides, has expanded in Mexico.[99] It was suggested that the serious environmental degradation in the area has been linked to the inadequate environmental regulation to control the rapid development and industrialization processes.[100] In particular, one major reason engendering the movement of industry to Mexico was that there were no air pollution standards for the application of solvents.[101] Severe pollution problems in areas such as Tijuana are partly attributed to the lack of recycling and refuse disposal facilities.[102] In addition, workers in this region are subject to occupational hazards such as working with asbestos fibres that they would not be exposed to in the United States.[103]

In the author's opinion, even if environmental regulations may not have the primary influence on a firm's investment decision, they are nevertheless important factors for pollution- or resource- intensive firms when selecting among different countries in the same trading region, or among different locations in the same country. In practice, for

[97] American Chamber of Commerce, A Clean Mexico, The Protection of the Environment: A Survey of Technologies and Investment Made by U.S. Companies Operating in Mexico (1992).
[98] See Clapp, J., "Foreign Direct Investment in Hazardous Industries in Developing Countries: Rethinking the Debate" (1998) 7:4 *Environmental Politics* 92-113.
[99] Leonard, supra note 8.
[100] Esty, D. and Gentry, B., "Foreign Investment, Globalisation and the Environment", in OECD, *Globalisation and the Environment: Preliminary Perspectives,* (OECD: Paris 1997).
[101] Mabey & McNally, supra note 69.
[102] Mungaray, E.M., "La Industria Maquiladora en Tijuana: Riesgo Ambiental y Calidad de Vida" (1995) 45 *Commercio Exterior* 159-163. Also see UNIDO *Export Processing Zones: Principles and Practice*, (UNIDO: Vienna 1999).
[103] Leonard, supra note 8.

industries that wish to relocate it is more common that environmental regulations are only considered once the so-called "fundamentals" have been met. These fundamentals generally relate to the size of the prospective market, natural endowments, and lower wages. They may also relate to the availability of human and physical capital or existing infrastructure. It is common practice, particularly for long term projects, for the investor to pinpoint a number of different potential sites which meet their principal requirements. These investors then play each location off against the others; force the host states to offer significant incentives before they decide where to locate their investments. Amongst these incentives can be a tacit or expressed lowering of environmental standards. Klavens and Zamparutti (1995) survey 1,000 MNCs and draw the conclusion that large corporations tend to look systematically at environmental questions when they decide where to invest.[104] However, such finding is challenged by other authors, Eskeland and Harrison (1997) in their comparative study of Mexico, Morocco, Ivory Coast and Venezuela ascertain that different pollution abatements costs were significant in determining FDI flows.[105] Other studies also indicate that investors can be lured to certain countries because of lower environmental regulatory standards.[106]

In summary, the evidence for pollution haven hypothesis holds some potential in explaining the possible causes for DIM. In the author's opinion, the term "pollution haven" is a dynamic and comparative concept. There is no "pollution haven" in the

[104] Klavens, J. and Zamparutti, A. Foreign Direct Investment and Environment in Central and Eastern Europe: a Survey (World Bank: Washington, D.C. 1995).
[105] Eskeland, G.S. & Harrison, "Moving to Greener Pasture? Multinationals and the Pollution-Haven Hypothesis" (1997) Policy Research Working Paper 1744, the World Bank, Washington, D.C.
[106] Van Beers, C. and Jeroen, C.J.M. van den Gergh, "An Empirical Multi-Country Analysis of the Impact of Environmental Regulations on Foreign Trade Flows", (1997) 50 *Kyklos* 29.

general sense; there are only "alleged pollution havens" of specific industries and for a specific period of time. With countries' comparative advantage constantly changes, in practice, "pollution havens" have apparently been as transient as "low-wage havens."[107]

2.7.3 "Pollution Halo"

With regard to the "Pollution Halo" hypothesis, there are clear examples where foreign investors do bring improvements in environmental performance to the host countries.[108] Evidence suggests that in some sectors, particularly the energy sector, where considerable economic savings can be acquired through superior technology, "pollution halos" may exist.[109] However, there is also considerable evidence which does not lend support to the "halos" hypothesis. Case studies by the California Global Corporate Accountability Project finds that the U.S. oil companies tend to employ "double standards," that is, lower—sometimes far lower—environmental standards in developing country operations than at home. For example, U.S. semiconductor and chip-making companies are characterized by "leaders" and "laggards". Leading

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[107] Examples of transient "low wage havens" include Japan in 1960 and 70s, the Asian four dragons in 1980 and first half of 90s. These countries first developed themselves as low wage havens. However after a period of high development, their wages increase thus loses competitive advantage. As a result, labour intensive industries have migrated out of these countries and seek cheaper places like China. It is likewise in the situation of "pollution haven" hypothesis.

[108] Zarsky, L. & Gallagher K, "Searching for the Holy Grail? Making FDI Work for Sustainable Development" (2003) WWF Research Report.

[109] Blackman, A. & Wu, X., "Foreign Direct Investment in China's Power Sector: Trends, Benefits and Barriers" (1998) Discussion Paper 98-50, Washington D.C, Resources for the Future.

companies tend to use global standards and new technologies in developing country operations, while laggards follow local practice and use older, dirtier technologies.[110]

Evidence also shows that MNCs sometimes play a negative role in promoting higher environmental standards. For example, industry has been and continues to have a role in negotiations for international environmental agreements. Its lobbying proved to be successful at the 1992 United Nations Conference on Environment and Development ("UNCED") when the final text of Agenda 21 failed to include any mention of the need to control the activities of multi-national corporations. More recently its involvement has consisted of encouraging governments to oppose controls over methyl bromide. Understanding that methyl bromide will soon be phased out of industrialized nations, corporations are lobbying hard for the *Montreal Protocol* to institute a later phase-out date for the Third World countries while simultaneously circumnavigating the globe to create thriving methyl bromide markets throughout Asia, Africa and Latin America, in particular, Mexico, Kenya, Morocco, Jordan and China.[111] Jha et. al. (1999) note that there has been an influx of foreign companies coming to Thailand to take advantage of its Article 5 status under the *Montreal Protocol,* available for developing countries with low consumption of ozone depleting substances. A rise in ozone depleting substance (ODS) imports between 1986 and 1991 is used as evidence of this trend.[112] In addition,

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[110] Leighton, M., Roht-Arriaza N. & Zarsky L., "Beyond Good Deeds? Case Studies and a New Policy Agenda for Corporate Accountability" (2002) Berkeley: California Global Corporate Accountability Project, <http://www.nautilus.org> Accessed Feb 20, 2007.

[111] See John M. De Figueiredo & Emerson Tiller, "The Structure and Conduct of Corporate Lobbying: How Firms Lobby the Federal Communications Commission" (2002) National Bureau of Economic Research Draft 2; see also David P. Baron, "Integrated Market and Nonmarket Strategies in Client and Interest Group Politics" (1999) 1 *Bus. & Pol.* 7 (discussing market strategies, such as product development, pricing, and marketing, and non-market strategies, such as lobbying, used to increase firm values).

[112] Jha, supra note 92.

the chemical industry continues to dodge issues relating to health concerns of human and wildlife populations. When statements such as "[s]o far, the scientific evidence linking chemicals to health problems is murky" are made by the Executive Vice President of Exxon Chemical Company, [113] given that the methyl bromide-free technology is widely used in their home countries, it can only be interpreted as a means to justify continued expansionism. Arguably it is also a way to try and maintain credibility in the face of an increasingly skeptical public.

In regard to the question whether the host state's environmental standards is positively affected by the state's foreign exposure, literature has exhibited mixed results. World Bank studies by Dasgupta et al (1998) find that greater environmental performance is more attributable to the transfer of new technology and facilities rather than stricter environmental regulation in the host state.[114] Despite this, two other World Bank studies by Wheeler et al (1997) and Pargal and Wheeler (1995) found that firm-level environmental performance is unaffected by foreign links. Factors such as age, size and community pressure have been more important in raising environmental standards than foreign investor involvement.[115]

[113] John E. Akitt, "A Natural For Industry", (3 February 1997) *Chemical & Engineering News*, at 5.
[114] See Dasgupta, S., Hettige, H. and Wheeler, D., "What Improves Environmental Performance? Evidence from Mexican Industry" (1998) Policy Research Working Paper 1877, World Bank Development Research Group: Washington, D.C. Also see Zarsky, supra note 29 (arguing that the infusion of cleaner technology can still lead to an intensity of production or other unsustainable methods of production).
[115] Wheeler, D. Hartman, R.S. and Huq, M., "Why Paper Mills Clean Up: Determinants of Pollution Abatement in Four Asian Countries" (1997) The World Bank, Environment, Infrastructure and Agriculture Divisions: Policy Research Department, World Bank, Washington, D.C. Also see Pargal, S. & Wheeler, D., "Informal Regulation of Industrial Pollution in Developing Countries: Evidence from Indonesia" (1995) The World Bank Environment, Infrastructure and Agriculture Divisions: Policy Research Department, World Bank, Washington, D.C.

It is to be recognized that to define an investment's true environmental impact can be difficult. In some cases although some MNCs hold environmentally advanced technologies but they tend not to diffuse the technology in the host state, in other cases although MNCs discontinue the dirty production themselves, they may simply pass the environmental problem onto their local suppliers. In the chemicals industry for example, there has been a practice of MNCs buying certain intermediate chemicals locally rather than paying the high clean up costs of production. These problems have previously been under researched in the literature on pollution halos.

To summarize, the evidence collected to investigate the pollution halo hypothesis does not identify a consistent trend of foreign investors having higher environmental standards than domestic companies in developing countries. Rather the characteristics of these firms – size, sector, global supplier chains, and responsiveness to stakeholders – determine their better performance. Nor is there conclusive evidence that the host state's environmental performance has been positively affected by the importation of MNCs. The pollution halo hypothesis thus provides an ideal practice for MNCs operating in the host state and it casts some light on the environmental self-regulation of MNCs in the trend of global DIM.

2.7.4 "Porter" Hypothesis

The "Porter" Hypothesis appropriately recognized that in the short term, strict environment policy will increase a company's cost and further affect its

competitiveness. However in the long run, the impact of environmental regulation on "green" innovation as well as corporate environmental cost remains unclear. Therefore the principal issue can be summarized as to what extent the government environmental policies can influence the behavior of enterprises, and to what extent they may trigger the actual "green" innovation. Here the "green" innovation should be understood broadly to incorporate product innovation, process innovation and management innovation, etc. To illustrate the mechanisms of which environment policies affect the corporation's "green" innovation, the author summarizes two effects, namely, time effect and stringency effect.

2.7.4.1 Time Effect

The time effect refers to that with the lapse of time accompanying the implementation of environment policies, the stimulation on the innovation will gradually increase. Such effect may come from, for example: (1) the government's improved regulation. Namely, with relevant authorities gradually become familiarized with new environmental policies, their management skills improve which in turn strengthens green innovations. (2) The chain effect. Namely, the implementation of environmental policy facilitates the adjustment and adaptation of a chain of related government policies. The latter will, in reverse, strengthen the policy objectives for innovation. (3) Pressures from the public. Namely, the implementation of environmental policies will enhance public awareness, participation, and further alter their environmental preferences. Such rising public demands conversely push corporations to green their production process. (4) Pressures

from international community on the harmonization of production process. Namely, pressures from international community promote and integrate environmental considerations into industrial restructuring and strengthen the environmental management systems of exporting firms. When a significant number of companies adopt the higher standards, the innovation becomes the mainstream environmental practice in the industry. In summary, as time lapses, the stimulating effects of the above four factors on the "green" innovation are gradually increasing.

2.7.4.2 Stringency Effect

The stringency effect indicates that generally the higher stringency of environmental regulation imposed on the firms, the higher stimulating effect that it will have on the firms' "green" innovation. However, the relationship between policy stringency and its effect on the actual innovation is not a simple linear one, but there exists a threshold. In other words, below this threshold the innovation does not take place because at this point the cost of polluting and paying fines is still less than that of innovation.[116] This implies that, although the company has already felt the pressure of increasing environmental cost as a result of stringent regulation, the extent of stringency may still not suffice to trigger green innovations. However, once the stringency of environmental

[116] It was suggested that it is a common problem among developing countries that the cost of obeying the environmental regulations is more than paying the fines for breaking the law. As a result, many corporations prefer not to fulfil their legal duties. Therefore, being stricter in the control process and a considerable increase in the fines to be paid may cause corporations to take the environmental activities more seriously in underdeveloped or developing countries. See Steger U. "Environmental Management Systems: Empirical Evidence and Further Perspectives" (2000) 18(1) *European Management Journal*: 23, at 32.

regulation reaches this threshold, its stimulating effect to innovation will proliferate among firms.

To summarize, the porter hypothesis provides thoughts on the mechanism that national laws and policies influence the corporate environmental behavior. It has policy implications on the national response to DIM. In practice, special attention shall be paid to the design and implementation of trade, investment, and environmental policies so as to allow corporations to offset the short term environmental pressure while gradually take up “green innovation”.

CHAPTER III DIRTY INDUSTRY MIGRATION GLOBALLY AND IN CHINA— AN EMPIRICAL STUDY

The empirical research on DIM draws much lesson from the approaches that were applied in testing the related hypothesis, such as the pollution haven or race to the bottom. Despite the broad diversity in the approaches of literature, these approaches generally aim at identifying the correlation between the industrial migratory behavior and the stringency in environmental standards in the host or home country.[117] This chapter is designed to first overview and evaluates the existing approaches in the empirical study of DIM. Based on the literature review, the author develops his own empirical model to test the DIM in the context of China. The results of the author's empirical test will be analyzed to draw a tentative conclusion on DIM in China.

3.1 An Overview on Previous Empirical Studies

3.1.1 Firm Level Empirical Studies

Empirical studies at firm's level generally fall into two major approaches. One approach is to compare the major indicators of a company's economic activity level with those of its environmental cost. The result varies from industry to industry. For example, in the U.S. paper and pulp, refined petroleum and steeling industry, lower productivity and

[117] For a comprehensive literature review see OECD, supra note 9.

growth rate were found as a result of the stringency of environmental regulation.[118] But for most other industries, such trend is not remarkable.[119] The result also varies from country to country. For example, a study based on Japanese companies discovered higher economic performance as a result of the environmental pressures.[120] But for companies of other countries the trends are not consistent.

In contrast, the other approach more directly studies the migrating activity by individual firms and evaluates the environmental motives behind their locational choice. The general presupposition of this approach is that industrial firms seek investment where they can exploit a comparative advantage. Environmental costs, due to tightened pollution controls, can affect this advantage negatively.[121] Using primarily case study, this approach proves to be successful in finding cases that support the DIM hypothesis. Examples of both governments failing to enforce environmental legislations and firms acknowledging that environmentals were a factor—were found in Costa Rica, Mexico, India, Indonesia, Papua New Guinea and the Philippines.[122] Jha et. al (1999) find that in China, many foreign firms have located their plants for highly polluting industries such as pesticides and asbestos.[123] Other instances of industrial flight of heavily polluting sectors have been found, for example, in the case of asbestos tile and

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[118] See Wayne B. Gray and Ronald J. Shadbegian, *Environmental Regulation and Manufacturing Productivity at the Plant Level* (Cambridge, Mass: National Bureau of Economic Research, 1993).
[119] See Repetto, supra note 10.
[120] See Yoichi Nishijima, "Internalization of Environmental Costs and Industry Competitiveness" (1993) OECD Workshop on Environmental Policies and Industrial Competitiveness (discussing sulfur removal, energy resources and industry competitiveness in Japan).
[121] UNCTAD, *Environment: International Competitiveness and Development: Lessons from Empirical Studies,* (Geneva: UNCTAD Trade and Development Board, Ad Hoc Working Group on Trade, Environment and Development, 1995).
[122] World Wildlife Fund, supra note 94.
[123] Jha, supra note 92.

benzidine dye manufacturing facilities relocating to Mexico and Romania from U.S. and Canada,[124] wood finishing firms to Mexico from California,[125] wet processing in the tanning industry from Europe to Brazil, [126] and iron and steel industry from EU to China, Brazil and the Republic of Korea.[127]

Despite these important findings, this approach was challenged to have suffered from selection bias—primarily because firms that have actually shifted are documented.[128] Some authors have characterized this as being marginal and not showing up in aggregate trade and investment statistics.[129] Other studies tend to believe that given the proportionately low business costs for environmental compliance, corporations would be reluctant to resettle due to the high costs involved in relocating.[130] By comparison, there are other determinants for location that mark a higher priority for corporations. These may include the availability of cheap labour;[131] natural resource endowments of

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[124] Peter J. Berrie, Note, "Controlling the Export of Hazardous Industries: A Look at the United States Asbestos Industry", (1992) 2 *Transnat'l L. & Contemp. Probs.* 273, at 274. Also see Suttles, supra note 50, at 29-25 (conducting four case studies on regulatory reallocation of the US Asbestos industry to Brazil, Zimbabwe, China and Poland respectively); Cairncross, F., "Cleaning Up" (A Survey of Industry and the Environment), (Sept 8, 1990) *The Economist* 24; Castleman, supra note 8, at 572.

[125] General Accounting Office, "Report on the Furniture Finishing Industry" (1990) Washington, D.C.

[126] It was reported that whereas 80-90% of pollution occurs at the stage of wet blue processing, only 15 percent of value-added is generated at this stage, see Mabey, supra note 69. For a general survey on the tanning industry migration situation in these countries see Odegard, J.T, "Leather Tanning in Brazil", (1999) F.I.L Working Papers, No.19, University of Oslo, Oslo; Hesselberg, J., "International Competitiveness: The Tanning Industry in Poland, the Czech Republic, Brazil and Mexico", (1999) F.I.L Working Papers, No. 15, University of Oslo, Oslo; Knutsen, H.G, "Leather Tanning, Environmental Regulations and Competitiveness in Europe: A Comparative Study of Germany, Italy and Portugal", (1999) F.I.L Working Papers, No 17,University of Oslo, Oslo.

[127] See Barton, J.R, "Environmental Regulations, Globalization of Production and Technological Change in the Iron and Steel Sector" (1999) Paper Presented at a conference on Environmental Regulations, Globalization of Production and Technological Change, University of East Anglia, 1-2 July 1999.

[128] See Eskeland & Harrison, supra note 105; Mani, M, S. Pargal, and M. Hug, "Does Environmental Regulation Matter? Determinants of the Location of New Manufacturing Plants in India 1994" (1997) Policy Research Working Paper 1718, The World Bank, Washington, D.C.

[129] Nordström H. & S. Vaughan *Trade and Environment: Special Studies 4*. (World Trade Organization: Geneva 1999).

[130] Esty & Geradin, supra note 81, also see Knodgen, G., "Environment and Industrial Sitting: Results of an Empirical Survey of Investment by Western German Industry in Developing Countries" (1979) *Zeitschrift fur Umweltpolitik*, 2.

[131] Id. Also Mani & Wheeler, supra note 60, at 215-247 ; Low and Yeats, supra note 2.

the host country,[132] presence of industrial base,[133] market size, availability to raw materials,[134] and concerns about liability or consumer pressures in home countries.[135]

3.1.2 Industry Level Empirical Studies

At industry's level, there are generally two approaches for empirical research on DIM: international trade approach and international investment approach. Each approach has yielded mixed results.

3.1.2.1 International Trade Approach

The international trade approach mainly examines the export performance of Pollution Intensive Industries ("PII") of different countries at the international market. The underlying hypothesis is that if a country's environmental standard is higher than others, then its market share of PII export in the global market will decrease.

Based on this hypothesis, Tobey (1990) uses a UNCTAD survey to rank 23 countries on a scale of 1 (most tolerant) to 7 (most strict) for stringency of environmental regulation. He then regresses net exports of each country's PII on their factor inputs (land, labour, capital, and natural resources) and on stringency of environmental regulation. In no case

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[132] Low, P. (1993), "The International Location of Polluting Industries and the Harmonization of Environmental Standards" in Munoz, H. & Rosenberg, R. (Eds) *Difficult Liaison – Trade and the Environment in the Americas* (Transaction Publishers; New Brunswick, USA) at 21.
[133] Mani & Wheeler, supra note 60.
[134] Wheeler, D. & Mody, A., "International Investment Location Decisions: The Case of US Firms", (1992) 33 *J of Int'l Economics* 57-76.
[135] Esty & Geradin, supra note 81.

does he find that stringency of environmental regulation was a statistically significant determinant of net exports.[136]

World Bank researchers Low and Yeats test whether developing countries have gained a comparative advantage in producing pollution intensive industrial products ("PIIP") during the period 1965-1988.[137] Their model relies on the calculation of Revealed Comparative Advantage ("RCA"), defined as the share of an industry in a country's total exports, relative to that industry's share of total world exports of manufactures. They look at the RCAs of 109 countries for PIIPs. They observe the decreases in PIIPs' RCAs in the developed world and increases in Eastern Europe, Latin America, and West Asia. Sorsa (1994) also finds similar trends that over the last 20 years, the export of PIIPs from developing countries are increasing in while those from developed countries are decreasing.[138]

At regional level, the research of Grossman and Krueger (1993) is widely cited during debates around the passage of North America Free Trade Agreement ("NAFTA"). Grossman and Krueger test whether pollution abatement costs in U.S. industries affected imports from Mexico. That is, they ask whether dirtier U.S. industries relied more heavily on imports from Mexico, as would be expected if Mexico was functioning as a pollution haven relative to the U.S. They find traditional economic determinants of trade and investment, such as factor prices and tariffs, to be very important. In contrast,

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[136] Tobey, supra note 68.
[137] Low and Yeats, supra note 8.
[138] Sorsa, P., "Competitiveness and Environmental Standards: Some Exploratory Results" (1994) Policy Research Working Paper 1249, Washington DC: World Bank.

they find the impact of cross-industry differences in pollution abatement costs on U.S. imports from Mexico to be small and statistically insignificant.[139]

Another study by Abimanyu (1996) focuses on the trade between the U.S, Japan, Australia, and the Association of Southeast Asian Nations ("ASEAN"). It also uses an RCA model to find that dirty industry expansion was faster in developing countries than developed ones. However, it concludes that differences in environmental standards between developing and developed countries were not a significant cause of the movement of dirty industries.[140]

Results along the same line are found by Hettige, Mani and Wheeler (1998). They find that from 1960 to 1995, pollution-intensive output as a percentage of total manufacturing has fallen consistently in the OECD countries and risen steadily in the developing world. Moreover, the periods of rapid increase in net exports of pollution-intensive products from developing countries coincided with periods of rapid increase in the cost of pollution abatement in the OECD economies—a typical "pollution haven" effect.[141]

Using different variables, Lucas, Wheeler, and Hettige (1992) look at the trade liberalization and the toxic intensity of manufacturing in 80 countries between 1960 and

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[139] Grossman G, Krueger A, (1993) "Environmental Impacts of a North American Free Trade Agreement" in: Garber P(ed.) *The Mexico-US Free Trade Agreement* (Cambridge, MA: MIT Press 1993).
[140] Abimayu, Anggito "Impact of Free Trade on Industrial Pollution: Do Pollution Havens Exist?" (1996) *ASEAN Economic Bulletin*, v13, n1.
[141] Hettige, H., M. Mani, & D. Wheeler, "Industrial Pollution in Economic Development: Kuznets Revisited," (1998) World Bank Development Research Group Working Paper, No. 1876, at 244.

1988.[142] Analyzing aggregate toxic releases per unit of output, they identify metals, cement, pulp and paper, and chemicals as the dirtiest industries. They find that the dirty (toxic-intensive) industries grew faster in the developing countries as a whole, but this growth was concentrated in relatively closed, fast growing economies, rather than in the countries that were most open to trade. Regional work by Birdsall and Wheeler (1993) on Latin America generates similar results.[143]

However, the work of Lucas et al. is criticized by Rock (1996) for their classification of dirty industries and their narrow definition of openness. Rock finds that a measure of the toxic intensity of GDP (toxic pollution loads per dollar of GDP) for a country as a whole is positively correlated with measures of openness to trade during 1973-1985.[144] That is, the more open is a country's trade policy, the greater is the pollution intensity of GDP.

Despite these findings, these authors also suggest several countervailing factors which serve to undermine the "pollution haven" hypothesis: first, the consumption / production ratios for dirty-sector products in the developing world have remained close to unity throughout the period. It implies that most of the dirty-sector development story is strictly domestic. Second, a significant part of the increase in dirty-sector production share in the developing regions seems due to a highly income-elastic demand for basic industrial products. With continued income growth, this elasticity has declined. Third,

[142] Lucas et al, supra note 10.
[143] Birdsall, N. and D. Wheeler, "Trade Policy and Industrial Pollution in Latin America: Where Are The Pollution Havens?" (1993) *Journal of Environment and Development*, 2,1, Winter.
[144] Rock, Michael. "Pollution Intensity of GDP and Trade Policy: Can the World Bank Be Wrong?" (1996) *World Development,* v24, No 3, 471-479.

some portion of the international adjustment has probably been due to the energy price shock and the persistence of energy subsidies in many developing countries. These subsidies have been on the wane for a decade. Finally and ultimately, it seems clear that environmental regulation increases continuously with income. According to them, any tendency towards formation of a "pollution haven" seemed to be self-limiting, because economic growth brings countervailing pressure to bear on polluters through increased regulation.[145]

3.1.2.2 International Investment Approach

The international investment approach mainly examines the pollution haven hypothesis by tracing the FDI flow and the stringency of environmental standards. The underlying hypothesis is that lower environmental standards are more attractive to pollution-intensive FDI. The findings of this approach vary, and they are sensitive to the measures chosen to proxy stringency of environmental regulation and pollution intensity.

For example, Smarzynska and Wei (2001) measure the stringency of environmental regulation and pollution-intensity by participation in international treaties and an emissions index. They find dirty projects are more likely to locate in areas with low stringency. However, this result is not robust to alternative measures such as actual standards and an abatement index.[146]

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[145] Id. at 245.
[146] Smarzynska, B.and S. Wei. "Pollution Havens and the Location of Foreign Direct investment: Dirty Secret or Popular Myth?" (2001) Washington, D.C.: International Trade Team – Development Economics Research Group,

Other scholars (Adam 1997, Repetto 1995, Lucas et al 1992, Eskeland and Harrison 1997, Warhurst and Bridge 1997) correlate U.S. outward FDI with environmental standards. Most of them find no support for pollution haven hypothesis.[147] One study by Xing and Kolstad (1997) does find the predicted effect that there is a rise in the flows of FDI in dirty industries to developing countries.[148] However its robustness has been questioned because the authors use Sulphur Dioxide emissions alone as a proxy for environmental regulation in a large model of locational choice and fail to separate the effects of environmental regulation from other variables.[149]

Focused on the home country environmental standards, Eskeland and Harrison (1998) look at the patterns of U.S. foreign investment in Mexico, Venezuela, Morocco, and Cote d'Ivoire between 1982 and 1994, and examine whether they are influenced by U.S. pollution abatement costs. This study also finds traditional economic variables to be important, but rejects the hypothesis that the pattern of U.S. foreign investment in any of the recipient countries is skewed toward industries with high costs of pollution abatement.[150]

The World Bank.

[147] See Adams, supra note 20, at 53-100; Repetto, supra note 10; Lucas et al, supra note 10; Eskeland & Harrison, supra note 128; Warhurst & Bridge, supra note 21, at 1-12.

[148] Xing & Kolstad, supra note 10.

[149] For example, some scholars contested that there is still a higher percentage of these flows to other industrialized countries, Nordström & Vaughan, supra note 129. Moreover, other scholars argue that an increase in the presence of dirty industry in developing countries could simply be an indication of growth and industrialization in developing countries, or a rise in demand for such products in those countries, or the countries' possession of higher natural resource endowments. See Low, supra note 132. Jha & Vossenaar, supra note 92. Low and Yeats, supra note 2.

[150] Eskeland, supra note 128.

3.2 Evaluation on the Existing Empirical Studies

To summarize the mixed empirical findings, it seems clear that the migration of dirty industries globally is a fact, but whether the environmental factor being their primary incentive to migrate is a debatable issue. While much can be learned from previous studies, the author identifies at least three important limitations to the body of work reviewed in the previous section. These are the limitations that the author tries to overcome in his empirical model in the context of China.

The most obvious limitation is the extent to which previous conclusions depend on the methodology and scope of the research. There appears to be a pollution haven effect in analyses of global patterns of comparative advantage, but not clear in studies of bilateral trade or of business location within a specific country. Even the extent of the global pattern is uncertain, when the analysis of RCA is coupled with controls for other economic factors that influence trade, the relationship between trade liberalization and the location of dirty industry becomes weaker. In any case, it is not clear how to apply the results of an analysis of many countries over long time periods to the effects of a specific nation's scenario, such as China.

The second limitation stems from the first. When studying DIM in a specific country's context, quantitative international comparisons require that complex information about national policy, such as the degree of stringency of environmental regulation or openness to trade, must be represented by numerical variables. However, it is difficult

to quantify the optimum or most efficient level of environmental protection for each country.[151] Comparing environmental laws is also problematic due to the high number of variables involved. This gives rise to inevitable problems of subjectivism and arbitrariness. This problem is especially critical in the case of China, a former non-market economy with defective national environmental and accounting system.

The third limitation is on the research scope. No previous research has explicitly made the distinction between active and passive DIM. Consequently, their research focuses on either trade and environment, or investment and environment. No research has ever evaluated their aggregated effect on a specific country in their research on DIM. Even for the studies that focus on the DIM through FDI, they tend to focus narrowly on the number of plant relocation and green field investments in the host country. In fact, it is the total amount of migrated dirty production in a country that should be measured, not the number of new plants. Expansion of old plants and opening of new ones both have the effect of increasing production. They should be calculated in the research on China.

3.3 Empirical Study on Dirty Industry Migration in China

Bearing in mind the limitations of previous empirical studies, the author designs and applies his own empirical model to test out two important questions in China:

(1) Whether there is empirical evidence of DIM in China. If yes, in what industries?

[151] See Neumayer, E. "Pollution Havens: An Analysis of Policy Options for Dealing with an Elusive Phenomenon" (2001) 10:2 *Journal of Environment & Development* 147-177.

(2) Based on the empirical result of (1), to what extent does the stringency of China's environmental regulation affect the migration of foreign dirty industries?

3.3.1 Methodology for Testing the Existence of DIM in China

As discussed before, there exists both active DIM through foreign investment and passive DIM through international trade. For this reason, the author's empirical model consists of two parallel studies. One model is based on the proportion of foreign funded dirty production in the total foreign funded industrial production in China. The purpose of this study is to examine whether foreign investors have a general preference towards pollution intensive industries in China. The other model is based on the change in the composition of the bilateral commodities trade between China and U.S. The purpose of this study is to examine whether there is evidence of passive DIM from the U.S. to China. The results of both researches will be studied together in order to draw a conclusion on the DIM in China.

3.3.2 Identify "Dirty" Industries

Various definitions have been used for pollution intensive industries in the empirical literature.[152] As there appears to be no definitive criteria yet adopted to define pollution intensive industries, the author follows the "Pollution Abatement Costs and

[152] For a brief survey on the various definition of PII, see infra chapter 2.4.1.

Expenditures: 1999" issued by the U.S. Census Bureau in November 2002.[153] The report is produced based on a most recent U.S. national industrial pollution abatement costs and expenditures survey in 1999. The Pollution abatement Capital Expenditures ("PACE") in the report is defined to include "installation and retrofit that occurred during 1999 for separately identifiable methods, techniques, or process technologies installed exclusively for the purpose of removing pollutants after their creation, from air emissions, water discharges, and/or solid waste or expenditures for technologies that reduce or eliminate the creation of pollutants. Include the total expenditures for pollution abatement." The Pollution abatement operating costs ("PAOC") is defined as "annual costs for operating and maintaining all pollution abatement technology. Include all costs of materials and fuels, salaries and wages, leasing and contract work and services for pollution abatement."[154]

The report surveyed the PACE and PAOC of industries up to 6-digit NAICS. It therefore it provides a good reference on the pollution intensity of various industries in the U.S. and world wide. For the purpose of this study, the author selects all the twenty 3-digit NAICS manufacturing industries (NAICS 311 to 337, excluding 339 Miscellaneous Manufacturing) and calculates their individual pollution intensity. The pollution intensity is calculated by adding the PACE and PAOC of a specific industry and divided by the Total Value of Shipments ("TVS") of that industry. (See Table 2 on "Pollution Intensity of NAICS-3 Manufacturing Industries") The TVS is chosen as the

[153] U.S. Census Bureau, "Pollution Abatement Costs and Expenditures: 1999" (2002) <http://www.census.gov/prod/2002pubs/ma200-99.pdf> Accessed Jan 10, 2006.
[154] Id, at A-10, Appendix A.

coverage variable since it is available for all manufacturing industries and is correlated well enough with operating costs. Based on the author's calculation, a ranking on the pollution intensity of major manufacturing industries is shown in Table 2:

Table 2 Ranking of the Pollution Intensity of NAICS-3 Manufacturing Industries

[Unit: Million US$]

Classification	NAICS Code	Subsector	Value of shipments	PACE	PAOC	Polution Intensity*
HPII	331	Primary metal mfg	158,101.80	605.7	1,543.90	1.360%
	324	Petroleum & coal products mfg	168,096.20	488.1	1,697.90	1.300%
	322	Paper mfg	157,491.00	611.9	945.60	0.989%
	325	Chemical mfg	419,673.90	990.9	2,808.00	0.905%
	327	Nonmetallic mineral product mfg	97,498.40	232.6	281.50	0.527%
	311	Food mfg	429,053.50	369.9	924.30	0.302%
	316	Leather & allied product mfg	9,673.20	7.3	19.60	0.278%
	332	Fabricated metal product mfg	256,899.50	283.3	405.30	0.268%
	313	Textile mills	54,854.20	37.1	105.00	0.259%
	321	Wood product mfg	97,583.40	82.1	134.90	0.222%
PII	326	Plastics & rubber products mfg	172,396.90	102.6	164.70	0.155%
	323	Printing & related support activities	102,403.70	35.2	80.30	0.113%
	335	Electrical equipment, appliance, & component mfg	119,792.20	33.7	97.00	0.109%
	337	Furniture & related product mfg	72,751.90	35	39.10	0.102%
	334	Computer & electronic product mfg	463,651.60	138	325.40	0.100%
Clean Industry	333	Machinery mfg	277,117.40	163.3	97.70	0.094%
	336	Transportation equipment mfg	675,121.90	134.7	454.40	0.087%
	312	Beverage & tobacco product mfg	107,437.00	17.1	66.10	0.077%
	339	Miscellaneous mfg	108,238.10	11.5	42.80	0.050%
	314	Textile product mills	32,641.60	7.2	4.90	0.037%

Source: U.S. Census Bureau, "Pollution Abatement Costs and Expenditures: 1999" (2002) <http://www.census.gov/prod/2002pubs/ma200-99.pdf>

*Pollution intensity (calculated by the author in %) = (PACE + PAOC) / Value of Shipments

In this thesis, the author defines industries which have pollution intensity over 0.2% as high pollution intensive industry ("HPII"), those between 0.1% and 0.2% as pollution intensive industry ("PIIs"), and those below 0.1% as "clean" manufacturing industry. The migration of HPIIs and PIIs are the focus of study.

3.3.3 Empirical Study on Active DIM in China

3.3.3.1 Methodology and Findings

To test the foreign investor's industrial preference in China, the author selects a set of time series data from National Statistics Yearbooks published by the National Bureau of Statistics ("NBS") of China.[155] This set of data covers the economic indicators of foreign invested enterprises ("FIEs") in China for a 9 year's period from 1996 to 2004.[156] In China, the definition of FIEs refers to the enterprises in which foreign investors contribute at least 25% of the registered capital of the enterprise.[157] Among the economic indicators of FIEs the author selects the "Total Assets of FIEs" as the variable because it best reflects the overall scale of foreign funded dirty production in China.

The author's approach is to first identify the annual increase in the total asset of the FIEs in each PII, and divide them by the total increased FIE's asset of that year. The

[155] The electronic version of the original data is available from the website of NBS at <http://www.stats.gov.cn/tjsj/ndsj/> Accessed Feb 20, 2007.
[156] Before 1995 such consistent data was not available, and since China's 2006 National Statistics Yearbook has not yet been published, the 2005 statistics is not available.
[157] Foreign investment in China statistics includes investment from Hong Kong and Taiwan.

result (shown in Table 3) indicates the trend, from 1996 to 2004, whether a specific foreign invested PII has increased or decreased its share in the total assets of FIEs of that year.

Table 3 has shown that for the 9 years from 1996 to 2004, 5 out of 10 HPIIs (primary metal manufacturing, leather & allied product manufacturing, fabricated metal product manufacturing, textile mills, wood product manufacturing) and all 5 PIIs (plastics & rubber products manufacturing, printing & related support activities, electrical equipment, appliance, & component manufacturing, furniture & related product manufacturing, computer & electronic product manufacturing) have increased their respective shares in the total assets of FIEs. These 10 industries altogether account for 47.94% of the total assets of FIEs in 2004.

Despite this finding, the above trend is still insufficient to proof that foreign investors have a general preference over China's PIIs. Some scholars argue that an increase in the presence of dirty industry in developing countries could simply be an indication of growth and industrialization in developing countries,[158] a rise in demand for such products in those countries,[159] or the countries' possession of higher natural resource endowments.[160] In response to these challenges, the author further studies the industrial distribution trend of the asset of domestic (non-foreign owned) enterprises. The industrial distribution trend of FIE assets represents the direction of foreign investments,

[158] Low, supra note 132.
[159] Jha & Vossenaar, supra note 92.
[160] Low and Yeats, supra note 2.

and the industrial distribution trend of domestic enterprise assets represents that of domestic investors, which is a good reflection on China's normal industrialization process, the demand for such products, and the country's possession of various endowments. Therefore, by comparing the shares of an industry's FIE assets and domestic enterprise assets in their respective total assets, the author's presumption is that if the share of an industry's FIE asset in all FIE asset is higher than the share of that industry's domestic enterprise asset in all the assets of domestic enterprise, then it indicates that foreign investors have a preference in that industry.

The industrial distribution trend of domestic enterprise assets for the same period as well as the foreign / domestic comparison are shown in Table 4. In the percentage column if the percentage is higher than 100%, it implies that in that industry foreign investors have a preference over domestic investors. Based the comparison, 4 out of 10 HPIIs (paper manufacturing, leather & allied product manufacturing, fabricated metal product manufacturing, textile mills) and 4 out of 5 PIIs (plastics & rubber products manufacturing, printing & related support activities, furniture & related product manufacturing, computer & electronic product manufacturing) have demonstrate FIE's preference over domestic enterprises. Notably in computer & electronic product manufacturing, paper manufacturing and plastics & rubber products manufacturing, the FIE's preference over domestic enterprises is very significant. In other words, in these industries, there is clear evidence of active DIM.

Table 3 Share of Yearly Increased FIE's Asset in HPII / PII in the Total Yearly Increased FIE's Assets (1996-2004)

[Unit: RMB 100 Million]

Year	Total yearly increased FIE asset	Primary metal mfg	% of total	Petroleum & coal products mfg	% of total	Paper mfg	% of total	Chemical mfg	% of total	Nonmetallic mineral product mfg	% of total
2004	8690.87	517.43	5.95%	111.99	1.29%	244.01	2.81%	421.8	4.85%	253.18	2.91%
2003	7746.5	419.22	5.41%	36.05	0.47%	138.64	1.79%	414.46	5.35%	94.79	1.22%
2002	3159.3	123.15	3.90%	49.82	1.58%	59.4	1.88%	140.06	4.43%	91.17	2.89%
2001	2640.4	28.39	1.08%	235.8	8.93%	51.45	1.95%	152.94	5.79%	22.35	0.85%
2000	2695.14	85.28	3.16%	3.9	0.14%	281.39	10.44%	121.65	4.51%	76.76	2.85%
1997	3173.17	38.92	1.23%	44.01	1.39%	104.93	3.31%	165.02	5.20%	131.65	4.15%
1996	1612.25	-39.3	-2.44%	75.27	4.67%	66	4.09%	117.17	7.27%	68.33	4.24%

Year	Total yearly increased FIE asset	Food mfg	% of total	Leather & allied product mfg	% of total	Fabricated metal product mfg	% of total	Textile mills	% of total	Wood product mfg	% of total
2004	8690.87	88.32	1.02%	129.79	1.49%	299.82	3.45%	302.86	3.48%	38.71	0.45%
2003	7746.5	81.22	1.05%	94.04	1.21%	5.14	0.07%	388.03	5.01%	15.74	0.20%
2002	3159.3	83.19	2.63%	102	3.23%	75.55	2.39%	153.07	4.85%	-0.82	-0.03%
2001	2640.4	57.53	2.18%	30.28	1.15%	117.23	4.44%	114.72	4.34%	17.41	0.66%
2000	2695.14	13.94	0.52%	10.34	0.38%	107.33	3.98%	52.4	1.94%	24.49	0.91%
1997	3173.17	127.35	4.01%	32.99	1.04%	154.07	4.86%	102.46	3.23%	71.77	2.26%
1996	1612.25	81.98	5.08%	3.94	0.24%	24.75	1.54%	-18.59	-1.15%	1.78	0.11%

Table 3 (continued)

Year*	Total yearly increased FIE asset	Plastics & rubber products mfg	% of total	Printing & related support activities	% of total	Electrical equipment, appliance, & component mfg	% of total	Furniture & related product mfg	% of total	Computer & electronic product mfg	% of total
2004	8690.87	344.15	3.96%	67.46	0.78%	461.84	5.31%	87.29	1.00%	2508.39	28.86%
2003	7746.5	345.85	4.46%	87.3	1.13%	530.81	6.85%	95.23	1.23%	2026.22	26.16%
2002	3159.3	169.65	5.37%	-17.5	-0.55%	71.96	2.28%	26.7	0.85%	818.5	25.91%
2001	2640.4	148.91	5.64%	101.43	3.84%	161.13	6.10%	24.68	0.93%	598.17	22.65%
2000	2695.14	134.8	5.00%	36.92	1.37%	195.12	7.24%	25.86	0.96%	763.79	28.34%
1997	3173.17	155.07	4.89%	29.23	0.92%	214.85	6.77%	22.95	0.72%	480.95	15.16%
1996	1612.25	27.74	1.72%	6.41	0.40%	197.07	12.22%	-0.49	-0.03%	331.11	20.54%

Source: National Bureau of Statistics of China, *National Statistics Yearbook* (1997-2005) (electronic version) <http://www.stats.gov.cn/tjsj/ndsj/>. * Note: Due to the fact that relevant data for the year 1998 and 1999 is incomplete, for the consistency of study the author omits these two years. (% of total calculated by the author)

Table 4 Share of Yearly Increased Domestic Asset in HPII / PII in the Total Yearly Increased Domestic Assets (1996-2004) & Comparison Between Foreign and Domestic Investor's Industrial Preference

Year	Primary metal mfg	*Foreign / Domestic Comparison*	Printing & related support activities	*Foreign / Domestic Comparison*	Paper mfg	*Foreign / Domestic Comparison*	Chemical mfg	*Foreign / Domestic Comparison*	Nonmetallic mineral product mfg	*Foreign / Domestic Comparison*
2004	18.16%	32.78%	3.85%	33.48%	1.07%	261.73%	5.59%	86.84%	5.18%	56.27%
2003	17.94%	30.16%	0.46%	101.52%	1.45%	123.77%	3.82%	140.23%	5.45%	22.45%
2002	-1.42%	-273.97%	-1.52%	-103.94%	2.23%	84.17%	7.10%	62.41%	3.78%	76.28%
2001	12.87%	8.35%	-1.23%	-726.82%	2.23%	87.24%	3.03%	191.26%	2.49%	33.95%
2000	11.25%	28.13%	3.04%	4.76%	1.86%	560.35%	5.96%	75.72%	0.26%	1111.27%
1997	7.55%	16.25%	6.87%	20.20%	1.34%	247.25%	10.59%	49.12%	3.47%	119.66%
1996	10.59%	-23.03%	2.68%	173.89%	1.94%	210.60%	8.40%	86.48%	6.50%	65.17%

Year	Food mfg	*Foreign / Domestic Comparison*	Leather & allied product mfg	*Foreign / Domestic Comparison*	Fabricated metal product mfg	*Foreign / Domestic Comparison*	Textile mills	*Foreign / Domestic Comparison*	Wood product mfg	*Foreign / Domestic Comparison*
2004	1.37%	74.26%	1.16%	128.93%	2.57%	134.05%	3.23%	107.81%	0.61%	73.19%
2003	0.97%	107.76%	0.70%	173.16%	1.75%	3.79%	4.94%	101.46%	0.55%	36.77%
2002	2.61%	101.03%	0.37%	877.14%	2.22%	107.58%	4.33%	112.02%	0.68%	-3.82%
2001	0.87%	250.63%	0.56%	205.26%	1.27%	350.76%	2.51%	172.99%	0.70%	94.62%
2000	0.91%	57.04%	0.13%	291.06%	0.24%	1683.23%	-0.12%	-1613.35%	0.34%	269.81%
1997	0.71%	567.02%	0.11%	956.61%	0.79%	616.17%	2.08%	155.33%	0.67%	340.03%
1996	1.15%	443.55%	0.49%	49.65%	1.78%	86.36%	3.24%	-35.64%	0.76%	14.50%

Table 4 (Continued)

Year	Plastics & rubber products mfg	*Foreign / Domestic Comparison*	Printing & related support activities	*Foreign / Domestic Comparison*	Electrical equipment, appliance, & component mfg	*Foreign / Domestic Comparison*	Furniture & related product mfg	*Foreign / Domestic Comparison*	Computer & electronic product mfg	*Foreign / Domestic Comparison*
2004	1.91%	207.79%	0.55%	141.53%	5.66%	93.93%	0.37%	270.52%	2.83%	1021.37%
2003	1.68%	265.39%	0.82%	137.99%	4.07%	168.32%	0.49%	252.18%	1.89%	1382.82%
2002	2.50%	214.76%	0.85%	-64.84%	5.26%	43.31%	0.32%	267.92%	6.42%	403.30%
2001	1.63%	345.37%	0.60%	640.49%	5.23%	116.74%	0.15%	639.16%	5.38%	420.76%
2000	0.68%	732.26%	0.40%	343.24%	2.19%	330.01%	0.26%	371.72%	8.85%	320.19%
1997	1.34%	363.77%	0.54%	171.99%	3.22%	210.31%	0.22%	324.58%	4.53%	334.95%
1996	3.70%	46.46%	0.87%	45.65%	3.82%	319.60%	0.25%	-12.06%	2.88%	713.76%

Source: China National Statistics Yearbook, Ibid. (Share of yearly increased domestic asset in HPII / PII in the total yearly increased domestic assets & Comparison (%) between foreign and domestic investor's industrial preference calculated by the author.)

3.3.3.2 A Further Discussion on the FDI-based Research Results

So far the author applies the set of data from the NBS to evaluate the scale and distribution of foreign funded dirty production in China. A critical question then arises: To what extent are such statistics reliable and reflecting the actual situation? If there are factors which undermine the data accuracy, what are they and how will they affect the author's conclusion based on data analysis? This question has to be dealt with as there is a common perception that a Communist government like that in China's is prone to make use of official data for propaganda purposes, therefore its statistics are processed rather than original. For this argument the author feels necessary to make some comments.

Previous researches tend to use western-based statistics for international research. Very few researches on DIM based their arguments on data produced by developing countries. There are compelling reasons why the author needs to apply the statistics of China NBS. The most obvious reason is that no other country or international organization is capable of conducting such a comprehensive sector specific foreign funded project survey on China, especially the author applies the total assets of FIE in PII rather than the actual FDI inflows as the proxy for the scale of foreign funded dirty production in China. The uniqueness of this set of data determines that there are little comparable data that the author can apply for cross-references. Considering that China's industrial and foreign investment policies have been relatively coherent since 1995, the

comprehensiveness and specificity of this set of data determine that it is a true reflection of the foreign presence in China's PII.

Previous suspicions from overseas scholars on the reliability of China's foreign investment data generally fall under two categories: the alleged "fabrication of official statistics" and the FDI "round-tripping". In response to these suspicions the author analyzes their robustness and possible impacts on the conclusion of DIM in China.

The alleged "fabrication of official statistics" is a general argument raised by scholars. They suspect the proliferation of official data and the astonishing speed with which the NBS releases its statistical data to the public.[161] In many cases, public confidence on its official statistics has been dented by official revelations of exaggerated reports or false figures.[162]

The author admits the existence of such phenomenon. The central planning sets production targets for lower governments to fulfill, and this creates pressures for provincial authorities / enterprises to make false reports. In relation to foreign investment data, another incentive for the fabrication of data is that, in China the ability

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[161] It was alleged that in China, the national yearbook containing the last-year data, for instance, is normally published in the third quarter of this year. Even more remarkable, such key economic performance indicators as industrial output, imports and exports and ("CPI") Consumer Price Index of the current month are normally released in the middle of the following month. It is perhaps quicker than anywhere in the world.

[162] For instance, in early 1998 Premier Zhu Rongji declared his intention to see 8% growth for China. At the end of 1998, most provinces returned with more than 8% GDP growth figures for the year. NBS eventually had to readjust some provincial figures downward to arrive at a 7.8% growth for China for 1998. See Anonymous, "Numbers Lie: Premier Uncovers Lies", *Asia Weekly* (27 March 2000). The same problem has repeated itself. In 1999 China's GDP growth was 7.1%, with 10 provinces reporting more than 10% growth. Hence there is the need for NBS to readjust the numbers. See Anonymous, "Beijing has HK$546 b chasm in key data", *South China Morning Post* (29 February 2000).

to attract FDI is taken as one of the governors' "Official Record" (Zheng Ji) that may boost his political fortunes. Consequently, higher officials tend to distribute and impose such tasks on lower officials and the latter, in case not being able to attract enough foreign investments, tends to declare inflated statistics to the upper level authorities.

However, for any responsible scholar, if seriously looking at China's statistics, it may be found that it is not possible for the central statistical authorities to deliberately and systematically fabricate statistical information for the following reasons:

First, it is technically and politically difficult for any government to systematically manufacture false economic and social statistics on a large scale. The deliberate falsification of official statistics would entail the mammoth administrative complications of keeping two separate set of books (one for the public and one for restricted use) all the way from the central down to local levels.

Second, in relation to the author's research on DIM, data like foreign trade and foreign investment cannot be easily falsified as they involve foreign countries and such data can be cross-referenced with that of other countries. It is also dangerous to tamper with growth figures. To inflate a higher percentage increase for this year would make it more difficult to do it again in the following year, as growth is a cumulative process based on the powerful compound interest rate principle.

Finally, some statistics such as wages, prices, household incomes, and inflation rates, if falsified, can be easily checked out by the people based on their own personal experience. Faking such data then serves no purpose except to discredit all the other official materials.

In short, the official mendacity is simply impossible because of the abovementioned reasons. An authoritarian government, instead of falsifying numbers, could have easily withheld unfavorable information, or just published selective items in a misleading context. In fact, as the Chinese government is getting more technocratic, it demands more accurate statistics for better macroeconomic management. The remarkable evidence is the revision of China's *Statistics Law* in June 2000 in order to punish those who make use of their position to distort statistics for political or financial gains.

Despite that the reliability is no longer a central issue for Chinese official statistics today. It does not imply that the statistics are automatically accurate. In fact, in China the problem is more of "people cheating the government" rather than "government cheating the people".[163] In other words, fabrication of data tends to come from below: i.e. enterprises and local governments, who manipulate statistics for ulterior motives. To cope with these abuses, the China NBS has to from time to time run additional surveys or dispatch officials to check on the suspected data sources. This is for the purpose of,

[163] John Wong & Ren Caifang, "Understanding China's Statistical System" (2000) No. 75 *East Asian Institute Working Paper.*

to the largest extent, “squeezing the water”[164] and restoring the data to their original face.

Acknowledging the distortive effect of statistics manipulation from below, it deserves discussion how it will affect the author’s FDI-based empirical result on DIM. On one hand, if local officials have overstated the FIE assets and the central government failed to deflate these figures, then the DIM problem *in scale* may be not as serious as anticipated but the change of each PII’s share in the total scale of foreign funded dirty production is unclear. On the other hand, as discussed in previous chapter, dirty industries are often large investments with high sunk cost (i.e. capital intensive). As a result, local governors often regard the settle down of these industries as a quick way to build their official record. For these reasons they tend to strive for such projects regardless their negative impact on environment. To balance these factors, we cannot preclude the possibility that after properly deflate the inflated data collected from local authorities, the central government finally come out with a by and large accurate set of statistics, as the NBS claimed. In that case, the empirical result based on the foreign investment data is not much affected.

The other strong argument which challenged China’s foreign investment data is the “round-tripping”—funds originated from the China disguised as foreign capital and repatriated to China. If this argument is true, it will certainly affect our conclusion in

[164] See Anonymous, “Are China’s statistical figures on economy reliable?”, *People’s Daily* (22 July 2002).

that, to the extent that a portion of foreign investment in PIIs is artificial, they really should not be counted as DIM but rather as domestic investment in PII.

The author acknowledges the distortion effect of “round-tripping” on China’s foreign investment. First of all, the favorable tax treatment that foreign investors enjoy used to be a primary incentive for round-tripping. Foreign-funded manufacturing enterprises in the Mainland enjoy a tax-free holiday for two years after their first profitable year, then a 50% discount on taxes for a further three years. Profit consideration will therefore make round-tripping a tempting practice. Secondly, although China has been imposing foreign exchange control, capital flight could not be completely curbed. Thus it is quite possible that some of the funds flowing back to China would be disguised as foreign capital.[165] A large proportion of China’s FDI inflows come from Hong Kong or overseas tax havens and this reinforces the notion of round-tripping. The following table shows that Hong Kong’s changing share in China’s FDI inflows from 1985 to 2001.

Table 5 Hong Kong’s Share in China’s FDI Inflows

Hong Kong’s Share in China’s FDI Inflows

	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Share	49%	54%	55%	68%	63%	58%	53%	49%	46%	41%	41%	38%	36%

Source: Bank of China Statistics 2003

[165] China’s capital flight is a rather complex issue. No accurate estimate could possibly be made. Economists usually use the Net Error and Omission under China's Balance of Payments account as a reference to the size of the flight. From 1997 to 2000, the amounts were US$17bn, US$16.5bn, US$14.8bn and US$11.9bn respectively (in a downtrend). Although not all of it is capital flight, the consensus remains that a large proportion is and part of it should find its way back into China. Source: China State Administration of Foreign Exchange (SAFE) <http://www.safe.gov.cn> Accessed May 5, 2004.

It is noticed that the share has been declining since 1992 and the decline continued after 1997 when it was handed over to China. Meanwhile, inflows from overseas tax havens such as the British Virgin Islands ("BVI"), Bermuda and Cayman Islands have been on the rise and make up for Hong Kong's decline. A rational explanation is that after the hand-over, some capital was concerned enough to abandon Hong Kong for these overseas tax havens. By the end of 2005, it was reported that Hong Kong, BVI and Cayman Islands ranked 1st, 2nd and 8th in China's ten largest sources of FDI inflows, totaling US$289.19 billion or 47.89% of the total utilized foreign capital of that year, adding further evidence of round tripping.

Having confirmed the existence of "round-tripping", the question is then, to what percentage round tripping accounts for China's FDI inflows? In other words, how serious is the problem of exaggeration? Unfortunately, there is neither official statistics nor consensus. Hong Kong and overseas tax havens encourage free flows of capital and it is impossible to trace the capital's real origins. A 2002 report by International Finance Corporation ("IFC") of the World Bank put the estimates that the round-tripped capital accounts for between 30-50% of the total China's inward FDI in the year 2000. And the market's general assessment is that the ratio has declined from 30% to around 10-20% in recent years. Considering the fact that Hong Kong's share has been on a steady decline, China's capital flight has also been on a steady decline due to improved supervision, and the progressive development of national treatment of foreign and domestic enterprises under China's WTO commitments, the author is inclined to the latter estimate.

To what extent the round-tripping affects the empirical result on DIM really depends on how much of the round-tripped capital was actually invested in pollution intensive industries. In examining this issue, the author holds the opinion that the round-tripping problem does not affect much on our estimated scale of foreign funded dirty industries in China. Even more, it increases the share of foreign funded PII relative to the total foreign invested industries in China. There are two primary reasons for that:

First, the nature of dirty industries has determined that "round-tripping" activities are unlikely to occur in this field. This is mainly because the capital intensive character of "dirty" industries determines that such investment often involves huge capital. China's stringent control over foreign exchange transaction makes the "round-tripping" process not only risky but also costly.[166] In other words, it is very difficult to transfer overseas a large amount of capital required for PII investment. If one's objective is to take the advantage of China's tax holidays in PII, then the "round-tripping" is the last resort one may consider as the cost of round-tripping may easily outweigh the proposed tax benefits. For this reason the "round tripping" is not a common practice in pollution intensive industries, unless for special purposes.

Second, even if huge amount of Chinese capital is transferred overseas, it may not consider investing in China's dirty industries because Chinese laws provided that certain capital and pollution intensive industries are prohibited or restricted from

[166] The major forms that round tripping can take include under-invoicing exports, over-invoicing imports, and overseas affiliates of Chinese companies borrowing funds or raising capital in the stock market and reinvesting them in China, etc.

foreign investment, either because of their strategic importance to China's economy or of their potential impact on China's natural resources, people's health and the environment. This further undermines the necessity of using "round-tripped" capital to invest in PIIs.

To summarize, for the abovementioned reasons, pollution intensive industries in China is a field with few round-tripped capital involvement. As a result, the existence of round-tripping phenomenon in China's FDI data does not affect much on our empirical result. Furthermore, since the scale of foreign invested dirty industries is not much affected by round-tripping, the author may even boldly postulate that the more round-tripped capital involved in China's inward foreign investment, after deduction of round-tripping capitals the higher the share of foreign capital in PII relative to the total true FDI in China.

3.3.4 Empirical Study on the Passive DIM between China and U.S.

The author selects the Sino-U.S. trade as a case for the passive DIM study for several reasons. First, U.S. is the largest developed country and China is the largest developing country. The Sino-U.S. trade makes an excellent case to study the characters of international trade between developed and developing countries, which is the primary vehicle of passive DIM. Second, U.S. is both China's most important trading partner and the largest export market for China's industrial products. According to the latest U.S. statistics, China's trade surplus with U.S. has reached US$230 billion in 2006

(increased from US$28 billion in 2001).[167] Washington is seriously concerned over China's enormous trade surplus with U.S. and the surplus has fueled accusations in Washington over unfair trade practices by China, including efforts to hold the RMB artificially low to boost exports. For these reasons, it would be particularly useful to study whether there is the trend of passive DIM from U.S. to China. In other words, whether there is evidence that U.S. producers in "dirty" industries have gradually lowered their production and at the same time bought more pollution intensive industrial products ("PIIPs") from China.

The author selects a set of Sino-U.S. international trade data which covers an 11-year period from 1995 to 2006 (same period with the foreign investment based empirical study) from the U.S. Census Bureau.[168] Based on the previous classification of HPII and PII, the author calculated the share of the industrial products of each HPII / PII in the annual total export from China to U.S. and in the annual total export from U.S. to China. The matching of the HPII / PII and their respective industrial products under U.S. SITC is shown in Table 6. The trend of industrial-specific U.S. export to China is shown in Table 7. The trend of industrial specific U.S. import from China is shown in Table 8.

Table 6 The Matching of HPII / PII under NAICS and PIIP under SITC

NAICS Code	SITC Code for Commodity Grouping
Primary metal mfg (331)	Nonferrous Metal (Iron and Steel) (SITC 67 and 68)
Petroleum & coal products mfg (324)	Mineral fuels, lubricants and related materials (SITC 3)
Paper mfg (322)	Paper, paperboard, and articles of paper pulp, paper or paper board (SITC 64)

[167] U.S. Census Bureau International Trade Statistics, <http://www.census.gov/foreign-trade/statistics/country/index.html> Accessed Mar 1, 2007.
[168] U.S. Census Bureau, International Trade Statistics, <http://censtats.census.gov/sitc/sitc.shtml> Accessed Mar 8, 2007.

NAICS Code	SITC Code for Commodity Grouping
Chemical mfg (325)	Chemicals and related products (SITC 5)
Nonmetallic mineral product mfg (327)	Nonmetallic mineral manufactures (SITC 66)
Food mfg (311)	Food and live animals (SITC 0)
Leather & allied product mfg (316)	Leather, leather manufactures, n.e.s., and dressed furskins (SITC 61)
Fabricated metal product mfg (332)	Manufactures of metals (SITC 69)
Textile mills (313)	Textile yarn, fabrics, made-up articles, n.e.s., and related products (SITC 65)
Wood product mfg (321)	Cork and wood manufactures other than furniture (SITC 63)
Plastics & rubber products mfg (326)	Rubber manufactures (SITC 62)
Printing & related support activities (323)	Office machines and automatic data processing machines (SITC 75)
Electrical equipment, appliance, & component mfg, Computer & electronic product mfg (335 & 334)	Machinery and transport equipment (SITC 7)
Furniture & related product mfg (337)	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings (SITC 82)

Source: NAICS codes from U.S. Census Bureau, <http://www.census.gov/epcd/naics02/naicod02.htm>, SITC codes from U.S. Census Bureau, International Trade Statistics, <http://censtats.census.gov/sitc/sitc.shtml> (PII-PIIP matched by the author)

From Table 8 it can be seen that during the year 1995 to 2006, most PIIPs of China have increased their respective share in China's export to U.S. (except mineral fuels, lubricants and related materials; nonmetallic mineral manufactures). As for U.S. export to China, the trend is not consistent. 4 out of 10 HPIIs increased their shares in the U.S. export to China,[169] while 6 have decreased.[170] Thus, if the author's hypothesis of passive DIM from U.S. to China is to be supported, then special attention shall be

[169] The 4 HPII that increase their shares in U.S. export to China are Iron and Steel; Mineral fuels, lubricants and related materials; Leather and leather manufactures; Textile yarn, fabrics, made-up articles, n.e.s., and related products.

[170] The 6 HPII that decrease their shares in U.S. export to China are Mineral fuels, lubricants and related materials; Paper manufacturing; Chemicals and related products; Food and live animals; Manufactures of metals; Wood product manufacturing.

Table 7 Percentage Change of PIIPs in the U.S.'s Export to China (1996-2006)

[Unit: in thousands of US$]

Year	Total U.S. Export to China of that Year	Iron and Steel; Nonferrous Metal	Mineral fuels, lubricants and related materials	Paper mfg	Chemicals and related products, n.e.s.	Nonmetallic mineral manufactures, n.e.s.	Food and live animals	Leather, leather manufactures, n.e.s., and dressed furskins
2006	55,224,163	3.02%	0.37%	0.80%	11.31%	0.60%	2.59%	0.24%
2005	41,836,534	3.16%	0.32%	1.12%	12.91%	0.62%	2.69%	0.22%
2004	34,721,008	1.73%	0.64%	1.35%	13.63%	0.75%	3.81%	0.29%
2003	28,418,493	2.70%	0.47%	1.47%	12.75%	0.64%	2.85%	0.26%
2002	22,052,679	1.03%	0.43%	1.77%	13.42%	0.60%	2.51%	0.25%
2001	19,234,827	1.09%	0.49%	1.68%	11.50%	0.89%	2.66%	0.22%
2000	16,253,029	2.22%	0.37%	2.39%	14.31%	0.98%	2.91%	0.26%
1999	13,117,677	1.63%	0.93%	2.59%	15.93%	0.59%	2.49%	0.25%
1998	14,257,953	1.28%	0.89%	2.33%	13.84%	0.60%	3.42%	0.27%
1997	12,805,416	1.77%	1.81%	2.02%	15.11%	0.66%	3.12%	0.21%
1996	11,977,921	1.86%	0.56%	2.08%	14.42%	0.54%	6.46%	0.12%

Table 7 (Continued)

Year	Total U.S. Export to China of that Year	Manufactures of metals, n.e.s.	Textile yarn, fabrics, made-up articles, n.e.s., and related products	Wood product mfg	Rubber manufactures, n.e.s.	Office machines and automatic data processing machines	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	Machinery and transport equipment
2006	55,224,163	1.02%	0.86%	0.10%	0.24%	4.13%	98,177	45.99%
2005	41,836,534	1.02%	0.87%	0.14%	0.26%	4.39%	78,681	44.63%
2004	34,721,008	1.01%	0.84%	0.23%	0.15%	4.02%	60,582	43.27%
2003	28,418,493	0.79%	0.89%	0.19%	0.11%	4.48%	58,824	44.15%
2002	22,052,679	1.12%	0.85%	0.23%	0.09%	5.41%	56,465	53.41%
2001	19,234,827	1.07%	0.60%	0.13%	0.08%	8.33%	50,781	53.47%
2000	16,253,029	1.07%	0.73%	0.11%	0.07%	9.22%	55,826	49.64%
1999	13,117,677	0.94%	0.65%	0.13%	0.08%	6.42%	44,855	54.50%
1998	14,257,953	0.84%	0.54%	0.11%	0.05%	6.16%	29,349	57.78%
1997	12,805,416	0.99%	0.51%	0.11%	0.07%	2.69%	16,932	50.93%
1996	11,977,921	1.42%	0.42%	0.10%	0.05%	2.22%	20,224	46.50%

Source: U.S. Census Bureau, International Trade Statistics, <http://censtats.census.gov/sitc/sitc.shtml> (percentage calculated by the author)

Table 8 Percentage Change of PIIPs in the U.S.'s Import from China (1996-2006)

[Unit: in thousands of US$]

Year	Total U.S. Import from China of that Year	Iron and Steel; Nonferrous Metal	Mineral fuels, lubricants and related materials	Paper mfg	Chemicals and related products, n.e.s.	Nonmetallic mineral manufactures, n.e.s.	Food and live animals	Leather, leather manufactures, n.e.s., and dressed furskins
2006	287,772,786	2.05%	0.41%	0.63%	2.17%	1.51%	1.24%	0.10%
2005	243,462,327	1.37%	0.41%	0.63%	2.14%	1.44%	1.13%	0.10%
2004	196,698,977	1.10%	0.52%	0.64%	1.91%	1.50%	1.19%	0.12%
2003	152,379,236	0.50%	0.30%	0.67%	1.99%	1.73%	1.31%	0.11%
2002	125,167,886	0.56%	0.33%	0.63%	1.94%	1.95%	1.20%	0.08%
2001	102,280,484	0.73%	0.38%	0.61%	2.02%	2.12%	1.12%	0.08%
2000	100,062,958	0.93%	0.73%	0.61%	1.81%	2.06%	1.02%	0.06%
1999	81,785,930	0.89%	0.30%	0.58%	2.05%	2.06%	1.06%	0.05%
1998	71,155,860	0.99%	0.55%	0.56%	2.03%	2.02%	1.03%	0.05%
1997	62,551,934	0.80%	0.90%	0.50%	2.02%	1.95%	1.17%	0.05%
1996	51,495,276	0.85%	1.00%	0.52%	2.01%	1.88%	1.27%	0.06%

Table 8 (Continued)

Year	Total U.S. Import from China of that Year	Manufactures of metals, n.e.s.	Textile yarn, fabrics, made-up articles, n.e.s., and related products	Wood product mfg	Rubber manufactures, n.e.s.	Office machines and automatic data processing machines	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	Machinery and transport equipment
2006	55,224,163	4.31%	2.25%	0.92%	0.82%	16.86%	5.27%	45.70%
2005	41,836,534	4.15%	2.30%	0.82%	0.73%	17.35%	5.42%	44.91%
2004	34,721,008	4.20%	2.16%	0.82%	0.59%	18.11%	5.55%	44.05%
2003	28,418,493	4.14%	2.21%	0.76%	0.52%	15.52%	5.74%	39.93%
2002	22,052,679	4.18%	2.01%	0.79%	0.49%	12.19%	5.56%	36.92%
2001	19,234,827	4.03%	1.81%	0.77%	0.42%	10.52%	4.91%	34.16%
2000	16,253,029	3.66%	1.82%	0.71%	0.42%	10.99%	4.47%	34.92%
1999	13,117,677	3.53%	1.94%	0.69%	0.42%	10.10%	3.99%	32.28%
1998	14,257,953	3.15%	2.02%	0.63%	0.37%	8.94%	3.07%	30.35%
1997	12,805,416	2.91%	2.20%	0.53%	0.30%	8.06%	2.47%	28.04%
1996	11,977,921	2.75%	2.03%	0.50%	0.27%	6.95%	2.15%	27.16%

Source: U.S. Census Bureau, International Trade Statistics, <http://censtats.census.gov/sitc/sitc.shtml> (percentage calculated by the author)

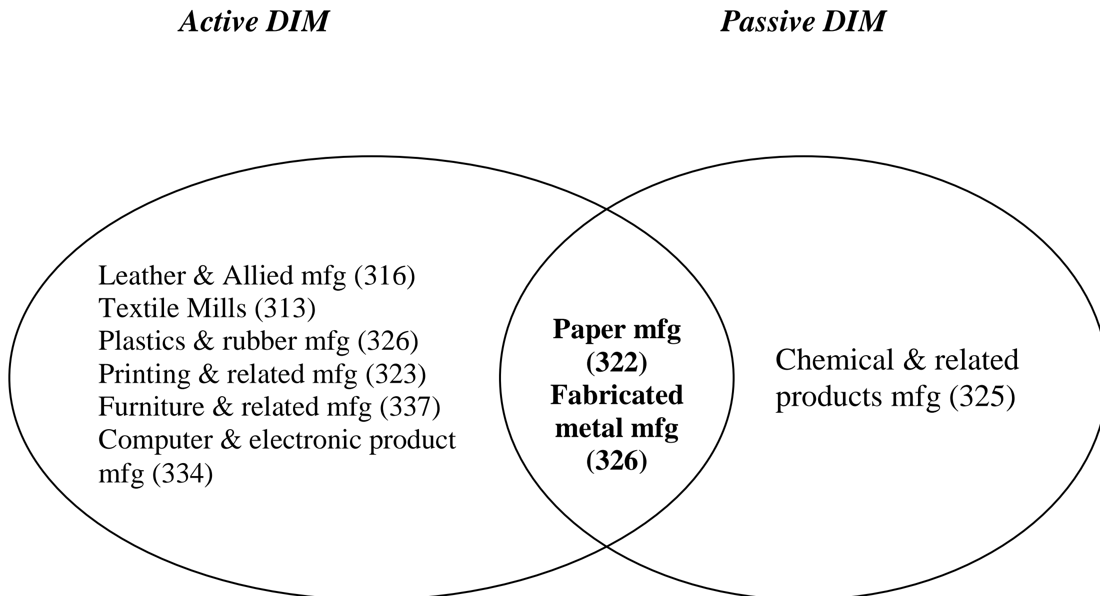
focused upon those industries that have increased their shares in China's export to U.S. AND at the same time decreased their shares in U.S. export to China.

Based on the above logic, the author has identified three industries that conform to such trend. They are paper manufacturing, chemical and related products, as well as manufactures of metals. All of which fall in the category of HPII. In other words, in these three industries, there is *prima facie* evidence of passive DIM.

3.3.5 Combined Assessment on Active and Passive DIM

Comparing the empirical results of active DIM and passive DIM, it is discovered that for some industries, the trend of active DIM is significant, for other industries, the trend of passive DIM is significant. Notably in two industries, i.e. the paper Manufacturing and fabricated metal manufacturing (both are HPII by the author's definition of "dirty" industries), there is strong evidence for both active and passive DIM. (see Chart 2 below)

Chart 2 Empirical Findings on the Active and Passive DIM in China



In the paper manufacturing industry, the foreign investment has an annual average of 225% preference over domestic investment and such preference is on a steady growth in recent years. In respect of the Sino-U.S. international trade of paper and paper board products, the share has steadily increased from 0.52% in 1995 to 0.63% in 2006 in China's export to U.S. and decreased from 2.08% to 0.8% in U.S. export to China.

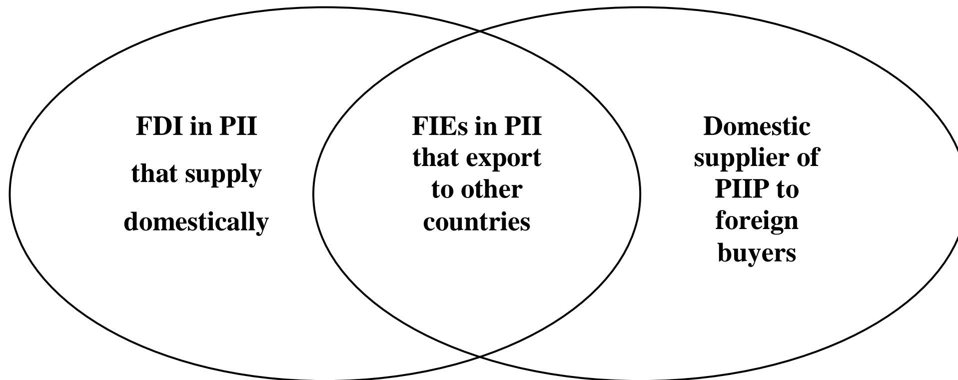
In the fabricated metal manufacturing industry, the foreign investment has an annual average of 426% preference over domestic investment and such preference is also on a steady growth in recent years. With regard to the Sino-U.S. international trade of the manufactures of metal, the share has steadily increased from 2.75% to 4.31% in China's export to U.S. and decreased from 1.42% to 1.02% in U.S. export to China.

The identification of these industries, especially the paper and metal manufacturing industries in which evidence for both active and passive DIM are apparent, has policy implications. If China is to legislate or use policy tools to regulate the DIM, then these industries would be the priority of the regulator's attention. It would be helpful to have a thorough examination on the existing trade and investment policies that apply to these industries and see whether they have taken an adequate consideration of environmental issues. At the same time, the environmental laws, regulations and sectoral standards in these industries are also required a general survey to see whether they are understood, fair, and adequate.

3.3.6 The Calculation of Aggregate Impact of DIM in China

Based on the author's analysis, the extent of DIM situation in China shall be the aggregate impact of both active DIM through foreign investment in PII and passive DIM through international trade in PIIP. However, their aggregate impact on China is not simply the sum of the two. It is because many FIE in PII in China are at the same time involved in the international trade of PIIPs. In that case since pollution is generated in the same production process, there is an overlap between active DIM and passive DIM. Therefore, the author predicts that the environmental impact of DIM on China is higher than that of active or passive DIM whichever is higher, but less than the aggregation of the two. It is in fact the aggregated impact of "FDI in PII that supply domestically" *plus* "FIEs in PII that export to other countries" *plus* "domestic supplier in PIIP to foreign buyers". (See Chart 3 below)

Chart 3 Aggregate Environmental Impact of Active and Passive DIM in China



3.4 Empirical Test on the Relationship between DIM and Stringency of Environmental Regulation in China

To empirically test the relationship between DIM and host state environmental regulation it is essential to choose a reliable measure of environmental stringency. Tobey (1990) measures environmental stringency by using data from a 1976 UNCTAD survey. The degree of environmental stringency is measured from one to seven. Higher values imply more stringent regulations.[171] List and Co (1999) use four different measures of the stringency of environmental regulation of the U.S. The first two measures estimate money spent by different agencies with a state to control air and water pollution and solid waste disposal. The third measure they use is firm-level

[171] Tobey, supra note 10.

pollution abatement operating expenditures relative to abating air and water pollution and solid waste disposal. The fourth measure is an index that combines local, state and federal government pollution abatement efforts with firm-level abatement expenditures to assign a dollar value ranking to each state. A higher value in the index implies more stringent environmental regulations.[172] Smarzynska and Wei (2001) measure environmental standards by a country's participation in international treaties (e.g. Convention on Long-range Trans-boundary Air Pollution), the quality of ambient air, water and emission standards, and finally observed actual reduction in various pollutants.[173]

Considering the situation of China and the availability of data, the author selects a set of data that is published by the State Environmental Protection Administration ("SEPA"). This set of data contains China's total industrial pollution control investment each year from 1995 to 2005. In addition, the yearly pollution control investment by media (i.e. water, air, and solid waste) as well as the number of industrial pollution control projects is disclosed (see Table 9). These data are good measurement of the government's effort each year in regulating the industrial pollution in China. They are therefore used as the proxy for environmental stringency.

[172] List, J.A. and C.Y. Co., "The Effects of Environmental Regulations on Foreign Direct Investment" (1999) *Journal of Environmental Economics and Management*. 40: 1-20.
[173] Smarzynska and Wei, supra note 146.

Table 9 China's Yearly Industrial Pollution Control Investment (1995-2005)

[Unit: RMB 100 million]

Year	Total Industrial Polution Control Investment	Industrial Pollution Control Investment on Water	Industrial Pollution Control Investment on Air	Industrial Pollution Control Investment on Solid Waste	Number of Industrial Pollution Control Projects
2005	458.2	133.7	213	27.4	13330
2004	308.1	105.6	142.8	22.6	12944
2003	221.8	87.4	92.1	16.2	11292
2002	188.4	71.5	69.8	16.1	11580
2001	174.5	72.9	6508	18.7	11640
2000	239.4	109.6	90.9	11.5	27243
1999	152.5	68.8	51	8.3	19866
1998	123.8	73.3	32.5	8.7	14374
1997	116.4	72.8	28.7	6.3	8985
1996	95.6	47.4	28.1	9.1	6990
1995	98.7	45.6	33.2	14.1	21644

Source: China State Environmental Protection Administration, *Environmental Statistics Yearbook* (1995-2005) <http://www.sepa.gov.cn/plan/hjtj/qghjtjgb/>

Based on the author's previous empirical study on the existence of both active DIM and passive DIM, the author first calculates the correlation coefficient between the change in the share of each PII in the total FIE assets from 1996 to 2004 (trend in active DIM) and the change in each proxy of environmental stringency for the same period (see Table 10). The result, which ranges from -1 to 1, indicates both the direction and strength of a linear relationship between two variables. [174] Therefore, if an industry is

[174] The correlation coefficient measures the direction and extent of linear association between two variables. A correlation coefficient can have maximum value of 1 and a minimum value of -1. A correlation coefficient greater than 0 indicates a positive linear association between the two variables: When one variable increases (or decreases),

sensitive to the stringency of the environmental regulation in China, correlation coefficient between its share in total FIE assets and total pollution control investment of that year would most likely to be negative. Furthermore, it can be predicted that the closer the coefficient is to -1, the more sensitive that industry is towards the stringency of environmental regulations.

As shown in Table 10, five industries have demonstrated medium to large negative correlation with the total national industrial pollution control investment, [175] i.e., petroleum and coal products manufacturing (-0.398); chemical manufacturing (-0.647); nonmetallic mineral product manufacturing (-0.419); food manufacturing (-0.901); and electrical equipment, appliance, & component manufacturing (-0.495). Notably, the food manufacturing and nonmetallic mineral product manufacturing have shown significant negative correlation not only to the total pollution control investment, but also to other environmental stringency proxies like pollution control investment in water, air, solid waste as well as total number of pollution control projects each year. Within these two industries, the coefficient reveals that the food manufacturing industry is very sensitive to water control (-0.911) and solid waste control (-0.627), but not so sensitive to air emission control (-0.06). Such a result is consistent with the actuality of food manufacturing industry which generates large volumes of mostly biodegradable

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the other also tends to increase (or decrease). A correlation coefficient less than 0 indicates a negative lenear association between the two variables: When one increases (or decreases), the other tends to decrease (or increase). A correlation coefficient of 0 indicates no linear relation between the two variables.

[175] In interpreting a correlation coefficient, according to Cohen (1988), the correlation coefficient ranging from ± (0.1-0.29) is "small", from ± (0.3-0.49) is "medium", and from ± (0.5-1) is large. See Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.) (Hillsdale, NJ: Lawrence Erlbaum Associates. ISBN 0-8058-0283-5).

liquid and solid waste but less pollutants through air.[176] Similarly, the non-matallic mineral product manufacturing industry is less sensitive to water control (-0.298) than to emission control (-0.644) and solid waste control (-0.650). Industrial environmental report shows that the major environmental problems of non-metallic mineral product manufactue are the emission to air and solid waste management.[177]

Next, the author calculates the correlation coefficient between the percentage change in the share of each PII in China's export to U.S. from 1996 to 2005 (trend in passive DIM) and the change in each proxy of environmental stringency for the same period (see Table 11). The result has shown that two industries: petroleum & coal products manufacturing (-0.381) and nonmetallic mineral product manufacturing (-0.78) have medium to large negative correlation with the total industrial pollution control investment. Both of which also have significant negative correlation with other environmental stringency proxies.

The findings of correlation coefficient of active / passive DIM as opposed to stringency in the environmental regulation also have important policy implications. First, it implies that for those industries that have demonstrated a significant negative correlation with stringency in environmental regulation, China's comparatively low environmental standard in these sectors might be their primary incentive to migrate. The migration of these industries deserves intensive study.

[176] See Colic Miroslav, "Special Treatment: The Food Manufacturing Wastewater Challenge" (2007) <http://www.foodmanufacturing.com/scripts/ShowPR.asp?RID=8837&CommonCount=0> Accessed Mar 12, 2007.
[177] See Environment Australia, "Emission Estimation Techniques for Non-mettalic Mineral Product Manufacture" (1999), < http://www.npi.gov.au/handbooks/approved_handbooks/pubs/fnonmepr.pdf> Accessed Mar 12, 2007)

Table 10 Correlation Coefficient between Active DIM and Stringency in Environmental Regulation

Proxy for Stringency in Environmental Regulation	Primary metal mfg	Petroleum & coal products mfg	Paper mfg	Chemical mfg	Nonmetallic mineral product mfg	Food mfg	Leather & allied product mfg	Fabricated metal product mfg
Total Industrial Polution Control Investment	0.873	-0.398	0.140	-0.647	-0.419	-0.901	0.217	-0.015
Industrial Pollution Control Investment on Water	0.786	-0.533	0.452	-0.745	-0.298	-0.911	-0.012	0.216
Industrial Pollution Control Investment on Air	-0.219	0.879	-0.258	0.193	-0.644	-0.060	-0.041	0.378
Industrial Pollution Control Investment on Solid Waste	0.649	0.158	-0.380	-0.310	-0.650	-0.627	0.429	-0.113
Number of Industrial Pollution Control Projects	0.338	-0.370	0.851	-0.574	-0.158	-0.702	-0.208	0.281

Proxy for Stringency in Environmental Regulation	Textile mills	Wood product mfg	Plastics & rubber products mfg	Printing & related support activities	Electrical equipment, appliance, & component mfg	Furniture & related product mfg	Computer & electronic product mfg
Total Industrial Polution Control Investment	0.443	-0.268	0.303	0.026	-0.495	0.725	0.868
Industrial Pollution Control Investment on Water	0.370	0.108	0.428	0.106	-0.408	0.753	0.693
Industrial Pollution Control Investment on Air	0.261	-0.001	0.407	0.888	-0.094	0.145	-0.103
Industrial Pollution Control Investment on Solid Waste	0.540	-0.544	0.266	0.235	-0.521	0.559	0.712
Number of Industrial Pollution Control Projects	0.012	0.072	0.374	0.138	-0.161	0.415	0.586

Table 11 Correlation Coefficient between Passive DIM and Stringency in Environmental Regulation

Proxy for Stringency in Environmental Regulation	Iron and Steel; Nonferrous Metal	Mineral fuels, lubricants and related materials	Paper mfg	Chemicals and related products, n.e.s.	Nonmetallic mineral manufactures, n.e.s.	Food and live animals	Leather, leather manufactures, n.e.s., and dressed furskins
Total Industrial Polution Control Investment	0.617	-0.381	0.647	0.140	-0.780	-0.032	0.697
Industrial Pollution Control Investment on Water	0.617	-0.275	0.581	-0.050	-0.640	-0.235	0.555
Industrial Pollution Control Investment on Air	-0.180	-0.236	0.116	0.115	0.345	-0.108	0.075
Industrial Pollution Control Investment on Solid Waste	0.397	-0.495	0.736	0.165	-0.735	0.185	0.856
Number of Industrial Pollution Control Projects	0.223	-0.171	0.248	-0.488	0.280	-0.736	-0.222

Proxy for Stringency in Environmental Regulation	Manufactures of metals, n.e.s.	Textile yarn, fabrics, made-up articles, n.e.s., and related products	Wood product mfg	Rubber manufactures, n.e.s.	Office machines and automatic data processing machines	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	Machinery and transport equipment
Total Industrial Polution Control Investment	0.695	0.458	0.741	0.946	0.870	0.905	0.692
Industrial Pollution Control Investment on Water	0.599	0.364	0.661	0.834	0.785	0.813	0.609
Industrial Pollution Control Investment on Air	0.246	-0.495	0.229	-0.058	-0.097	-0.037	0.170
Industrial Pollution Control Investment on Solid Waste	0.820	0.361	0.831	0.907	0.871	0.910	0.791
Number of Industrial Pollution Control Projects	0.166	-0.503	0.258	0.121	0.063	0.121	0.195

Second, the strong sensitivity of some industries to environmental regulation (such as petroleum & coal products manufacturing, nonmetallic mineral product manufacturing, food manufacturing) may imply that DIM in these industries can be more effectively controlled through the increase in environmental standards. For other PIIs which are not so sensitive to environmental stringency, to effectively regulate their DIM the government might wish to adopt alternative measures.

Finally, the correlation between the DIM in specific industry and pollution control investment in specific media (water, air, solid waste, etc.) may provide policy implication to the government on the allocation of resources within the overall pollution control investment. For example, our test has shown that the food manufacturing industry and chemical industry are particularly prone to the stringency in waste water control (-0.911 and -0.745 respectively), the non-metallic mineral industry is particularly prone to both the stringency in emission control (-0.644) and solid waste control (-0.65). Therefore, to allocate more resources on these controls may achieve better effectiveness in regulating the DIM in these sectors.

3.5 Conclusion

This chapter empirically tests the existence of DIM in China and examines the correlation between DIM and China's stringency in environmental standards. Based on the two primary vehicles of DIM, namely active DIM through foreign investment and passive DIM through international trade, the author conducts two parallel empirical

studies and evaluates the aggregate environmental impact of both active and passive DIM.

To summarize the findings, the author is of the opinion that a large scale of DIM may not occur in China. In other words, evidence neither show that foreign investors have a general preference over China's PIIs nor that China specialized solely on PIIPs in its exports. Despite this, the author does find apparent and consistent evidence of both active and passive DIM in specific industries, examples such as paper manufacturing industry and fabricated metal product manufacturing industry. Such a trend should attract sufficient attention and appropriate regulation.

Besides, the author examines the correlation coefficient between DIM and stringency in environmental regulation in China. The results indicate that some foreign migrated industries are particularly prone to the change in the environmental stringency in China, examples such as food manufacturing industry and non-metallic mineral industry. These findings provide not only directions for future China DIM research but also important policy implications for effective regulation of DIM.

The empirical testing model designed by the author is original. It can be applied to any country for the examination on the trend of active DIM, and be applied between any two countries to examine the extent of passive DIM from one to the other (if relevant data are available). Despite this, there are several important limitations on this empirical model.

First, using different definition of PII and other economic indicators, the results will differ to a certain extent. Second, in the author's correlation coefficient study it would be better to use sector specific pollution control data as proxy rather than the data on the overall pollution control investment. However since such detailed data are not available in China the result of correlation testing may not be as accurate as it should be. Finally, although the author identifies the trend of DIM in certain industries, the characters and driving forces of migration in these industries differ and they deserve more intensive study. At the same time, in order to feed China's huge demand for industrial products, statistics show that many of China's import of PIIP increases together with export.[178] Moreover, there is evidence that as China's domestic enterprises are becoming increasingly active in outward FDI in PIIs. Following the rationale of this thesis, it would be an interesting new topic to study whether there is also DIM from China to other even less developed countries.

[178] For example, based on the idea of embodied effluent trade (EET) introduced by Lee and Roland-Holst (1997), Chai (2002) compares the pollution content of exports (Ex) and imports (Em) of China during the period 1980-82 and 1996-98, and find that despite China's import is becoming cleaner in 1996-98 than in 1980-82, it is still more than 60% more pollution intensive than its export counterpart. This implies that "in a long-term situation of relatively balanced bilateral trade, import trade has had a beneficial effect on China's environment, as it enabled China to transfer a significant amount of environmental cost to other countries." See Joseph C. H. Chai, "Trade and Environment: Evidence from China's Manufacturing Sector" (2002) *Sustainable Development*, 10, 25-35, at 33.

CHAPTER IV DIRTY INDUSTRY MIGRATION UNDER INTERNATIONAL LAW

Generally speaking, to identify an international regulatory framework on DIM is difficult. There are several reasons for this. First, currently many developed countries still refuse to accept the existence of DIM. This implies that international instruments toward its regulation are still at infant stage. Second, the migration of dirty industry is essentially a result of free international trade and investment. Since the neo-liberal ideas towards broader trade and investment liberalization are hardly going to be shaken by the international community, the regulation of DIM will remain weak. Finally, from a law perspective, as a general principle international law mainly governs the rights and obligations of states. By contrast, DIM is a voluntary, market oriented activity by corporations which is private in nature. Such activities, unless under special circumstances, rarely give rise to cognizable claims under international law.

Despite the above obstacles, there is no doubt that the DIM has become a global problem and its regulation requires a comprehensive international approach. Such relevant regulations are reflected in various sources of international law, including treaties and conventions, customary international law, judicial decisions and legal literatures, etc. It is from these scattered international legal sources that the author is able to draw a framework on the international law of dirty industry migration.

It must be stressed that often the negative impact of DIM is multi-facet and implicates several areas of law, no matter how the problem is characterized (e.g. as violations of international environmental law, human rights law, or trade and investment law, etc.) None of the potentially applicable areas of international law is able to fully capture the situation. Besides, as the regulation of DIM often seeks to reconcile certain seemingly conflicting values such as trade and environment, investment and environment. The regulatory framework on DIM needs to fairly balance these values.

In a typical scenario of dirty industry migration, the dirty productions relocate, directly and indirectly, from the home to the host state where environmental standards are less stringent. Such relocation involves two or more states and it is mainly achieved through international trade and investment. Therefore, based on the cognizable international claims under international law, the author's framework of legal study on DIM is categorized into four subjects: Trade Related Environmental Claims ("TREC"), Investment Related Environmental Claims ("IREC"), Environment Related Trade Claims ("ERTC"), and Environment Related Investment Claims ("ERIC").

4.1 Trade Related Environmental Claims under International Law

Trade Related Environmental Claims refers to the claims based on environmental damages relating to international trade. Grossman and Krueger (1993) summarize three effects which trade liberalization may have on the pollution level and environment.

Namely, the scale effect,[179] composition effect,[180] and technique effect.[181] Under the international law a state's right to prevent the environmental harm originated from the other state is well established. Principle 21, which holds a state responsible for harm originating in that state which harms another state, is the most famous of the Stockholm Declaration principles and has been deemed customary international law.[182] As established by the *Trail Smelter*[183] and other related cases,[184] every state has a legitimate interest in restricting the flow of environmental harm from entering its territory. This includes a legitimate interest in restricting the flow of imports the processing and usage of which will threaten the health or safety of its population or damage its environment.

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[179] The scale effect is based on the fact that more open trade creates greater economic activity, which raises the demand for all inputs such as raw materials, trucking transportation services and energy. If output is produced and delivered by the prevailing methods, an increase in emissions must follow and this has been labeled as scale effect. See Grossman and Krueger, supra note 139.

[180] The composition effect stems from the changes in the relative size of an economy's sectors that follow a reduction in trade barriers. Countries tend to specialize in sectors in which they have a competitive/comparative advantage. If environmental regulations are important in determining competitive advantage, a country with lax regulations in all sectors will end up specializing to a greater degree in the more polluting industries. If, however, the bases for international competitive advantage are differences in labour and capital abundance or technology differences, then the result of the changing sector composition due to trade liberalization on environmental quality is ambiguous. Since more open trade makes a country shifting into sectors using heavily its relatively abundant factors. The final effect depends on whether the new sector composition is more or less polluting than the original one. Id.

[181] The technique effect refers to changes in the production method that follow trade liberalization. More exposure to foreign trade and investment will bring modern technologies and it may have a positive impact on the local pollution level and environment. Id.

[182] Principle 21 of Stockholm Declaration (1972), adopted by U.N. G.A. Res. 2998 of December 15, 1972, UN Doc A/CONF.48/14.

[183] *Trail Smelter Arbitration USA v Canada* (1938 and 1941) 3 RIAA 1905 Arbitral Tribunal. It involved a privately owned Canadian smelting plant that discharged airborne sulphur particles. These particles were carried by the winds to Washington State where they caused damage to crops, pastures, trees and livestock. The dispute was settled through arbitration. The tribunal found Canada responsible for the conduct of the Trail Smelter under international law, awarded reparation in the amount of $78,000 to the United States, and imposed a duty on Canada to limit future emissions of sulphur transmissions to prescribed maximum levels.

[184] In *Gut Dam Case* (1969) 8 *I.L.M.* 118 also between the United States and Canada, Canada agreed to pay compensation in respect of the damage caused to the property of US citizens as a result for its Gut Dam on the international boundary. In the *Corfu Channel Case* (1949) *I.C.J. Rep.* 4 between U.K. and Northern Ireland-Albania, it was maintained that incumbent on every state is the duty "not to allow knowingly its territory to be used for acts contrary to the rights of other states."

4.1.1 Transfer of Hazardous Wastes

The most obvious claim of this kind is claims on the transfer of hazardous wastes. It falls into the author's definition of DIM for the reason that international trade on hazardous wastes seriously threatens the human health and environment of the host states. Developed countries, by way of dumping hazardous industrial waste to the developing countries for processing or disposal, directly transfer pollution to developing countries.

In response to this problem, international law imposes state responsibility for the import / export of hazardous wastes through multilateral environmental treaties. The violation of treaty obligation thus gives rise to cognizable international claims. The most direct international law in this area is the 1989 *Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal.*[185] The Convention requires its contracting parties not only to take appropriate measures to ensure compliance but also to punish illegal traffic of hazardous wastes through domestic legislation (Art. 9.5). According to the Convention, responsibilities to prevent illegal traffic are borne shared by both the waste exporting and importing country. It implies that each relevant party can invoke the claim if it finds the other party is acting against the provisions of the treaty. In case of dispute, the Convention provides for recourse to the International Court of Justice ("ICJ") or arbitration as forums for settlement.

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[185] The Basel Convention on the Control of Trans-boundary Movement of Hazardous Wastes and Their Disposal (adopted in 1989, in force in May 1992) 28 *I.L.M.* 657.

Given the dangerous nature of international waste trade on human health and environment, several international agreements called for contracting parties to impose criminal liability on those who dump hazardous substances and who import such substances. The 1991 *Bamako Convention on Hazardous Wastes within Africa* went further in requiring that the penalties be sufficiently high both to punish and deter illegal traffic.[186] On November 4, 1998, the Council of Europe adopted the first treaty to criminalize acts causing or likely to cause environmental damage, The *Convention on the Protection of the Environment through Criminal Law* [187] calls for administrative sanctions for less serious offenses, while serious, intentional offenses such as waste dumping should result in imprisonment or fines and may call for "reinstatement of the environment" (Art. 6) or "confiscation of profits" (Art. 7).[188]

So far the international law principles on the transfer of hazardous waste have been well established. For conventions that have gained near universal acceptance like *Basel*, their principles may take on the character of customary international of law, which may become binding among non-contracting parties as well (unless the non-contracting parties are persistent objectors).

Clear as it is in principle, the critical issue is the enforcement. It is arguable whether a state would file such claims against another state, and to what extent the state can justify it has conducted its due diligence in preventing the traffic of hazardous wastes. After all,

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[186] See Art. 4, Bamako Convention on Hazardous Wastes within Africa (1991) 30 *I.L.M.* 773.
[187] Council of Europe ETS No. 172 (1998) (not yet in force).
[188] Id.

the successful control of this form of DIM requires the joint effort of both the exporting and importing states of the hazardous wastes. In this regard the European Union has taken the lead in adopting the *Directive on Waste Electrical and Electronic Equipment* (WEEE Directive) in 2003,[189] which makes producers (domestic or foreign) responsible for taking back and recycling their WEEE products safely and at no cost to consumers, regardless of the location of the last resting place.[190] Therefore, WEEE Directive provides an incentive for producers to design their products taking into consideration the life cycle of their products. In addition, it has been suggested that the EU WEEE Directive is designed to address the "race to the bottom" by requiring that exported waste be treated as specified by the WEEE Directive.[191] China serves as a good example to discuss in this context. As is widely known, China is a popular destination for WEEE because of the significantly lower costs due to cheap labour and lower environmental standards.[192] Under the new Directive in order to receive WEEE from EU, China will have to meet the EU standards for treatment.[193] According to Kibert (2003), government run extend producer responsibility programs, such as the WEEE Directive, will have a

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[189] Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE), <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0096:EN:HTML> Accessed Dec. 12, 2006.

[190] The objectives of the Directive on Waste Electrical and Electronic Equipment (WEEE) are: 1. the prevention of waste electrical and electronic equipment; 2. to increase re-use, recycling and other forms of recovery thereby contributing to a higher level of environmental protection and encouraging resource efficiency; 3. to improve the environmental performance of all operators involved in the life cycle of electrical and electronic equipment, particularly those involved in the treatment of WEEE. United Kingdom Department of Trade and Industry, EPR Directive Summary, Id.

[191] Nicole C. Kibert "Extended Producer Responsibility: A Tool for Achieving Sustainable Development" (2003) 19 *Journal of Land use and Environmental Law*, 503, at 516.

[192] According to a recent study, the cost of recycling a computer is approximately U.S. $ 0.38 per pound in the United States, but only U.S. $ 0.15 to U.S. $ 0.30 per pound overseas, including all costs. One U.S.-based company claims that it can recycle computers in China for U.S. $ 0.05 per pound. Other reports suggest that extracting metals from electronic scraps costs about U.S. $ 2.00 per day per worker in China. See Catherine K. Lin, Linan Yan & Andrew N. Davis, "Globalization, Extended Producer Responsibility and the Problem of Discarded Computers in China: An Exploratory Proposal for Environmental Protection" (2002) 14 *Geo. Int'l Envtl. L. Rev.* 525, at 533

[193] See generally Jieqiong Yu, Richard Welford, Peter Hills, "Industry responses to EU WEEE and ROHS Directives: perspectives from China" (2006) *Corporate Social Responsibility and Environmental Management*, Volume 13, Issue 5, 286-299.

positive outcome on the economic, environmental and social elements of international trade, and have the potential to make sustainable development a reality.[194]

4.1.2 Product Liability

The migration of dirty industries through international trade is by no means limited to waste dumping, it also incorporates the migration of certain industries or industrial products whose production or consumption may have a hazardous impact on people's health and the environment. Industries of this kind generally include chemicals, chlorine and pesticides, resource extracting and heavy manufacturing.[195] All of these industries are now facing additional costs in their home countries due to public relations, establishment of environment divisions in firms, liability and insurance, legal fees, occupational health and safety costs, and delays incurred during Environmental Impact Assessment ("EIA").[196]

Xing & Kolstad (1998) find that U.S. chemical companies migrated to developing countries basing their decision on the laxity of environmental regulations governing SO_2 emissions.[197] There has also been an exodus of firms in the chlorine industry partly as a result of the U.S. government banning the land disposal of chlorine wastes and

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[194] Kibert, supra note 191, at 517.
[195] Studies have shown that most of these industries in developed countries share a tendency to relocate. See generally UNCTC, *Transnational Corporations in World Development: Trends and Prospects* (United Nations: New York 1988). Also see Castleman, supra note 8, 569-606.
[196] Clapp, J., supra note 98, 92-113. (Citing Maul (1991) who found that in Japan, public opposition drove out many hazardous industries Maul, H. "Japan's Global Environmental Policies", (1991) 4:3 *The Pacific Review* 254)
[197] See Xing & Kolstad, supra note 10.

moratorium on its incineration.[198] Similar situations are found for German chemical companies where increasingly stringent environmental regulations in the EU have contributed to movement of production facilities in Asia.[199]

Other than relocating the highly polluting production facilities to developing countries, large quantity of hazardous industrial products are sold to developing countries without restriction. In Canada, for instance, when domestic sales of asbestos declined due to public health concerns, the industry collaborated with the government to promote sales abroad. Canada is currently the leading exporter and second-largest producer of white asbestos, and ninety-six percent of the asbestos Canada produces is exported and the majority of it to the Third World.[200]

The international trade on pesticides serves another case for study. Developing countries are particularly vulnerable to health and environmental damage from pesticides. Many of them lack the regulatory mechanisms needed to evaluate risks thoroughly or to ensure that chemicals are used in accordance with instructions. Despite this, certain pesticides which are banned in most developed nations are widely sold and used in the Third World without regulation. For instance, the insecticides chlordane and heptachlor were banned for agricultural uses in the United States in the 1970s. Yet, it was reported that between 1987 and 1989, the U.S. manufacturers produced and

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[198] See Clapp, supra note 98, at 95-100.

[199] See generally Bourman, M., "Do Pollution Abatement Costs Induce Foreign Direct Investment? Evidence from Germany" (1997) Mimeograph (University of Amsterdam: Netherlands). Wood, A. "Asia/Pacific: Rising Star on the Chemical Stage" (1995) *Chemical Week* 36.

[200] See Hilary French, "Can Globalization Survive the Export of Hazard?" USA Today (May 1, 2001), <http://www.accessmylibrary.com/coms2/summary_0286-10738157_ITM> Accessed Nov 12, 2006.

exported nearly 5 million pounds of the insecticides to some 25 countries. A partial result of widespread misuse of pesticides in the Third World is a reported 3 million poisonings and 200,000 deaths in Southeast Asia alone, many of which local governments often attribute to suicide.[201] The World Health Organization ("WHO") estimates that these deficiencies cause approximately 25 million agricultural workers in the developing world to suffer at least one incident of pesticide poisoning per year, resulting in as many as 20,000 deaths annually.[202]

4.1.2.1 Domestic Claims & Remedies

At the national level, the defense available for consumers who suffer from hazardous or defective products is the consumer protection / product liability laws. Product liability is defined as the liability of the seller or manufacturer for injuries and damages caused by its allegedly defective product. It implies that manufacturers who sell globally have a plethora of technical standards and product liability rules to consider. Some countries impose fault-based liability while more and more others impose strict liability for manufacturers who sell in their country.[203] To make it easy for consumers to claim their rights, the definition of "manufacturer" can be extended to incorporate foreign manufacturers, domestic sellers or distributors, and importers, subject to certain

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[201] Jamall IS & Davis B., "Chemicals and Environmentally Caused Diseases in Developing Countries" (1991) 5(2) *Infectious Disease Clinics of North America* 365-375.
[202] Id.
[203] Unlike the fault-based product liability, the strict product liability system allows a plaintiff to avoid having to prove that the defendant was actually negligent in the manufacture or selling of a potentially hazardous product.

defenses.[204] Victims can seek remedies based on the consumer protection / product liability laws in their country or under the common laws of tort, if applicable.

Despite the existence of national laws to protect the consumers, the strength that these laws are to be enforced is questionable, especially in developing countries. A further problem is whether it is possible for victims of the host country to rely on the home country laws and sue the foreign manufacturer in the court of its home country. Generally speaking, this possibility depends, to a large extent, on the attitudes of the foreign court. In one of the few reported cases, in 1994 a group of farm workers from 12 countries fled a class action suit in U.S. courts seeking damages from the American companies that produced and used 1, 2-Dibromo-3-chloropropane ("DBCP") after it was already known to have caused sterility among U.S. farm workers. (The chemical was banned for use in the U.S. in 1979) The action finally led to several out of court settlements, with defendant companies agreeing to pay altogether $52 million in damages, while admitting no liability.[205]

In practice, there exist substantial procedural barriers for victims to seek redress in a foreign court. These barriers, as summarized by the authors, include the notions of national sovereignty, international comity, and *forum non convenience*, etc. [206] Ultimately, the regulation on this form of DIM shall depend on the cooperation between

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[204] For a discussion and comparison of product liability laws in EU, US, Taiwan, China, and Japan, see Bowman and Brooke LLP, "International Product Liability Laws" (1999) <http://library.findlaw.com/1999/Aug/1/129312.html> Accessed Feb 19, 2007.

[205] French, supra note 200.

[206] For a detailed analysis on these procedural barriers, see infra Chapter 4.3.2 ("Home State Responsibility to Regulate MNCs").

the home and host states. Without home country imposing restrictions on the export of hazardous products, and host country establishing mechanism to control such import, this form of DIM will continue to cause environmental, health and safety problems in the developing world.

4.1.2.2 International Claims & Remedies

In an effort to crack down on the export of hazardous materials, more than 160 nations gathered in Rotterdam, the Netherlands in 1998, to finalize an international treaty that puts in place a system of prior informed consent for trade in 22 pesticides and five industrial chemicals when these substances are banned or restricted in the exporting country. The *Rotterdam Convention*, which became effective in February 2004, promotes a shared responsibility between exporting and importing countries in protecting human health and the environment from the harmful effects of certain hazardous chemicals that are being traded internationally. It allows countries to make informed decisions about what chemicals they allow to enter and contribute to processes of managing chemical risk.

In recent years, espoused by increased media attention and proliferation of advocacy groups, there has been considerable discussion on the unrestricted international trade for human health and the environment. The long-lasting *Beef Hormone's* dispute between

EC and the U.S. evidences this increasing public unrest.[207] In the *Asbestos* dispute between Canada and EC, worrying that a growing number of bans on asbestos production in Europe will devastate Canada's asbestos industry, Canada tried to protect its market by lodging a complaint at the WTO, arguing that France's 1996 ban on the importation of white asbestos from Canada broke international trade rules because it was imposed with insufficient scientific evidence of adverse health effects. The Appellate Body of the WTO finally ruled in favor of France, suggesting that the French decree is "necessary to protect human life or health" and is justified based on the exceptions under Article XX(b) of the GATT 1994.[208]

At the regional level, particularly in the European Union, active legal measures have been taken to restrict the import of certain products whose production process does not meet the environmental, health or safety ("EHS") standards of the importing country. The best known mandatory requirement is the Second Amendments to the Consumer Protection Act issued by the German government in 1994 prohibiting the use of azo dyes in the production of textiles and garments.[209] Following Germany's initiative,

[207] On January 1, 1989, the European Union implemented a ban on imports of red meat from animals treated with six growth promotants, both natural and synthetic, cutting off U.S. beef exports to the EU. The products used in the U.S., three natural hormones and three synthetic products, have been thoroughly tested and have been shown to have no adverse effects on human or animal health. The EU, however, continued to publicly rule out an end to the hormone ban, stating that economic, environment and consumer concerns must be considered in addition to the scientific evidence. Therefore, the US and Canada launched separate WTO dispute settlement panel cases against the EU regime in 1996. *EC-Measures Concerning Meat and Meat Products (Hormones),* WT/DS26,48/AB/R.

[208] For a detailed ruling, see WTO Dispute DS 135 European Communities — Measures Affecting Asbestos and Products Containing Asbestos (Complainant: Canada), <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds135_e.htm> Accessed Oct 10, 2006.

[209] Textile is a highly polluting sector. Pollution problems during the textile production (particularly in the processes of dyeing, printing and rectifying) and harmful residues in the finished products have aroused great public concerns, which give rise to various EHS standards and requirements for textile products. See China Council for International Cooperation on Environment and Development (CCICED) "Impacts of Environmental Standards and Requirements in EU Countries on China's Textile Industry" (1999) <http://www.iisd.org/pdf/EUtextiles.pdf> Accessed Jan 08, 2007.

Netherlands, Sweden, France and Denmark passed similar regulations soon after and it is believed that EU will adopt legislation on azo dyes by amending its Derivative 83/189/EEC.[210] These measures have imposed great challenge for textile export of China and other developing countries.[211]

4.1.2.3 EHS Standards as Non-tariff Trade Barrier

A common argument is whether these laws and standards are justified on the basis that they actually set "non-tariff barriers" to trade, which violate the Most-Favored-Nation ("MFN") principle under the GATT. The issue becomes particularly controversial when the exporting state does not consider its product to be defective by its own environment / safety standards, but the importing states restrict such import based on their own but higher standards. Under the WTO, there are two agreements that regulate EHS related government measures. The *Agreement on Sanitary and Phytosanitary Measures* ("SPS Agreement") addresses measures taken to protect humans, animals, and plants from certain risks to life and health, including risks arising from additives, contaminants or toxins in foods. The *Agreement on Technical Barriers to Trade* ("TBT Agreement") addresses all voluntary and mandatory standards for products, other than any that qualify as sanitary or phytosanitary measures under the SPS Agreement, which

[210] CCICED, ibid. In addition, there are a number of eco-labeling standards aimed at reducing pollution in the textile production on a voluntary basis. The best known ones are Milieukeur and Eko of the Netherlands and Oeko-Tex 100 and Toxproof of Germany.
[211] China is one of the largest textile exporters in the world. U.S, EU and Japan are the three major importers of China's textile products. It was suggested that the environmental standards and requirements imposed by EU countries have a significant impact on China's textile exports. Id, at 17.

indirectly impact free trade (i.e., create "technical barriers to trade" without directly regulating trade as such).

Unlike the transfer of hazardous waste which is clearly detrimental to the environment, the chronic environmental harm of the imported unsafe products is not immediately detectable. Thus, as far as the WTO rules are concerned, one state cannot simply impose restrictions on the importation of suspect products. It has to base its measures on scientific health or environmental grounds *and* act in a non-discriminative manner. Thus, under the WTO, the potential state responsibility herein involved is not imposed on the exporting state of unsafe products but rather on the importing state who fails to meet a WTO justified measure of restriction. Put it another way, the "imputability rule"[212] under international law determines that the export of unsafe products is private conduct which cannot be attributed to the exporting state.[213] But the import ban which the importing state imposes is a state action against the interest of other states. Regardless of the health and environmental justifications behind the ban, it might breach the importing state's international commitments under the WTO thus incur international liability.

[212] "Imputability" in the context of state responsibility means "attributable", i.e. a state is only responsible for acts or omissions which can be attributed to it as its own. In international law, state is thus responsible for the actions of (a) the government; (b) any political sub-division of the state; (c) any organ, agency official employee or other agent of its government or of any sub-division acting within the scope of their employment. Thus, a state is not responsible for acts committed by its nationals not on behalf of the state against a foreigner. Art. 11 of ILC draft Articles on State Responsibility. ILC Report (1996), GAOR., 51st Session., Supp.10, p.125.

[213] It will be argued later that the home state has a responsibility to control the export of its defective products if it has knowledge that such product will cause human health and environmental problems to the importing states.

As is generally understood, the institutional goal of the WTO is to promote freer international trade among states. Thus whenever differences in environmental standards among states create barriers to trade, the WTO will seek ways to settle the dispute. Although there are general suspicions among interested groups over the WTO's jurisdiction over global environmental issues,[214] it must be admitted that over time the WTO has proved to be a successful forum for the settlement of trade and environment related disputes. The jurisprudence of the WTO over a series of trade and environment cases has put forward the substance of "general exceptions to trade" based on environment.[215] It is generally recognized that restrictive trade practices may sometimes be justified based on environment, health and safety considerations, provided that they are imposed and implemented in a "non-arbitrary and non-discriminatory manner".[216]

4.2 *Investment Related Environmental Claims*

On December 3, 1984, a poisonous gas—methyl isocyanides ("MIC")—used in the production of the pesticide Sevin, leaked from a U.S.-based Union Carbide plant, located in the Indian city of Bhopal. The leakage of MIC gas killed almost 20,000 peoples. Such accidents are not rare in developing countries. In recent years, as more

[214] For an overview of such arguments see Joost Pauwelyn, "The Role of Public International Law in The WTO: How Far Can We Go?" (2001) 95 *A.J.I.L.* 535.
[215] For a series of cases on "trade and environment" under the GATT / WTO, see *United States-Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R. *Canada-Measures Affecting Exports of Unprocessed Herring and Salmon*, (1988) BISD (35th Supp.), at 98; *Thailand-Restrictions on Importation of and Internal Taxes on Cigarettes*, (1990) BISD (37th Supp.), at 200; *United States-Restrictions on Imports of Tuna*, (1992) BISD (39th Supp.), at 155; *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, (1998) WTO case Nos. 58 and 61; *European Communities — Measures affecting Asbestos and asbestos-containing products*, (2001) WTO case No. 135.
[216] See United States — Import Prohibition of Certain Shrimp and Shrimp Products, (1998) WTO case Nos. 58 and 61.

and more foreign industries relocated for low costs as well as lax regulation in these countries, the conduct of MNCs outside their home country has become a public concern. For example, the claims brought against the Texaco company for alleged environmental degradation in Ecuador,[217] claims brought against Royal Dutch Shell for its alleged entanglement with repressive securities forces in Nigeria,[218] claims brought against the UNOCAL company for its alleged involvement with a repressive military regime and associated human rights violations in Burma,[219] and claims brought by garment workers in Saipan against contractors, manufacturers, and U.S. retailers for the alleged sweatshop conditions under which they work in Saipan[220] have all resulted in international tort claims in the courts of the United States. In these cases, the alleged tort was caused by the local subsidiary of the MNC. The main reason why such cases involve international law is that the parent corporation of the subsidiary in the host state is a national of the home state. Here the author identifies two areas of international law which may tackle the human rights and environmental related accidents in the host country. The civil liability imposed by international law for environment or related damages, and the host state's responsibility to protect its own people and environment under international human rights law.

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[217] *Aguinda v. Texaco, Inc.,* No. 93 Civ. 7527, 1994 WL 142006 (S.D.N.Y. Apr. 11, 1994*). Jota. v. Texaco, Inc.,* 157 F. 3d 153, 155 (2d Cir. 1998).

[218] *Wiwa v. Royal Dutch Petroleum Co.,* 226 F.3d 88 (2d Cir. 2000).

[219] See *Doe v. UNOCAL Corp.*, 963 F. Supp. 880, 883 (C.D. Cal. 1997). Further proceedings include Doe v. UNOCAL Corp., 27 F. Supp.2d 1174 (C.D. Cal. 1998) (granting motion to dismiss of French company, Total S.A., for lack of personal jurisdiction), aff'd 248 F.3d 915 (9th Cir. 2001) (affirming dismissal of Total S.A. for lack of personal jurisdiction); *Doe v. UNOCAL Corp.,* 110 F. Supp.2d 1294 (C.D. Cal. 2000) (granting UNOCAL's motion for summary judgment).

[220] *Does I thru XXIII v. Advanced Textile Corp.*, 214 F.3d 1058, 1063 (9th Cir. 2000).

4.2.1 Environmental Civil Liability under International Law

Environmental civil liability is one of the liabilities imposed by international law for environmental damage caused by an identifiable national of a contracting party to the national of the other. It refers to the liability of any legal or natural person under rules of national law adopted pursuant to international treaty obligations which establish harmonized minimum standards. These harmonized standards usually have developed in the areas which require special supervision, such as nuclear installations and oil-related transportation, though recent regional treaties in Europe tended to apply this more generally to industrial operations.[221] Unlike the traditional inter-state dispute settlement, the approach of international environmental civil liability is to bring the polluter and victim together directly before a competent domestic court.

The main principles of civil liability for environmental damage are those laid down in the 1960 OECD *Paris Convention on Third Party Liability in the Field of Nuclear Energy.*[222] Subsequent international laws that deal with environmental civil liability include *International Convention on Civil Liability for Oil Pollution Damage*[223] and *Vienna Convention on Civil Liability for Nuclear Damage*[224]. A regional model for environmental civil liability is the 1993 *Lugano Convention on Civil Liability for Damages Resulting from the Exercise of Activities Dangerous for the Environment.*[225]

[221] Linda S. Speddeing, *Environmental Liabilities: European Developments* (Chandos publishing, 2000), 19- 29.
[222] Convention on Third Party Liability in the Field of Nuclear Energy (1960) 956 U.N.T.S. 251.
[223] International Convention on Civil Liability for Oil Pollution Damage (1969) 9 *I.L.M.* 45 (modified in 1971, 1976, 1984 and 1992).
[224] Vienna Convention on Civil Liability for Nuclear Damage (1963) 2. *I.L.M.* 727.
[225] Lugano Convention on Civil Liability for Damages Resulting from the Exercise of Activities Dangerous for the

To generalize, there are several common traits found in the international civil liability regime:

(1) The identification of the polluter is assured through a presumption that channels responsibility. For example, in case of nuclear energy the responsibility automatically is imputed to the exploiter, in oil pollution damage, the responsibility is imputed automatically to the ship owner.[226]

(2) The system of liability is settled by imposing strict liability for damage, but subject to a certain number of defences.[227]

(3) Jurisdictional competence is determined by designating the proper forum, in some cases that of the plaintiff,[228] in other cases that of the polluter,[229] or in permitting the victim the free choice of tribunal.[230]

(4) Time limits are imposed for the raise of environmental civil liability. For example, the 1993 *Lugano Convention* makes it three years from the date of knowledge or the time when the plaintiff reasonably should have known of the damage and the identity of the operator. An absolute bar to suit is imposed after thirty years.

(5) Liability limits are coupled with mandatory insurance requirements.

(6) The execution of judgments is assured.

Environment (1993) 32. *I.L.M.* 1228.

[226] Art. 3 Paris Convention; Art.3, Vienna Convention; Art. 3, 1977 Seabed Convention; Art. 8. 1991 Antarctic Protocol; Art. 3 (1) International Liability Convention.

[227] Art. 3 (6) Paris Convention; Art.4, Vienna Convention; Art. 3 International Liability Convention Art. 3, 1977 Seabed Convention; Art. 8. 1991 Antarctic Protocol.

[228] Art. 9. Vienna Convention Art. 11; International Liability Convention.

[229] Art. 13. Paris Convention.

[230] Art. 11. Seabed Convention.

Despite the clarity in the area of international law on environmental civil liability, its actual effectiveness in regulating DIM is limited because it regulates only those industrial operations where special international supervision is needed. For environmental damage that arises from ordinary industrial operations of migrated dirty industries it is still largely regulated under the law of the host state, rather than international law.

4.2.2 Host State Responsibility to Protect Its Own People and Environment

Traditionally, international law was not concerned with the way in which a sovereign state treated its own nationals in its own territory.[231] A human right is a right held *vis á vis* the state, by virtue of being a human being. The state's responsibility to protect its own people seems to be self-evident. However in the case of Bhopal where the environmental harm are attributed to wholly private entities, it is a question whether the host state is under an *international obligation* for the failure to protect its own people and environment. This argument is justified on the basis that without the state's approval of entry, foreign dirty industries would not be allowed to operate in the host state; had the host state exercised its due diligence in supervising the operation of foreign dirty industries, the human health and environmental damage should not have

[231] William Aceves, "Liberalism and International Legal Scholarship: The Pinochet Case, and the Move Toward a Universal System of Transnational Law Litigation" (2000) 41 *Harvard Int'l L.J.* 129, 129 (quoting R v. Bowstreet Metro. Stipendiary Magistrate, ex parte Pinochet Ugarte (Amnesty International and others intervening) (No. 3) 2 All E.R. 97, 170 (H.L. 1999) (Lord Millett)).

occurred. When suffered from the environmental harm caused by multinationals, it is to the state that the individual will look to his most basic needs, and it is from the state that an individual often most seeks protection. If the host state does not stand as advocate for its people, the individual is left with no direct access to a forum, no legal right that he can call his own, and no redress against his own state. Thus failure to protect its people against misconduct by private parties may give rise to international liability under human rights law.

Despite these arguments, as a long-standing rule of customary international law, a state has jurisdiction to prescribe law for entities and individuals residing within its border, and has exclusive control over the legitimacy of the complaints made against it by the victims. States should, in principle, refrain from challenging other state's behavior when the matter is solely subject to the latter's jurisdiction. Although international law does give states the right to challenge another state's behavior in relation to the latter's domestic environmental policies, either in the context of general rules on state responsibility or specific provisions under environmental treaties,[232] in reality treaty member states have never invoked the formal dispute settlement procedures contained in most international environmental agreements. Even if such procedures are invoked, the ability to impose actual sanctions is extremely limited.[233]. Moreover, because international environmental law mainly address the actions of the state and offers little

[232] See Basel Convention supra note 185 arts. 19 & 20 (Article 19 allows a state to inform the Basel Convention Secretariat if it has reason to believe another state has violated the Convention, while Article 20 provides dispute settlement mechanisms for state parties regarding interpretation or application of the Convention).
[233] Edith Brown Weiss, "Understanding Compliance with International Environmental Agreements: The Baker's Dozen Myths" (1999) 32 *U. RICH. L. REV.* 1555, 1582.

possibility of recourse for individual victims of domestic environmental problems, the alternative mechanisms and institutions under international law becomes essential.

International human rights law, in this regard, provides a basis for intervention into another state's jurisdiction when harm occurs solely within another state's border while international environmental law generally does not. It is when serious human rights violation is involved.[234] Such universal jurisdiction is based on the theory that some behaviors are so unacceptable that they are every nation's concern regardless of where they occur or who they involve. Thus whenever environmental harm involves serious human rights violation, the victims can rely upon the international human rights law to seek protection from their state. The human rights mechanism is virtually unique in offering avenues of redress for individuals or groups wishing to appeal beyond their own state in cases of environmental harm that constitute a violation of their rights.

4.2.2.1 Human Rights Approach to the Environment

The evolution of a "human rights approach to the environment" began essentially with the 1972 United Nations Conference on the Human Environment, which declared that "man's environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights."[235] There is much literature on the

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[234] Under international law, there are five bases upon which a nation can exercise jurisdiction: 1) Territorial—wrongs occurred within the nation's territory; 2) Nationality—offender is a national of the state taking jurisdiction; 3) Passive personality—victim is a national of the state taking jurisdiction; 4) protective—acts impinge upon important state/national security interest; and 5) Universal—acts are of universal concern. For an analysis of these bases, see Lori F. Damrosch et al., *International Law: Cases and Materials* (4th ed. 2001) 1088-1177.

[235] Report of the U.N. Conference on the Human Environment, U.N. Doc. A/ CONF. 48/14 (Stockholm Declaration)

jurisprudence of "environmental rights" or "human rights to a healthy and clean environment". This is focused on, within the human rights regime, whether such right is sufficiently specific to be justifiable, whether it is a substantive or procedural right,[236] separate or derivative right, individual or collective right, and whether such right has been recognized as an established principle of international law etc.[237] Despite the arguments favoring a human right to a clean and healthy environment which generally involves a balancing of social, economic, health, and environmental factors, international bodies and states have yet to articulate a sufficiently clear legal test or framework so as to ensure consistent, protective application and enforcement of such a right.[238]

In practice, human rights abuses and environmental degradation are often closely linked. For example, governments often authorize logging, gas or oil exploitation on lands on which indigenous people are reliant for survival. Under such circumstances, it can be argued that the international human rights law imposes a positive duty of state to consider the right of indigenous people (including their right to life, family, and environment) and make necessary arrangement to prevent massive human rights

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reprinted 11 I.L.M. 1416, at 1420 (1972).

[236] It is generally believed that the substantive human right to environment involves the right to clean, safe, or healthy living environment. The procedural context of such a right mainly includes: The right to know and act; the right to participate; and the right to judicial and/or administrative remedies including preventive remedies, etc. See UN Commission on Human Rights, Sub-Commission on Prevention of Discrimination and Protection of Minorities, Human Rights and the Environment, "Final Report of the Special Rapporteur", UN Doc. E/CN.4/Sub.2/1994/9 (6 July 1994), 74.

[237] See Patricia W. Birnie & Alan E. Boyle, *International Law and the Environment* (Oxford Univ. Press 1992), at 190-191 (Suggesting that "Most writers are, however, skeptical of the view that a right to a decent environment presently forms part of international law in this extended form.")

[238] For an analysis on the status of environmental rights under international law, see Barry E. Hill, Steve Wolfson, Nicholas Targ, "Human Rights and the Environment: A synopsis and some Predictions" (2004) *16 Geo. Int'l Envtl. L. Rev.* 359 Also see Clarence J. Dias, "Human Rights, Environment and Development in South Asia: The Importance of International Human Rights Law" (2000) 6 *ILSA J. Int'l & Comp. L.* 415.

violation. Failure to do this may lead to state responsibility at international level. Even if state did not authorize such exploitation (as occurred often in illegal logging and forest fire), it was argued that the state may also become responsible for violations by private actors if it fails to exercise due diligence to prevent the violations or to respond to them.[239] If a government does not seriously investigate human rights violations committed by private parties, "those parties are aided in a sense by the government, thereby making the state responsible on the international plane." [240]

If the host state fails to protect its people and environment, the international human rights law does provide measures for individuals or groups to seek redress from their government. There are several functioning treaty bodies pursuant to international human rights treaties which hear individual petitions in the human rights and environmental area, for example the Committee on the Rights of the Child ("CRC"), the Committee on the Elimination of Racial Discrimination ("CERD"), the United Nations Human Rights Committee ("UNHRC"), and the Committee on Economic, Social and Cultural Rights ("CESCR").[241] Among these international bodies, the UNHRC created pursuant to the Optional Protocol to the *International Covenant on*

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[239] See Alan Khee-Jin Tan, "Forest fires of Indonesia: state responsibility and international liability" (1999) 48 *The International and Comparative Law Quarterly* 826, at 832-833 (Arguing that "the obligation of the state in relation to private conduct consists of its exercise of "due diligence" to prevent conduct which, if the state itself were to be the actor, woud have breached its international obligations. In sum, the obligations to apprehend and punish wrongdoers are but expressions of the general obligation to prevent private individuals from engaging in conduct in which the state is itself prohibited from engaging. These obligations rest simply upon the jurisdiction and control which the state exercises over the wrongdoer and the locus of conduct.")

[240] Dinah Shelton, "Human Rights, Environmental Rights, and the Right to Environment" (1991) 28 *Stan. J. Int'l L.* 103 at 123 (quoting Velasquez Rodriguez Case, 4 Inter-Am. Ct. H.R. (ser. C) at 156).

[241] See Siân Lewis-Anthony, *Treaty-based Procedures for Making Human Rights Complaints Within the UN System, in Guide To International Human Rights Practice* (Hurst Hannum ed., 2nd ed. 1992) at 159.

Civil and Political Rights ("ICCPR") is the most established and authoritative organ to hear the environment-related human rights cases.[242]

4.2.2.2 Environment Related Cases under the UNHRC

A review on the environment-related cases under the UNHRC indicates that they fell neatly into two categories: (1) practices that affect the environment in which indigenous groups inhabit and rely for survival, and (2) cases relating to nuclear weapons and radioactive materials. In both categories, it is found that the common strategy of applicants is to allege the violation of some basic human rights that applied to the environmental problem, rather than the violation of specific right to environment. The reason for this, as suggested by authors, is that the right to a healthy environment has not yet developed into an independent human right which is capable of standing on its own in a human rights claim. [243]

In the case of *Bernard Ominayak & the Lubicon Lake Band v Canada*,[244] the applicants

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[242] Id. It must be noted that the availability of these treaty facilities to individuals is premised upon certain preconditions: First, these treaty bodies must be entitled to hear such cases. This implies that not only must states recognize the body's competence in environmental claims, but also such competent body must, by its own mandate, be entitled to receive and consider individual petitions. Second, the plaintiff(s) must have standing, which means the plaintiff(s) must show they are either the victims or will be the future victims of the alleged environmental harm. Finally, international law requires that all domestic remedies must have been exhausted before the competent body is able to consider an individual complaint.

[243] See Dinah Shelton, supra note 240. Also see MA Geer, "Foreigners in Their Own Land: Cultural Land and Transnational Corporations—Emergent International Rights and Wrongs" (1998) 38 *Virginia Journal of International Law* 377 (observed a growing trend toward recognizing environmental rights in the context of international human rights norms but concluded that the "right to a safe environment" has yet to achieve the status of customary international law); But see Hari M. Osofsky, "Environmental Human Rights Under the Alien Tort Statute: Redress for Indigenous Victims of Multinational Corporations", (1997) 20 *Suffolk Transnat'l L. Rev.* 335, 343-344 (arguing "that human rights protection against severe environmental harm has developed sufficiently to allow for relief under the [ATCA]").

[244] See Communication No. 167/1984, Annual Report of the Human Rights Committee, U.N. GAOR, 45th Sess., Supp. No. 40, vol. 2, Annex IX, U.N. Doc. A/45/40 (1990), reprinted in *HUM. RTS. L.J.* 305 (1990).

alleged that the government of the province of Alberta had deprived the Lake Lubicon Indians of their means of subsistence and their right to self-determination by selling oil and gas concessions on their lands. The UNHRC found that historical inequities and certain more recent developments, including oil and gas exploration, were threatening the way of life and culture of the Lake Lubicon Band and were thus violating minority rights, contrary to Article 27 of the ICCPR.[245]

In *EHP v Canada*,[246] residents of Port Hope, Ontario, brought an action before the Committee against the Canadian government for its failure to clean up 200,000 tons of radioactive waste remaining in a nearby dump which had been closed. Although the case was dismissed for failure to exhaust local remedies, the Committee observed that it raised "serious issues, with regard to the obligation of States parties to protect human life".[247]

Another case which interests environmentalists and arguably could have been decided under Article 27 was brought in 1993 by two ethnic Polynesians resident in Tahiti.[248] The applicants claimed that, by granting a lease for land—formerly a burial ground—to a hotel group wishing to build a luxury hotel complex, France had failed to protect an important part of the heritage of Tahiti's indigenous peoples. The applicants also

[245] Art. 27 of ICCPR reads: "In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language." ICCPR, 999 U.N.T.S. 171, 6 *I.L.M.* 368.
[246] Communication No. 67/1980, in 2 Selected Decisions of the Human Rights Committee under the Optional Protocol, at 20, U.N. Doc. CCPR/C/OP/2, U.N. Sales No. E.89.XIV.1 (1990).
[247] Id. at 22.
[248] *Hopu & Bessert v France*, Communication No. 549/1993, U.N. Doc. CCPR/C/60/D/549/1993/Rev.1 (1997).

claimed that building the hotel would ruinously affect their fishing activities. The UNHRC concluded that since France's "declaration" on Article 27 operated as a reservation, thus complaints against France under Article 27 could not be considered. Instead, the Committee found that the construction of the hotel complex on ancestral burial grounds interfered with the applicants' rights to family and to privacy, in violation of Articles 17 and 23 of the ICCPR.[249] Interestingly, it has been suggested that the UNHRC seems to be amenable to particular substantive environmental claims based on, for example, minority rights under Art. 27 of ICCPR.[250] Probably because most of the environment related human rights claims brought under UNHRC involve indigenous people as minority. It is therefore suggested that future petitioners should take this into account in order to maximize their opportunities for achieving redress.

If the Committee finds a violation in a particular case, the State party is requested to remedy that violation.[251] The recommended remedy may take specific form, such as the payment of compensation, the repeal or amendment of legislation, or others. Thereupon, the case is taken up by the UNHRC's Special Rapporteur to follow up, who communicates with the parties with a view to achieving a satisfactory resolution to the case in the light of the UNHRC's views.[252]

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[249] Id. However, pay attention also to the environmental related cases under UNHRC which the tribunal ruled against petitioners. For example, *Apirana Mahuika v. New Zealand*, Communication No. 547/1993, U.N. H.R.C., U.N. Doc. CCPR/C/70/D/547/1993 (2000) (Extinguishing of indigenous fishing rights of the Maori people in New Zealand by representatives who exchanged these rights for a stake in a large fishing corporation.) *Länsman v. Finland*, Communication No. 671/1995, U.N. H.R.C., U.N. Doc. CCPR/C/58/D/671/1995 (1996) (Logging and contruction of roads on land of the indigenous Samu people in Finland that is expected to harm traditional reindeer herding).

[250] See Hari M. Osofsky, "Learning from Environmental Justice: A New Model for International Environmental Rights" (2005) 24 *Stan. Envtl. L. J.* 71 at 117.

[251] State have an obligation to provide an effective remedy for Covenant violations pursuant to the obligation in article 2, paragraph 3, of the ICCPR.

[252] See Office of the United Nations High Commissioner for Human Rights, UNHRC fact sheet No. 15,

Furthermore, Rule 86 of the UNHRC's Rules of Procedure allow the UNHRC to ask the state in question to take interim measures before it has even considered the admissibility of the communication, without prejudice to the admissibility or the merits of the application.[253] This injunction-like power of UNHRC will be of particular interest to environmentalists, as environmental damage is often impossible to repair once it has occurred.

4.2.2.3 Environment Related Cases under Regional Human Rights Tribunals

Compared with judicial responses to claims brought pursuant to international human rights treaties, the efforts to derive an environmental right *vis á vis* the state have also yielded mixed results under regional human rights tribunals, in particular the European Court of Human Rights ("ECHR") and Inter-American Commission on Human Rights ("IACHR").

Similar to the claims brought under the UNHRC, the substantive claims brought under the ECHR consist of derived environmental rights—generally basic human rights applied to the environmental problem—rather than specific rights to environment. In *Lopez Ostra v Spain*, the tribunal ruled in favor of a claim that the failure by the public authorities to take measures to control noxious fumes and effluents from a treatment plant near an apartment building infringed upon the right to privacy and family life.[254]

<http://www.ohchr.org/english/about/publications/docs/fs15.pdf> Accessed Jan 10, 2007.

[253] Siân Lewis-Anthony, supra note 241.

[254] *Lopez Ostra v Spain*, 20 Eur. H.R. Rep. 277 (1995).

In *Guerra and Others v Italy*, the claim was brought against Italian government based on emissions and an explosion from a chemical factory in Italy which alleged to have caused infringement upon the petitioners' right to life as well as rights to privacy and family life. The ECHR ruled in favor of the violation to the privacy and family life but concluded that it did not reach the right to life claim.[255] In *Zander v Sweden*, the claim was brought against Swedish government for the water pollution from a waste treatment plant in Sweden that was licensed without adequate judicial review. The ECHR found that the process by which a waste treatment plant's license was renewed violated petitioners' right to a fair and public hearing.[256]

Despite the above successful environmental related human rights claims, there is a danger to regard the government's positive duty to protect its people against environmental harm by the polluter to be expansive. In *Powell & Rayner v U.K.*, the ECHR rejected a claim based on adverse effects of airport noise under a balancing test that considered the positive impact of the airport to justify infringement on the right to privacy.[257] In *LCB v United Kingdom*, the petitioner claimed that her father had been intentionally exposed to radiation and that her parents had not been warned of the possible risks of that exposure to his offspring.[258] The ECHR ruled against the petitioner by concluding that "given the information available to the State at the relevant time concerning the likelihood of the applicant's father having been exposed to dangerous levels of radiation and of this having created a risk to her health," the State

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[255] *Guerra and Others v. Italy*, 26 Eur. Ct. H.R. 357 (1998).
[256] *Zander v Sweden*, 18 Eur. Ct. H.R. 175 (1994).
[257] *Powell and Rayner v U.K.*, ECHR, Ser. A. No. 172 (1990).
[258] *LCB v United Kingdom*, 27 Eur. Ct. H.R. 212 (1998).

did not have a duty to warn the petitioner's parents or take special action with respect to her.[259]

To summarize, by interpreting people's environmental interest as "human rights to environment" under international human rights law, it becomes clear that host state has a positive duty to protect its people against environmental harm by the polluter. If the environmental damage constitutes a human rights violation, grounds exist for a claim against the host state under international law, even when the harm occurs solely within that state's territorial jurisdiction.[260] Despite this, it must be noted that although the existing international and regional human rights tribunals might be able to hold the states responsible for inadequately constraining the behavior of the polluters, these tribunals have no power to reach the polluters directly. The direct claim against polluters still relies on the effectiveness of the national rather than international courts. This structural limitation not only prevents petitions against states that are not treaty members, but also effectively prevents any direct accountability for non-state actors at international level.[261]

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[259] Id, at para 41.
[260] See Louis Henkin, "Human Rights and State Sovereignty" (1996) 25 *Ga. J. Int'l* & *Comp. L.* 31, 31-32.
[261] See David Kinley & Junko Tadaki, "From Walk to Talk: The Emergence of Human Rights Responsibilities for Corporations at International Law" (2004) 44 *Va. J. Int'l L.* 931 (discussing limitations on corporate responsibility and proposing ways of strengthening it); Sarah M. Hall, Note, "Multinational Corporations' Post-Unocal Liabilities for Violations of International Law" (2002) 34 *Geo. Wash. Int'l L. Rev.* 401 (exploring corporate liability under the Alien Tort Statute).

4.3 Environment Related Investment Claims

4.3.1 Host State Responsibility of Alien Property Protection Related to the Protection of Environment

Under international investment law, host state responsibility is mainly studied in the context of alien property protection. The rules of customary international law protecting the property rights of aliens are well established.[262] Although the state is granted a broad measure of discretion in relation to the treatment accorded to the property of aliens on their territory, the state's discretion is not unlimited, and customary law requires a state to observe certain minimum international standards in respect of alien property. These minimum standards are supplemented by more specific rules established by treaties. More than 2500 Bilateral Investment Treaties ("BIT") have been adopted by the end of 2005.[263] Furthermore, there are a growing number of multilateral agreements aiming at setting standards within a region or to a particular economic activity. Example of such treaties are the 1994 *North America Free Trade Agreement* ("NAFTA")[264] and the 1994 *Energy Charter Treaty* [265]. Following the failure of efforts

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[262] See C. F. Amerasinghe, *State Responsibility for Injuries to Aliens* (Oxford: Clarendon, 1967), at p. 215; also see FG Dawson and IL Head, *International Law, National Tribunals and the Rights of Aliens* (Syracuse U.P., 1971); FV Garcia-Amador, LB Sohn and RR Baxter, *Recent Codification of the Law of State Responsibility for Injuries to Aliens* (Dobbs Ferry, N.Y.: Oceana Publishers, 1974); RB Lillich (Ed), *International Law of State Responsibility for Injuries to Aliens* (Charlottesville, University Press of Virginia, 1983). M Sornarajah, *The Pursuit of Nationalized Property* (Martinus Nijhoff, The Hague, 1986).

[263] UNCTAD, "The Entry into Force of Bilateral Investment Treaties" (2006) <http://www.unctad.org/en/docs/webiteiia20069_en.pdf> Accessed Jan 10, 2007.

[264] North America Free Trade Agreement 32 *I.L.M.* 289 (1993) (table of contents, preamble, parts I-III) and 32 *I.L.M.* 605 (1993) (parts IV-VII, annexes). Side Agreements can be found at 32 *I.L.M.* 1480 (1993) (Environmental Cooperation); 32 *I.L.M.* 1502 (1993) (Labour Cooperation) and 32 *I.L.M.* 1520 (1993) (Emergency Measures).

[265] Energy Charter Treaty of 1994, 34 *I.L.M.* 360 (1995).

to establish a multilateral investment agreement in the mid-1990s under the auspices of the OECD, such initiatives have also failed under the auspices of the WTO.

The state's protection of alien property mainly falls into two categories. The first comprises investment treaties, bilateral and multilateral, which seeks to protect foreign investments against certain governmental acts, in particular expropriation and unfair treatment. The second comprises unilateral guarantees made by the host state government to foreign corporations, which seek to provide guarantees against the acts prohibited by international investment treaties. Both mechanisms are becoming increasingly connected to international environmental rules, in the sense that they may impact upon states' abilities to adopt certain environmental measures at the national level or through multilateral environmental agreements, or encourage states to reduce their environmental standards in order to attract foreign investment. The focus of the literature has been largely on whether controls instituted by the host state on environmental grounds can be regarded as takings which are compensable.[266]

In the situation where guarantee is made by the host government to foreign corporations in the absence of bilateral or multilateral investment treaties between the home and host states, it can be difficult to argue that state responsibility is involved when the host state acts in accordance with its laws, whether on environmental grounds or not, that interfere

[266] J Martin Wagner, "International Investment, Expropriation and Environmental Protection" (1999) 29 *Golden Gate U.L.R.* 465. But for a general survey, see Gaetan Verhoosel, "Foreign Direct Investment and Legal Constraints on Domestic Environmental Policies: Striking a Reasonable Balance between Stability and Change" (1998) 29 *Law and Policy in International Business* 45; Michael Anderson, "Transnational Corporations and Environmental Damage: Is Tort Law the Answer" (2002) 41 *Washburn L.J.* 399.

with alien property. Such guarantee shall obviously operate in the context of national law and not in the context of international law.[267]

However in the situation where there exist bilateral or multilateral treaties which protect foreign investments against certain governmental acts, the issue is then, whether the government's action on the environmental objectives in accordance with law constitutes a violation of its treaty obligations which incur state responsibility. Few investment treaties have responded to this concern, except NAFTA. One area where the investment-environment interface is mired in a considerable degree of controversy is found in NAFTA Chapter 11:

Art. 1114 paragraph 1 "Nothing in [Chapter Eleven on investment] shall be construed to prevent a Party from adopting, maintaining or enforcing any measure otherwise consistent with this Chapter that it considers appropriate to ensure that investment activity in its territory is undertaken in a manner sensitive to environmental concerns".

"The Parties recognize that it is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures. Accordingly, a Party should not waive or otherwise derogate from, or offer to waive or otherwise derogate from, such measures as an encouragement for the establishment, acquisition, expansion or retention in its territory of an investment of an investor. If a

[267] The issue as to whether estoppel operates to prevent the state from arguing its entitlement to change the law is a possibility. Though estoppel applies in inter-state relations (*Eastern Greenland Case* [1933] PCIJ Ser A/B No 5), there is little authority that it applies in relations between a state and a private entity with no international personality. The validity of the legal commitment given to the foreign party is the crucial issue. In *Oil Field of Texas, Inc. v Iran* (OSCO), Award No. 258-43-1 (8 Oct 1986), 12 Iran-U.S. C.T.R. 308-24, the question of estoppel was raised but this specific issue was not argued. On estoppel, further see DW Bowett, "Estoppel Before International Tribunals and Its Relation to Acquiescence" (1957) 33 *B.Y.I.L.* 176. In a different context, see T Nocker & G French, "Estoppel: What's the Government's Word Worth?" (1990) 24 *Int. Lawyer* 409. In municipal systems, it is doubtful whether estoppel lies against the government when it acts in the public interest. For the common law on estoppel, see *Brickworks Ltd v. Warrigah Shire Council* (1963) 108 *C.L.R.* 568.

Party considers that another Party has offered such an encouragement, it may request consultations with the other Party and the two Parties shall consult with a view to avoiding any such encouragement".[268]

As general principle of law, a country's legislative sovereignty to increase its environmental standards and ensure that the latest domestic health, safety or environmental standards are applied to the investment should not be fettered by any investment treaties. However from the above text one might surmise that national or even sub-national regulators may be concerned about enacting environmental legislation that might be challenged under the Chapter 11 by other treaty members.[269] Furthermore, some authors have provided evidence that threats of Chapter 11 litigation have been used to prevent the passage of new environmental regulations.[270]

4.3.1.1 Environment Related Investment Claims under the NAFTA and ICSID

A series of case law, especially under the NAFTA, tends to give a wide interpretation on compensable "expropriation" or "taking" based on environment, and there seems to be a trend to place investment interests over public interest considerations of the host state.

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[268] Art. 1114, NAFTA, supra note 264.

[269] Mann, H. & von Moltke, K, "NAFTA's Chapter 11 and the Environment; Addressing the Impacts of the Investor-State Process on the Environment" (1999) International Institute for Sustainable Development: Winnipeg, Canada.

[270] See Rugman, A (1999), *Environmental Regulation and Corporate Strategy: A NAFTA Perspective,* (Oxford University Press: Oxford, UK). Also see Horlick, G & Marti, A.L. "NAFTA Chapter 11B: A Private Right of Action to Enforce Market Access through Investments" (1997) 14 *Journal of International Arbitration* 43-54. However, some authors find no evidence that NAFTA or other bilateral investment treaties are used to lobby against the enactment of environmental legislation or effectively establish a regulatory chill on new environmental regulation, see Mann, H. & Araya, M., "An Investment Regime for the Americas: Challenges and Opportunities for Sustainability" (2001) Yale Centre for Environmental Law and Policy; New Haven, CT.

In *Metalclad v Mexico*, [271] a project to construct an underwater waste-disposal system in a Mexican province had been given clearance by the federal government. But, agitation commenced at the site because of fears that the construction would interfere with the subterranean streams which supplied water to the people in the vicinity. For public health concerns and also because of popular protests against the construction, the provincial authorities refused permission for the construction. The tribunal, constituted under NAFTA, held that there was a taking on the facts and that compensation had to be paid.

In *Ethyl Case*,[272] the claimant company, an American investor in Canada, was the sole manufacturer of a petroleum additive in Canada. A Canadian minister announced in Parliament that he was contemplating a ban on the substance as it was a pollutant. The litigation was brought on the basis of the claim that the announcement led to the depreciation in the value of the shares of the Claimant Company and thereby amounted to a taking. The dispute was settled as a result of Canada agreeing to pay damages.

In *Santa Elena v Costa Rica*,[273] a case under the ICSID, the tribunal stated:

"Expropriatory environmental measures-no matter how laudable and how beneficial to society as a whole-are in this respect, similar to any other expropriatory measures that

[271] *Metalclad v Mexico* (2001) 40 I.L.M. 55.
[272] *Ethyl v Canada* (1999) 38 I.L.M. 708.
[273] *Santa Elena v Costa Rica* (2002) 15 ICSID Rev. 72 .

a state may take in order to implement its policies: where property is expropriated, even for environmental purposes, whether domestic or international, the states obligation to pay compensation remains."

If the above statement is to be adopted, then state responsibility may incur and the state is under a duty to pay the foreign investors "full compensation".[274] However, such statement that compensation is due for any environmental measure amounting to expropriation taken is extreme. In most states, domestic law would not accept such an absolute statement.

Most recently in *Methanex Case*, the claimant, Methanex Corp., submitted its claim to arbitration in 1999 alleging that California's ban of the use of MTBE in gasoline was a violation of the NAFTA's investment protections. In August 2005 the arbitrators unanimously dismissed Methanex's claim on jurisdictional grounds and determined further that, even if they had jurisdiction, the claim also failed on the merits. In an unprecedented step, the Tribunal also ordered Methanex to pay the United States more than $4 million in legal costs and arbitral expenses.[275] The Tribunal's decision demonstrates that U.S. trade agreements and investment treaties do not encroach on governments' legitimate right to regulate in the public interest. It should reassure those who are concerned that investor-State dispute provisions in U.S. free trade agreements

[274] For a review of what constitutes "full compensation", see *Chorzow Factory Case* (1931) 27 *A.J.I.L.* 153, supporting a full compensation for illegal taking, which equals market value plus future profit. Also in see *BP v Libya* (1977) 53 *I.L.R.* 296 for full compensation on illegal takings; On compensation for lawful takings, see *ELSI Case* (1989) *ICJ Rpts* 15 and *Lithgow Case* (1986) 8 *E.H.H.R.*.

[275] See U.S Bureau of Public Affairs' Press Release, "NAFTA Tribunal Dismisses Methanex Claim" <http://www.state.gov/r/pa/prs/ps/2005/50964.htm> Accessed Feb 20, 2007.

and investment treaties threaten state or federal prerogatives in regulating to protect public health and the environment. Moreover, the Tribunal's award of costs to the United States has the effect to discourage similarly baseless claims from being brought in the future. It is interesting to see the development of international case law in this issue.

4.3.2 Home State Responsibility to Regulate MNCs

The home state responsibility for DIM is studied in the context of the responsibility of the home state in regulating the MNCs that act to the detriment of host state while abroad. The jurisprudence of the existence of such home state responsibility is that the parent company of the faulted subsidiary in the host state is a national of the home state. One may argue whether such a responsibility under international law is recognized in the first place, as such a duty is clearly beyond the prescribed duties of states under the International Law Commission *Drafted Articles of State Responsibility for Internationally Wrongful Acts*.[276] Indeed, while much of the laws on investment related state responsibility were established in the context of the host state's duty to protect aliens, the home state's duty to regulate its corporate nationals for their overseas misconduct has long been a debatable issue under international law.

[276] Draft Articles on the Responsibility of States for Internationally Wrongful Acts, Report of the ILC on the Work of its Fifty-third Session, UN GAOR, 56th Sess, Supp No 10, p 43, UN Doc A/56/10 (2001). <http://untreaty.un.org/ilc/documentation/english/a_cn4_l602_rev1.pdf> Accessed Jan 10, 2007.

There is apparent need to establish a home state responsibility regime for MNCs. Globalization has facilitated the changes that states are no longer the exclusive participants in the international legal process even though they remain the principal actors in law making. Meanwhile, MNCs have exerted increasing power and influence over the course of international relations as well as law making. While international law has recognized that the assets of MNCs could be protected through investment treaties and through customary international law,[277] there has been little movement towards the recognition of the obligations of MNCs towards the host states and the communities in which they operate. The argument that these corporations do not have personalities under international law has often been used as a reason for the non-development of such international law.[278] Given that host developing countries are often incapable of or reluctant to harness MNCs in the fear of losing foreign investment, the development of home state responsibility on MNCs is thus important for the regulation of MNCs whose conduct otherwise remains unregulated under modern international law.

4.3.2.1 The Development of Home State Responsibility on MNCs

From a moral perspective, there is a general duty on all states, home or host, to ensure compliance with standards that are prescribed either in international treaties or in customary international law. Such duty should not be premised upon territorial limits.

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[277] MNCs are ensured protection through large quantity of dispute settlement provisions in bilateral investment treaties, which sets extra-territorial jurisdiction over investment related disputes beyond the host state's control, such as UNICTRAL and ICSID.

[278] Many of the international instruments on the obligations of multinational corporations were aborted and the existing few that did come about contain soft prescriptions. Notably the *OECD Guidelines for Multinational Enterprises* (2001) *I.L.M.* 40, 236.

The home state, being the place of MNCs' headquarters and financial centre, and receiving tax from the repatriation of MNCs' profits, undoubtedly has the capacity to control these corporations.[279] On practical levels there were also attempts by home states to control the behaviour of multinationals abroad in areas as diverse as trading with the enemy, antitrust, corruption and others, with varying success.[280] However the issue is whether the home state's capacity to control its MNCs must be exercised by the state when it has knowledge that harm could eventuate to the people and environment of another state by its MNCs. In other words, whether there is a *positive duty* of home states to ensure that their MNCs behave in accordance with the standards of, for example, those prescribed under international human rights and the environmental law. If such positive duty of states under international law is established, then failure to do so would probably incur the international liability of the home state.

From an implementation perspective, the practical difficulties need to be considered if a home state responsibility is established, for example, by requiring MNCs to adopt their home country environmental standards wherever they operate in the world. First, to monitor and investigate the environmental activities of MNCs around the globe would pose serious logistical, technical and financial problems for home country regulatory agencies. Second, many home countries, concerned about the financial welfare of their MNCs, would choose not to subject them to stricter environmental standards than those to which the domestic companies of the host countries are subject. Third, host countries

[279] Beth Stephens, "The Amorality of Profit: Transnational Corporations and Human Rights" (2002) 20 *Berkeley J.I.L.* 45.
[280] See Muchlinski, supra note 16, at 126-56; Also see Reuven S. Avi-Yonah, "National Regulation of Multinational Enterprises: An Essay on Comity, Extraterritoriality, and Harmonization" (2003) 42 *Colum. J. Transnat'l L.* 5, 17-31.

would likely raise vehement objections to such a proposal, arguing that the intrusions into their internal affairs necessary for the enforcement of home country environmental regulations would infringe on their sovereignty. Finally, if such a proposal is adopted, different MNCs operating in one country would be subject to a variety of environmental standards, depending on their respective home countries. It will not only give some MNCs competitive advantages over others, but also violates the national treatment principle under the WTO.[281]

Sornarajah (2005) has done substantial work in constructing a framework of home state responsibility for the act of its corporate nationals.[282] The home state's obligation to control its overseas nationals can be traced to the old notion of the state diplomatic protection of citizens abroad, in which the right with regard to the protection of nationals abroad was conditioned on the good conduct of the nationals, and there was a forfeiture of protection where a national engages in censurable conduct abroad.[283] Generally, states recognized this by not interfering in support of a citizen who had done wrong whilst abroad.[284] According to Sornarajah, it was a significant acknowledgement of a link between state responsibility and the conduct of the foreign national.[285] Despite

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[281] For more discussion on non-treaty environmental regulation on the conduct of MNC and the most appropriate environmental standards for MNCs to apply see Harris Gleckman, "Proposed Requirement for Transnational Corporations to Disclose Information on Product and Process Hazardous" (1988) 7 *B.U. Int'l L.J.* 89.

[282] Sornarajah M, *International Law on Foreign Investment* (2nd Ed Cambridge University Press, 2004)

[283] The older cases are discussed in EM Borchard, *The Diplomatic Protection of Citizens Abroad* (original edition 1915 Kraus Reprint Co, 1970), pp. 718-720.

[284] Thus in the *Pelletier Claim* (1887) discussed in Borchard, id, at p. 717, the United States refused to espouse the claim of a man shown to have been guilty of slave trading in the Haitian waters. Slavery is subject to universal jurisdiction as is torture. The refusal of diplomatic protection and the trial of the national for the offence may be mandated in these circumstances by modern law. Where there was taking of property of an alien in execution of a criminal fine, this was considered a non-compensable taking. Again, the idea is that the alien loses protection in these situations.

[285] Sornarajah, supra note 282, at 258-264.

the jurisprudence of old cases,[286] the international law underwent a change as power-based and state-centered positivism gained sway over international legal thought. It came to be understood that the state could only be held responsible for the acts of its own organs and not for those of its nationals. In the process, "positive duties on the home state of these foreigners dropped out of the legal picture – at least in power-based, mainstream international legal thought."[287]

Under modern international law, the principles that potentially apply to the control of nationals' conduct abroad are those responsibilities in relation to the acts of private parties that the state was under a duty to control. This category has grown up largely in the context of cases involving mob violence against a foreigner within the territory of the host state. It is clear that responsibility will arise if there are specific instructions given to nationals to engage in the harmful behavior abroad.[288] Such instructions in effect create an agency relationship as stipulated in Article 8 of the ILC *Drafted Articles of State Responsibility for Internationally Wrongful Acts* resulting in the nationals acting on behalf of their state.[289] Even if such instructions are absent, Sornarajah (2005) suggests that in certain areas, the assumption of positive duty by states for the conduct

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[286] Moore, *International Arbitrations*, vol. 2, (1898) at 2082; *Poggioli Case* before the Italian-Venezuelan Commission of 1903, Ralston, Report p. 847, 869; Borchard, supra note 283, at 217. There are also cases which recognized the liability for the acts of brigands abroad on the basis that there was a duty on the home state to suppress brigandage.

[287] Sornarajah, supra note 282, at 263.

[288] The *Nicaragua Case* (1986) ICJ Rep 14 provides obvious authority. There need not even be the link of nationals; the mere existence of control of a group would suffice. The ICJ held that control over the contras was absent and that state responsibility could not be imputed to the US. Nationality makes control easier to establish, particularly in circumstances where the national's activities are known to the home state and the home state profits from them directly or indirectly.

[289] Art. 8 of the ILC Drafted Articles of State Responsibility for Internationally Wrongful Acts reads: "The conduct of a person or group of persons shall be considered an act of a State under international law if the person or group of persons is in fact acting on the instructions of, or under the direction or control of, that State in carrying out the conduct.", supra note 276.

of their nationals abroad may be accepted. Sornarajah generalized two situations where home state responsibility may be derived. Namely, where a state knowingly permits its nationals to engage in violations of *ius cogens* principles (like torture) whilst abroad, and where a state gives active assistance to those who are known to violate or are seen as capable of violating such *ius cogens* principles.[290]

Despite the fact that there may be some grounds to support a home state responsibility to regulate their MNCs, researchers should be very careful in extending such state responsibility broadly to the situation of DIM. As has been discussed above, in specific areas such as waste dumping or nuclear testing, established international laws in the form of treaties already exist.[291] States which ratified such treaties undoubtedly owe duties for the misconduct of their nationals (including corporations). However normal industrial operations of DIM, their human health and environmental damage to the host country are often chronic and not easily identified. In other words, unless very serious human and environmental damage had been caused by the DIM, the DIM itself is not a

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[290] This area of the law was recognized in modern times in the *Rainbow Warrior Arbitration* (1990) 82 I.L.R. 499 and the *Nicaragua Case.* In *Rainbow Warrior Arbitration*, a Dutch citizen was killed, when the French agents sank the Rainbow Warrior. The damage was to an alien life and property by aliens sent into New Zealand as agents by France. The New Zealand Minister of Justice said: "What New Zealand was saying to France on this matter was, in effect, that it was a political imperative that decent arrangements be made for compensation for damage suffered in New Zealand but not by New Zealand". France paid compensation. G Palmer, "Settlement of International Disputes: The Rainbow Warrior Affair" (1989) *Commonwealth Law Bulletin* 585. In *Letelier v Chile* (1980) 488 F Supp 665, state responsibility (of Chile) for act of its agent in setting off a car bomb which killed a former Chilean ambassador was recognized. The *Pincochet Case* also recognized the liability of a head of state (Chile) for acts of torture committed in Spain. The issue of liability of Chile was not raised. But, in *Al Asdani v Kuwait*, (29 March 1996) the English court recognized that Kuwait could be liable for acts of its agents in Britain if they had caused personal injury to any resident in Britain.

[291] Example of such treaties include: Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal, (1989) 28 I.L.M. 657; Vienna Convention on Civil Liability for Nuclear Damage, (1963) 2. I.L.M. 727; Treaty Banning Nuclear Weapons Tests in Outer Space and Under Water, 480 U.N.T.S. 43; (1964) U.K.T.S. 3; Convention on Third Party Liability in the Field of Nuclear Energy (1961) 55 *A.J.I.L.* 1082, etc.

crime which has violated obligations *ius cogens*, at most it is a violation of obligations *erga omnes.*[292]

The most promising approach to hold a home state liable seems to be proving that there is a *de facto* agency relationship between the multinationals and their home state. In order to do this, there must be proof that the home state has or ought to have knowledge that its MNCs are taking out hazardous technology or with intention to transfer pollution when invest abroad, but fails to take necessary steps to regulate. However, such an argument could be hard to establish, especially in the absence of specific instructions given by the home state to its multinationals.

4.3.2.2 Parent Corporation Liabilities for Foreign Subsidiaries—the Emergence of Transnational Law Litigation

Having established that holding the home countries liable for the misconduct of their MNCs is always difficult, this section turns to consider the possibilities for victims of MNC's misconduct to seek remedies in a competent national court other than the court of the host state. Given the situation of Bhopal,[293] state level action between the India and United States is impossible because the accident was caused not by the state but by

[292] Common interests shared by the international community may be protected as obligations *erga mones*. The court in *Barcelona Traction case* included in the category of obligations *erma omnes* the international laws prohibiting aggression, genocide, slavery and racial discrimination. More recently, the ICJ has cited with approval the view of the International Law Commission that safeguarding the earth's ecological balance has come to be considered an essential interest of all states, to protect the international community as a whole. *Case Concerning the Gabciknovo—Nagymaros Project: Hungary v Slovakia*, (1998) I.L.M. 162, citing the I.L.C., Commentary to Article 33. of the Draft Articles on the International Responsibility of States. See Yearbook of the I.L.C., 1980, Vol. II Part 2, at 39, Para. 14

[293] For a chorological brief on the Bhopal tragedy and its settlement, see Bhopal Information Center: <www.bhopal.com> Accessed Nov 10, 2006.

a subsidiary of a U.S.-based MNC.[294] The mere parental and subsidiary link between the home state and the MNC in the host state may not be strong enough to justify state responsibility. Unfortunately, as is common in most developing countries, the domestic court of the host state often lacks the needed resources to protect their citizens against large-scale industrial accidents.[295] Such deficiency stems in part from the developing states' lack of regulations for dealing with industrial production, and in part from their inability to enforce the regulations they do have.[296]

By contrast to such deficiency, most developed nations (often the home countries of MNCs) have created extensive environmental regulations to protect their citizens and natural resources from the harms that can come from unrestricted industrial activities, as well as allowing recovery in tort for any negligent industrial activities.[297] In view of such reality, to seek compensation in a competent national court seems to be the ideal method for remedying the victims of environmental and personal injury damages such as in the Bhopal disaster.[298]

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[294] In the Bhopal case, the factory was owned by Union Carbide India Ltd. (UCIL) whose majority shareholder was the New York-based Union Carbide Corporation (UCC). Further in March 1985, the Government of India (GOI) has passed the Bhopal Gas Leak Disaster Act that enables the GOI to act as the legal representative of the victims in claims arising of or related to the Bhopal disaster. See Bhopal information center, id.

[295] The gap on the extent of legal protection offered to victims between U.S and India can be partially seen from the out-of-court settlement of Bhopal incident, where an amount of US$ 470 million was fully paid to Indian government by UCC and UCIL. The Indian Supreme Court, in a lengthy opinion, explains the rationale for the settlement and emphasizes that the compensation levels provided for in the settlement are substantially higher than those ordinarily payable under Indian law. See Bhopal Information Center <www.bhopal.com/chrono.htm> Accessed Jan 3, 2007.

[296] Of course, some developing states have the capacity to enforce their laws, but they do not do so in fear of driving away multinational corporations and thereby harm the local economy.

[297] Because much of the developed world shares a common legal foundation, the methods for dealing with the industrial accidents that each has created are quite similar, and they are generally rooted in English tort law.

[298] In fact in 1986, the Government of India sued UCC in the U.S. Federal Court, however the New York court declined jurisdiction to hear this tort claim, stating that "the Indian legal system is in a far better position than the American courts to determine the cause of the tragic event and thereby fix liability." Aside from noting that the majority of witnesses and evidence were in India, the Court cited the potentially heavy administrative burden on the American tribunal and the high cost to American taxpayers as further factors for hearing the claims in India. See Re Union Carbide Gas Plant Disaster at Bhopal, India in December 1984 634 F Supp. 842 (SDNY 1986), affd & mod.

The idea of transnational law litigation, as propounded by international human rights advocates, is consonant with the liberal international law theories that there are certain international values that must be protected regardless of jurisdictions, and that home countries have an implied duty (if not positive duty) to regulate their corporate nationals operating abroad.[299] Although the home states themselves are unlikely to be held liable for the misconduct of their MNCs, they are well in a position (and arguably has a responsibility) to protect the victims (domestic or overseas) through their established judicial system. In other words, by confining transnational law litigation to countries with established and independent judiciaries for the enforcement of international legal norms, transnational law litigation provides "decentralized fora for the vindication of individual rights and interests against governments, institutions, and other corporate and individual entities".[300]

Under the current national law of different countries, some courts have shown willingness to hear domestic tort cases involving foreign plaintiffs, although this practice has yet to be well accepted in any jurisdiction and the allowance of such claims appears to be extremely narrow.[301] The primary hurdles faced by victims who attempt to bring claims against MNCs in their home country include the consideration of *forum*

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809 F 2d 195 (2nd Dist, 1987).

[299] As suggested by Acevas (1997), the transnational law litigations focus on the role of individuals and domestic institutions in the international discourse of human rights conflicts. It seeks to "generate ex ante respect for rights to supplant the need for ex post accountability for human rights violations through a process of publicity, judicial acknowledgement of legal rights and transgressions, and resulting pressure on the traditional actors in the international realm-states." See Aceves, supra note 231, at 133 and 182-184 (citing Andrew Moravcisk, "Taking Preferences Seriously: A Liberal Theory of International Politics" (1997) 51 *Int'l Org.* 513).

[300] Suttles, supra note 50, at 38.

[301]See Mary Elliott Rollé, "Unraveling Accountability: Contesting Legal and Procedural Barriers in International Toxic Tort Cases" (2003) 15 *Geo. Int'l Envtl. L. Rev.* 135 , at 153-154.

non conveniens,[302] comity[303] and the "corporate veil".[304] The following section will discuss these hurdles in the context of a series of environment related cases brought under the U.S. law and the laws of other home countries of MNCs.

4.3.2.3 Environment Related Cases under the U.S. Alien Torts Claim Act

The *Alien Torts Claim Act* ("ATCA") was enacted as early as 1789.[305] It allows foreign plaintiffs to seek justice for internationally recognized crimes committed abroad by defendants who are subject to the U.S courts' jurisdiction.[306] The stakes in ATCA suits are obvious: due to the lack of law and enforcement in regulating the abuses of multinationals, the ATCA action "might represent the only means even theoretically available to prevent or receive some compensation for the loss of [the victims'] livelihoods, cultures, health and even lives".[307] Depending on how the claims are crafted, the ATCA may be effectively applied by victims in the host state to seek

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[302] The doctrine of *forum non conveniens* determines that in order to sue the MNCs in their home country, the plaintiff has to show that the court of the host state is inconvenient, and the chosen forum in the home state is better suited to hear the case. See Peter J. Carney, "Comment, International Forum Non Conveniens: "Section 1404.5"–A Proposal in the Interest of Sovereignty, Comity, and Individual Justice" (1995) 45 *AM. U. L. REV.* 415, 425.

[303] The principles of comity, although not clearly defined international law, require that deference be granted to foreign courts that have already asserted jurisdiction over a claim. See Jota v. Texaco 157 F. 3d at 156 (The US court held that due to international comity and forum non conveniens, the case was inappropriate for trial in a U.S. court), also see Ashanga v. Texaco, Inc., No. 94 Civ. 9266 (S.D.N.Y. 1994). (US court dismissed the case based on international comity as Ecuador's refusal to submit to jurisdiction).

[304] The corporate veil determines that in normal circumstances parent company is not liable for civil or criminal wrongs attributed to its subsidiary as they are in law separate legal entities under the law. For MNCs that operate in different countries, the most common practice is that the parent company set up joint venture or wholly foreign owned enterprises locally in the host country thus make the subsidiary the national of its incorporation state. Such corporate structure thus creates barriers for victims in the host state to seek remedy from the parent company in the home country. For detailed analysis on the ground to "pierce the corporate veil" see infra Chapter 4.2.3.4.

[305] Alien Tort Claims Act 28 U.S.C. §1350.

[306] The idea behind the ATCA is the United States' belief that the essential rights of man are not derived from one's being a national of a certain state, but are based upon attributes of the human person, for which reason they merit international protection in the form of convention reinforcing or complementing the protection provided by the domestic law of the American states. See Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, (1988), 28 *I.L.M.* 156.

[307] Richard L. Herz, "Litigating Environmental Abuses under the Alien Tort Claims Act: A Practical Assessment" (2000) 40 *Virginia Journal of International Law* 545 at 550.

remedy from the parent company of MNCs in their home country court. Consequently, there has been an explosive burst of litigation against MNCs on the basis of ATCA in recent years. These cases not only cover human rights violations, but also involve large scale environmental abuses.[308]

The ATCA not only contains a jurisdictional grant, but also provides a substantive cause of action for violations of U.S. treaties and the law of nations.[309] In order to sue MNCs under the ATCA, applicants must assert that (1) they are aliens, (2) they are suing for a tort claim, and (3) the tort violates the "law of nations". The third element is the most difficult to establish in most cases. In ascertaining whether a tort violates the law of nations under the ATCA, despite the claim of the courts that they would look to all the traditional sources of international law, it was suggested that in practice, the U.S courts tend to apply a definition of the law of nations to ATCA cases that is narrower than what international lawyers consider as customary international law.[310]

Based on the previous both successful and unsuccessful claims brought under the ATCA, the author identifies eight crimes which the ATCA regarded as violations of the

[308] Cases of this kind includes matters arising from Texaco's oil development in the Ecuadorian Amazon, Freeport-McMoRan's copper and gold mine in Indonesia, and Union Carbide's chemical leak at Bhopal, India, etc.

[309] The ATCA states: "the district courts shall have original jurisdiction of any civil action by an alien for a tort only, committed in violation of the law of nations or a treaty of the United States." supra note 305.

[310] See Bridgeman, "Human Rights Litigation under the ATCA as A Proxy for Environmental Claims" (2003) 6 *Yale Human Rights and Development of Law Journal*, at 6 (Bridgeman explains this point by suggesting that the ATCA defines the law of nations as "specific, universal, and obligatory". Some conduct that international lawyers may view as violating customary international law may not yet be recognized as a violation of the "law of nations" for purposes of the ATCA).

"law of nations" thus litigable under the ATCA. Namely torture,[311] summary execution,[312] genocide,[313] war crimes,[314] disappearance,[315] arbitrary detention,[316] slave trading,[317] and cruel, inhuman, or degrading punishment.[318] However, to the extent that environmental damages are concerned, the U.S courts' attitude seemed not consistent.[319]

In a contentious and hotly contested case *Beanal v Freeport-McMoRan, Inc.*,[320] an Indonesian tribal leader filed an ATCA suit in United States district court against a Louisiana-based gold and copper mining corporation, Freeport-McMoRan ("Freeport"). Beanal alleged that Freeport's environmental practices at its mine in Irian Jaya, Indonesia amounted to genocide because the practices were bringing about the physical

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[311] *Filartiga v. Pena-Irala*, 630 F.2d 876, 881-85 (2d Cir. 1980).
[312] See *In re Estate of Ferdinand Marcos*, Human Rights Litigation, 25 F.3d 1467, 1475 (9th Cir. 1994).
[313] See *Kadic v Karadzic*, 70 F.3d 232, 241-42 (2d Cir. 1995).
[314] See id. at 242-43.
[315] See *Forti v Suarez-Mason*, 694 F. Supp. 707, 711 (N.D. Cal. 1988) (Forti II).
[316] See *Xuncax v Gramajo*, 886 F. Supp. 162, 184-85 (D. Mass. 1995).
[317] See *John Doe I v Unocal Corp.*, 963 F. Supp. 880, 892 (C.D. Cal. 1997).
[318] See Xuncax, 886 F. Supp. at 187-89.
[319] See *Amlon Metals, Inc. v FMC Corp.*, 775 F. Supp. 668, 669-71 (S.D.N.Y. 1991) (dismissing ATCA claim involving the international shipment of hazardous materials for want of a "clear ... violation of the law of nations"). More recently, the same court seemed willing to consider conferring ATCA jurisdiction for environmental harms arising from "a massive industrial undertaking extending over a substantial period of time and with major consequences." *Aguinda v Texaco, Inc.*, No. 93.CIV.7527, 1994 WL 142006, at1, and 7 (S.D.N.Y. Apr. 11, 1994) (Broderick, J.) (permitting limited discovery on allegations of environmental abuse made by Ecuadorian citizens against U.S. based oil company, Texaco), vacated sub nom., *Jota v Texaco, Inc.*, 157 F.3d 153 (2d Cir. 1998). After the death of District Judge Broderick, however, District Judge Rakoff dismissed the case, observing that "plaintiffs" imaginative view of this Court's power must face the reality that United States district courts are courts of limited jurisdiction. While their power within those limits is substantial, it does not include a general writ to right the world's wrongs. *Aquinda v Texaco, Inc.*, 945 F. Supp. 625, 627- 28 (S.D.N.Y. 1996) (dismissing on *forum non conveniens* and comity grounds, and for failure to join the Ecuadorian government and a state entity as indispensable parties), vacated sub nom., Jota v Texaco (holding that the district court erred in dismissing the case without requiring the corporate defendant to accept jurisdiction in Ecuador).
[320] *Beanal v Freeport-McMoRan, Inc.*, No. CIV.A.96-1474, 1998 WL 92246, at 1 (E.D. La. Mar. 3, 1998) (dismissing plaintiff's third amended complaint with prejudice); *Beanal v Freeport McMoRan, Inc.*, No. CIV.A.96-1474, 1997 WL 465283, at 1 (E.D. La. Aug. 7, 1997) (dismissing second amended complaint without prejudice); Freeport-McMoRan, 969 F. Supp. at 383. The litigation was contentious and hotly contested. See *Beanal v Freeport-McMoRan, Inc.*, No. CIV.A.96-1474, 1996 WL 371835, at 2-3 (E.D. La. Jul. 3, 1996) (granting Freeport's Motion for Rule 11 Sanctions against Beanal's attorney, Martin Regan).

destruction of the Amungme tribe. Beanal asserted three international environmental law principles to support his cause of action including the Polluter Pays Principle, the Precautionary Principle, and the Proximity Principle.[321] The court, however, rejected these principles by suggesting that these standards had not garnered universal consensus in the international community, and they applied only to state actors. In addition, the court explained its dismissal of the case by suggesting that: firstly, the existing international environmental principles merely provide that nations shall take care to ensure internal state practices do not harm the environment beyond their borders. Secondly, genocide encompasses deliberate violence aimed at eradicating a race of people, not reckless efforts to make a profit by engaging in poor environmental practices.[322] As long as Freeport did not intend to destroy the people of the Amungme Tribe, the law of nations did not proscribe its detrimental environmental conduct, regardless of the consequences. Consequently, neither the court nor the plaintiff was able to identify, absent state action, any germane universal norm in customary international law that could establish private corporate ATCA liability for environmental practices harmful to an indigenous tribe.[323] Last but not least important, the Freeport-McMoRan court observed that: the existing international consensus on environmental damage gives states "the sovereign right to exploit their own

[321] See Freeport-McMoRan, 969 F. Supp. at 382-84.
[322] Anastasia Khokhryakova, "Note, Beanal v Freeport-McMoRan, Inc.: Liability of a Private Actor For an International Environmental Tort Under the Alien Tort Claims Act", (1998) 9 *Colo. J. Int'l Envtl. L. & Pol'y* 463, at 477-79.
[323] For a discussion of international agreements related to a human "right to a safe environment" in the context of MNC operations among indigenous peoples, see Geer, supra note 243, at 377-84. While Professor Geer concludes that the "right to a safe environment" has yet to achieve the status of customary international law, he observes a growing trend toward recognizing environmental rights in the context of international human rights norms. But see Osofsky, supra note 243, at 343-344 (arguing "that human rights protection against severe environmental harm has developed sufficiently to allow for relief under the [ATCA]").

resources"[324] and follow their own environmental and developmental policies. Thus, as long as host-government business partners, like Indonesia, refrain from regulating these practices to encourage foreign investment, it seems unlikely that the requisite state practice or universal consensus against environmental torts will emerge.[325]

In a more recent case *Flores v Southern Peru Copper Corporation*, [326] the plaintiffs brought personal injury claims under the ATCA against copper mining corporations doing business in Peru. Plaintiffs alleged that pollution from Southern Peru Copper Corporation's mining, refining, and smelting operations emitted large quantities of sulfur dioxide and heavy metals into the local air and water, resulting in adverse health impacts. Plaintiffs claimed that this violated customary international law by infringing upon their rights to life and health. The lower court rejected their claim, and the Court of Appeals affirmed the decision. The Court of Appeals noted, "As a practical matter, it is impossible for courts to discern or apply in any rigorous, systematic, or legal manner international pronouncements that promote amorphous, general principles." [327] The Court of Appeals also noted that the rights to life and health as expressed in various international instruments cited by plaintiffs are "boundless and indeterminate….They express virtuous goals understandably expressed at a level of abstraction needed to

[324] Stockholm Declaration, supra note 235.
[325] Brad J. Kieserman, "Profits and Principles: Promoting Multinational Corporate Responsibility by Amending the Alien Tort Claims Act" (1999) 48 *Catholic University Law Review* 881, at 915.
[326] *Flores v Southern Peru Copper Corp*., 343 F.3d 140 (2d Cir. 2002).
[327] Id, at 158.

secure the adherence of states that disagree on many of the particulars regarding how actually to achieve them."[328]

Despite the shortage of successful investment related environmental claims under the ATCA, there is no doubt that the existence of such a forum serves as a potential for individuals to claim compensation against MNCs, especially when gross environmental and human rights violations are involved. In fact, the long-standing *Doe I v Unocal* case[329] under the ATCA has finally resulted in the out-of-court settlement of the case in 2005, with an unspecified amount of compensation being paid to the plaintiff.[330]

4.3.2.4 "Pierce the Corporate Veil"

Another legal barrier which prevents victims to seek remedies in the home country of MNCs is the existence of corporate veil between the MNC's parent company in the home country and its subsidiary in the host country. As a general principle of corporate law in the world, parent and subsidiary companies are separate legal entities. Thus if the environmental harm is attributed to the subsidiary, the liabilities lie with the subsidiary and not the parent company. However, there are exceptions to this rule under which the court will deem it just and equitable to "pierce the corporate veil" and hold parent

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[328] Id, at 161.
[329] *Doe I v Unocal*, 963 F. Supp. 880 (Cent. Dist. Cal., 1997); *Doe I v Unocal*, 27 F. Supp 2d 1174 (Cent. Dist. Cal., 1998) In *Doe I v Unocal* the allegation in a class action was that Unocal, an American multinational corporation, had participated actively or passively in the torture, forced labour and killings of aboriginal people by Burmese military agents in the land through which the gas pipeline it was constructing for the Burmese government passed.
[330] See Earth Rights International, "Final Settlement Reached in Doe v Unocal" <http://earthrights.org/news/unocalsettlefinal.shtml> (May 10, 2005) Accessed Feb 20, 2007; Also see Unocal News Release Archive, "Settlement Reached in Yadana Pipeline Lawsuit," <http://www.unocal.com/uclnews/2005news/032105.htm> Accessed April 10, 2006.

company liable for the act of its subsidiary.[331] The willingness of home country court to apply these rules on the parent company of MNC is therefore essential for victims to seek any effective remedies.[332]

In recent years as cross-border environmental liability of MNCs is becoming an international concern,[333] several precedent-setting judicial decisions in Canada, U.S., and Europe have shown that the courts in these countries have demonstrated a willingness to hold parent corporations liable for environmental damages caused by their foreign subsidiaries.[334]

In the *Amoco Cadiz case*, [335] the District Court of Illinois held an American parent company ("Standard Oil") liable in tort for its negligent supervision of its Liberian subsidiary ("Amoco Transport") which caused the spill of crude oil damaging the

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[331] For common law on some grounds for lifting the corporate veil, see *Gilford Motor Co. v Horne* (1933) All ER Rep 109. (where ccorporate veil used to evade legal obligations); *HKSAR v Leung Yat Ming* (1999) 2 HKLRD 402 (where corporate veil used to commit fraud); *Smith, Stone & Knight Ltd. v Birmingham Corp.* (1939) 4 All ER 116 (where subsidiary is the agent of the parent company), and *DHN v Tower Hamlets* (1976) 1 W.L.R. 852 (where group of companies can be treated as a single economic entity).

[332]This thesis focuses on home country courts' attitude towards parent corporations' liability for environmental damages caused by their foreign subsidiaries, because even the host country courts are willing to pierce the corporate veil and hold foreign parent corporations liable, enforcement is difficult as the assets of Parent Corporation is not accessible in the host country.

[333] See for example, claims brought against the Texaco Company for alleged environmental degradation in Ecuador, claims brought against Royal Dutch Shell for its alleged entanglement with environmental degradation and repressive securities forces in Nigeria, etc, claims brought against the US Union Carbide Corporation for the gas leak disarster in Bhopal, etc. Supra note 217 to 219 and 293 to 295.

[334] See Joseph M Lookofsky, *Transnational Litigation and Commercial Arbitration: A Comparative Analysis of American, European, and International Law* (2nd ed. Juris 2003) at 268-88 (providing a comparative analysis of approaches to corporate veil piercing); Carsten Alting, "Piercing the Corporate Veil in American and German Law—Liability of Individuals and Entities: A Comparative View" (1995) 2 *Tulsa J. Comp. & Int'l L.* 187, 191 (same); Sandra K. Miller, "Piercing the Corporate Veil Among Affiliated Companies in the European Community and in the U.S.: A Comparative Analysis of U.S., German, and U.K. Veil Piercing Approaches" (1998) 36 *Am. Bus. L.J.* 73 (same).

[335] See Re Oil Spill By The Amo co Cadiz Off The Coast of France On March 16, 1978, MDL Docket No. 376 ND Ill. 1984, American Maritime Cases, 2123 -2199.

marine environment. In the Canadian *United Canadian Malt case*, [336] the Ontario Superior Court of Justice allowed a tort claim to proceed against an American parent corporation based on that the American parent company exercised too much control over its Canadian subsidiary which caused the leachate contamination on the site, and it is justified to "pierce the corporate veil". In the English *Cape Asbestos case* which involved tort damages arising in the South African asbestos mines owned by a subsidiary of an English parent corporation, [337] the English House of Lords unanimously decided that all the claimants could sue the parent company (Cape PLC) in England. The court held Cape liable under negligence for it knew or ought to have known that the activities of the subsidiaries would cause damage but failed to ensure the observance of proper standards of health and safety by its overseas subsidiaries. According to Braul and Wilson (2004), MNCs need to pay particular attention to the growing case law in which courts in their home countries may apply corporate and tort law principles in sometimes flexible ways to give remedies to foreign victims of environmental damage.[338] These initiatives, to the author, although not common practices in developed countries, are nevertheless commendable initiatives of the home country court to address the disparate distribution of environmental harms as a result of MNC's global operation. The growing case law on "piercing of corporate veil" in cross-border

[336] See United Canadian Malt Ltd. v Outboard Marine Corp. of Canada (2000), 34 C.E.L.R. (N.S.) 116.

[337] The Court noted that the trial would require particular attention to the parent's role in the operations of the subsidiaries, whether directors and employees of the parent had knowledge, what actions were taken or not taken by the parent and whether the defendant owed a duty of care to the employees of the subsidiary companies. See *Lubbe v Cape plc* [2000] 4 All ER 268.

[338] See generally Waldemar Braul and paul Wilson, "Parent Corporation Liability for Foreign Subsidiaries"(2004)COMM/ENV100000/608549.13,<http://www.fasken.com/Web/fmdwebsite.nsf/AllDoc/CCEFCD83EF8C66B287256B040074D5B7?OpenDocument> Accessed Jan 3, 2007.

environmental harm indicates that home country does have a role to play in regulating MNCs and contributing to the global environmental justice.

In conclusion, the author favors the strategy of promoting home state responsibility for MNCs to prevent their misconduct in the host developing countries. In fact, there are already proofs that home countries are regulating their multinationals through international law. For example, the *OECD Anti-Bribery Convention* says corporations cannot bribe foreign governmental officials or they will be held criminally responsible under the jurisdiction of either the home or the host state.[339] This is a research area that is increasingly drawing international scholar's attention and the author is expecting more home country initiatives in the regulation of MNCs and their DIM.

4.4 Environment Related Trade Claims

Environment Related Trade Claims ("ERTC") refer to those claims based on international trade disputes that are related to environment. DIM may have a distortive effect on international trade. According to the pollution haven hypothesis, given the differences from country to country in the levels of substantive environmental standards, both the domestic producers in the alleged pollution haven and foreign producers who relocate their dirty industries there enjoy a considerable cost advantage over their home

[339] Art. 4 OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1997) 37 *I.L.M.* 1 (entered into force February 15, 1999).

competitors.[340] From the perspective of environmental economics, [341] as long as the prices of products do not fully internalize production and consumption externalities, the international trade is distorted, and the gains from trade are reduced. The reality, however, indicates that developed countries are generally more successful than developing countries in seeing to it that export product prices reflect the costs of environmental damage and that of controlling that damage. Thus in the case of exports from industrial states, the environmental costs are ultimately transferred to consumers in importing states, includes the Third World states. However, in the case of Third World exports, their comparative advantage lies in the sale of high quantity, low value-added primary products, whose production often involves huge pollution. Thereby for them, in order to maintain price competitive, they do not often calculate the environmental cost into final products. Consequently, no matter import or export, it is always developing countries that "eat" the cost of pollution.

Such distortive effect has not only caused trade-based environmental claims which have been discussed above, but also given rise to environment related trade claims which is antitrust in nature. In the case of passive DIM, both the producers in the alleged pollution haven and foreign producers who relocate their dirty industries there enjoy

[340] Specifically, producers in pollution havens made less effort than their home state counterparts to change materials used, to change production processes, or to install end-of-pipe treatment equipment. They had significantly fewer programs to train their general workers in environmental responsibilities. They lagged behind in environmental training, waste management, and transportation training. They received less technical training, especially about the environment, environmental policy and administration, and clean technology and audits.

[341] From the environmental economics perspective, it is necessary to distinguish national "revenue" and "income" for the purpose of taking environmental depletion into account. The fundamental meaning of income is synonymous with "value added". When an individual, a corporation or a country, sells assets, it is an elementary mistake to view the proceeds of sale as income. The fiscal authorities of developed countries have in many cases endorsed the necessary distinction between revenue and income by allowing the deduction from revenue of an estimated "depletion allowance". By contrast many, if not most, developing country economies depend to an appreciable extent on primary production: fishing, forestry, mining, etc., where revenues derive not from value added, but in large measure from asset sales.

environmental cost advantage over their home competitors. It implied that domestic industries / producers who produce similar products will be damaged by the strong imports. Therefore, in order to balance the vigor of the import with the interest of the domestic industries, governments have vowed to "level the environmental playing field".[342]

Generally, a government could satisfy the demand for a level-playing-field by removing the perceived cost disadvantage in one of three ways. First, the government could lower its own environmental standards. Second, the government could give domestic producers a subsidy to offset their environmental compliance costs. Finally, the government could tax away the foreign producers' cost advantage by imposing customs duties ("eco-duties") on imports from countries with low environmental standards.

For the first two options, they are impractical as environmentalists quite naturally oppose relaxing domestic environmental standards, and budget problems usually limit the extent to which subsidies can be granted. Consequently, commercial and environmental interests tend to support eco-duties. This is through regulating environmental considerations that influence the application of rules prohibiting or limiting the grant by governments and other public authorities of subsidies. At the same time, the failure to integrate environmental costs into production costs could lead to charges of "environmental dumping" in international trade.

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[342] See European Chemical Industry Council, CEFIC's Trade and Environment Position Paper, (1995), <http://www.cefic.be/Position/Tea/pp_tm013.htm> Accessed Aug 18, 2006.

4.4.1 Anti-Dumping and Subsidy

4.4.1.1 Environmental Dumping

Current antidumping laws define dumping to include sustained sales at prices below the average cost of production. When dumped imports materially injure a domestic industry, governments may levy an antidumping duty equal to the "margin of dumping" –the amount by which the import price falls below the true cost of production plus profit.[343] If goods produced under low environmental standards (or in alleged pollution havens) can be viewed as goods being sold for less than their true cost of production, antidumping laws may provide a mechanism to impose eco-duties.

To the author's knowledge, so far both national antidumping laws and the rules of the WTO seem to preclude using antidumping laws to remedy the level-playing-field complaint against low environmental standards. It is mainly because the environmental compliance cost is often too small to cause "material" commercial injury to the importing country. Even if an environmental dumping case is justified, potential state liability will be held against the importing country which raises anti-dumping measures. There is no state responsibility of the exporting state, only the responsibilities attributed to the alleged manufacturers and exporters within the exporting state.

[343] See generally Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 ("Anti-dumping Agreement") Final Texts of the GATT Uruguay Round Agreements Including the Agreement Establishing the World Trade Organization 168 (1994).

4.4.1.2 Environmental Subsidy

The most common level-playing-field claims against low environmental standards is the assertion that such low standards should be treated as a form of subsidy to producers. The subsidy is the cost saved due to the difference between the producer's actual costs and the higher costs it would have incurred if required to comply with more rigorous environmental standards. As early as 1972, the OECD Council has recommended that environmental protection measures should not be accompanied by subsidies that would create significant distortions in international trade and investment, although exceptions or special arrangements may occur.[344] The GATT permits governments to impose Countervailing Duties ("CVD") on subsidized imports that cause material injury to a domestic industry. The amount of the countervailing duty should be equal to the amount of the subsidy. An article related to environment is found in the *Agreement on Subsidies and Countervailing Measures*, in which "assistance to promote adaptation of existing facilities to new environmental requirements imposed by law"[345] is defined as "non-actionable subsidies" subject to prescribed conditions.[346]

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[344] OECD Council Recommendation on Guiding Principles Concerning International Economic Aspects of Environmental Policies. (1972) C(72) 128 Annex Para. 4 and 5.

[345] Art. 8.2 (c) Agreement on Subsidies and Countervailing Measures, supra note 343.

[346] Id, Non-actionable subsidies include: assistance to promote adaptation of existing facilities to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burdens on firms provided that the assistance: (i) is a one-time nonrecurring measure; (ii) is limited to 20% of the cost of adaptation; (iii) does not cover the cost of replacing and operating the assisted investment, which must be full borne by firms; (iv) is directly linked and proportionate to a firm's planned reduction of nuisance and pollution, and does not cover any manufacturing cost saving which may be achieved; and (v) is available to all firms which can adopt the new equipment and/or production processes.

Despite the law and policy initiatives in treating environmental laxity as "subsidy",[347] the author holds the opinion that current countervailing duty laws do not seem to provide a remedy against goods produced in countries with low environmental standards. Such a legal claim would fail on several grounds. First, the current definition of "subsidy" does not appear to include the cost advantage obtained from lower environmental standards. An easy question which justifies this argument is: if lax environmental standards or enforcement could be characterized as a subsidy, what about other differences in regulatory standards among states? Often the lax environmental standards and enforcement (i.e. the financial benefit to producers) involves government inaction rather than action. A definition that treated the absence of regulation as a subsidy would be a radical change in the concept of "subsidy". It, at least in the near future, is unlikely to be accepted by most states. Second, technically in most cases the benefits of environmental laxity are generally available to all or most producers, thus not meeting the "specificity" requirement [348] for the determination of subsidy. Finally, it is very difficult to demonstrate, much less measure, the financial benefit conferred by low environmental standards. It was argued that even if the above-described barriers, such as the definition of an actionable subsidy, the specificity requirement, and the material injury requirement, to the use of CVD law against lax environmental regulation were changed to allow such use, other characteristics of its application, such as the

[347] For a discussion of countervailing duties based on environment under US Law and NAFTA, see George William Mugwanya, "Global Free Trade Vis-à-vis Environmental Regulation and Sustainable Development: Reinvigorating Efforts Towards a More Integrated Approach" (1999) *14 J. Envtl. L. & Litig.* 401 Also see Robert E. Hudec, "Difference in National Environmental Standards-the Level Playing Field Dimension" (1997) *5 Minn. J. Global Trade* 1; Laura J. Van Pelt, "Countervailing Environmental Subsidies: A Solution to the Environmental Inequalities of the North American Free Trade Agreements" (1994) *29 Tex. Int'l L.J.* 123.

[348] "Specificity" test provides that countervailing duty law was held inapplicable to any governmental benefits "generally available to all or most producers. This limitation effectively excluded most government contributions to infrastructure, as well as most economy-wide social or economic programs.

valuation of subsidies, procedural inflexibility, and the increased controversy associated with the use of CVDs, would hamper the effectiveness of CVD law in responding to lax environmental regulation.

4.5 Conclusion

This chapter intends to outline an international legal framework in relation to DIM. The international regulation on DIM intertwines with international environment, human right, trade, and investment laws. The inherent conflicting values among these fields of laws are clearly reflected in the international law of DIM.

Generally speaking, the difficulty of constructing a state responsibility / international liability on DIM is primarily due to the fact that the DIM is an act of private parties rather than states. Public international law consists of mainly treaties among states. Failure to comply with treaty obligations triggers state liability. However, it must be understood that the general level of compliance with international agreements cannot be empirically verified, and that "non-compliance" of treaties often do not reflect a deliberate decision to violate an international undertaking.[349] For example, an international environmental treaty calls on states to reduce sulfur dioxide (SO_2) emissions by thirty percent against a certain baseline. However, the real object of the treaty is not to affect state behavior but to regulate the behavior of non-state actors carrying out activities that produces SO_2—generating power, driving automobiles, and

[349] See Abram Chayes and Antonia Handler Chayes, "On Compliance" (1993) *International Organization* Vol. 47, No. 2, at 176.

the like. The ultimate impact on the relevant private behavior depends on a complex series of intermediate steps, which normally requires an implementing decree or legislation followed by detailed administrative regulations designed to secure the necessary reduction in emissions. Quite apart from political will of the member states, the construction of an effective domestic regulatory apparatus is not a simple or mechanical task. It entails choices and requires scientific and technical judgment, bureaucratic capability, and fiscal resources. It was argued that even developed Western states have not been able to construct such systems with confidence that they will achieve the desired objective.[350] Hence, a state may be considered "in compliance" with the treaty when it has taken the formal legislative and administrative steps, but at the same time, despite the vagaries of legislative and domestic politics, it is perhaps appropriate to hold it accountable for failure to do so. Furthermore, the problem of "non-compliance" may come from the treaty itself. As Chayes and Chayes (1993) recognize, if agreements are well-designed—sensible, comprehensible, and with a practical eye to probable patterns of conduct and interaction—compliance problem and enforcement issues are likely to be manageable. However if issues of noncompliance and enforcement are endemic, the real problem is likely to be that the original bargain did not adequately reflect the interests of those that would be living under it, rather than mere disobedience.[351]

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[350] Kenneth Hanf, "Domesticating International Commitments: Linking National and International Decision-making," (1992) prepared for a meeting entitled Managing Foreign Policy Issues Under Conditions of Change, Helsinki, July 1992.
[351] Chayes and Chayes, supra note 349, at 183.

Even if a state is held accountable for the violation of treaty obligations (which rarely occurs), as has been shown, the state responsibility regime generally fails to provide any meaningful redress for human, environmental, and economic loss as a result of DIM. For victims who wish to raise private actions against the wrongdoer but are inadequately protected by their domestic legal system, there exist substantial procedural barriers for them to seek justice in a competent court other than the court of the host country.

In regulating the migration of dirty industries, the author's review of international law shows a consistent trend of the relocation of state sovereign into international institutions and private powers. However, such a process seems to be more complicated than a mere "replacement of power" at global level;[352] instead, what is presented here is a framework where multiple sources of power and institutions with regulatory authority compete with each other. Under this framework, the traditional sharp lines between public and private international law have blurred. The traditional analytic divide between international and domestic law is fading, and the preference for binding instruments over voluntary or legally nonbinding norms is receding. For example, international law now aspires to directly regulate property rights through internationalization of investment interests, as reflected in investment laws on DIM. The internationalization of property rights has been accompanied by the internationalization of the discourse of human rights, and there has been a proliferation

[352] For commentary suggesting the replacement of international law systems for the nation-state at the head of the hierarchy of "law" see, for example, Richard Falk, *Law in an Emerging Global Village: A Post-Westphalian Perspective* (Transnational Publishers, 1998); Richard Falk & Andrew Strauss, "On the Creation of a Global Peoples Assembly: Legitimacy and the Power of Popular Sovereignty" (2000) 36 *Stan. J. Int'l L.* 191.

of foreign and international tribunals that subordinate the role of national legal systems in resolving a variety of DIM related disputes.

Based on these general feelings, the author's first conclusion is that the current international law is ineffective in regulating DIM. The formal institutional arrangements often lack the scope, speed and informational capacity to keep up with the rapidly changing global issues implied by DIM. Existing general customary international law provides some useful elementary concepts, but they are inadequately developed or elaborated to cope with present problems. As J.F. Rischard, the World Bank's Vice-President for Europe describes, "hierarchical international treaties and arrangements cannot keep pace with current global problems. A shift towards flatter, more network-like organizations is necessary to further sustainable development". [353]

The author's second observation indicates that the major actors of DIM, the MNCs, are left largely unregulated under current power-based and state-centered international legal system. MNCs operate in foreign states are not generally subject to strict EHS regulations and they do not always stick to their home country standards outside the territory. Home state regulation of MNCs' misconduct abroad is largely non-existent. The host states, which are frequently developing states, often lack the legal resources needed to protect their citizens against environmental harm or large-scale industrial

[353] J.F. Rischard, *20 Global Problems 20 Years to Solve Them* (Basic Books, 2002), at 157-164. (Rischard claims that "[h]ierarchies are just too slow, too rigid, too self-obsessed, too mired in a sort of perpetual bad mood. And most of the time, their leaders are in over their heads."). A Stockholm Environmental Institute and Global Scenario Group report reached similar conclusions. It argues that human civilization is moving into a "planetary" phase and that the current international structures are inadequate to address the challenges we face. See Paul Raskin et al. Stockholm Environmental Institution & Global Scenario Group , "Great Transition: The Promise and Lure of the Times Ahead" (2002), <http:// www.tellus.org/seib/publications/Great_Transitions.pdf> Accessed Nov. 20, 2006.

accidents. Such deficiency stems in part from the developing states' legislative gap, and in part from their inability to enforce the regulations they do have. In view of this reality, the pursuit of alternative sources of regulation on MNCs other than those offered by international and host state law thus becomes essential. Example of such sources of regulation may come from the home state, the market, and MNCs themselves, etc. Probably more time is needed for a cognizable framework of international law on DIM to be shaped, and probably the more effective means to regulate DIM lies in a national rather than international law context, and in private rather than public sector.

CHAPTER V DIRTY INDUSTRY MIGRATION UNDER CHINESE LAW

In previous chapter the author has discussed the international regulatory framework based on cognizable international claims arising from the migration of dirty industries. In practice, international law is rarely employed and DIM is largely regulated under the domestic law of the host country. This chapter is an examination on the regulation of DIM under domestic law of China. In particular, using the case of China, this chapter attempts to evaluate two common hypotheses relating to the host state regulation of DIM. These two hypotheses reflect the common dilemma of developing countries in the regulation of DIM.

Hypothesis 1:

China's lax environmental laws have created incentive for foreign pollution intensive corporations to migrate to China and this trend will exacerbate China's already severe environmental problems.

Hypothesis 2:

The increase in the stringency of Chinese environmental regulation would deter foreign corporations and thus decrease China's FDI inflow.

To test the validity of these two hypotheses, the author starts by examining relevant provisions under Chinese law. As previously analyzed, the migration of dirty industry migration can be roughly divided as active DIM through FDI and passive DIM through international trade. Therefore, the effective legal control of DIM depends largely on whether a country's foreign trade and investment laws have taken adequate consideration of environment. There are much literature describing China's international trade and investment regimes; however, no scholar has ever conducted a "green" review of Chinese trade and investment laws. The author's assumption is that if both areas of law adequately take into account environment concerns, then theoretically DIM shall be effectively controlled.

Other than examining the laws "on paper", this thesis will pay special attention to the deeper institutional and government organization issues surrounding the integration of environmental concerns such as monitoring, enforcement and prosecution. As some authors suggest, although countries may be willing to respond to environmental questions, and may even have enacted strong environmental legislation, they often lack the resources and technical expertise for inspection, monitoring, enforcement and prosecution needed to implement appropriate environmental legislation and to work in collaboration with the investors.[354] When evaluating the effectiveness of domestic regulation of DIM, the author concerns primarily three aspects, namely: (1) Whether such laws and regulations are in place; (2) Whether the available regulations are

[354] See generally UNCTAD, supra note 89 also see Lall, S., "FDI and Development: Research Issues in the Emerging Context" (2000) Policy Discussion Paper No. 0020, Centre for International Economic Studies, University of Adelaide.

enforced with adequate strength; and (3) How easy is it to litigate environmental and other claims as a result of DIM in domestic court?

5.1 Regulation of Dirty Industry Migration through Investment Law

Foreign investment laws are domestic laws that provide the framework of the relationship between the host country and foreign investors. Not all countries have foreign investment laws (or codes). For example, the U.S. has a reputation of being a state which has openly welcomed foreign investments yet so far the U.S. does not have an integrated foreign investment code. Foreign investments may enter and exit the U.S. at will and they are regulated by national standards. However, even in a country like the U.S. which embraces the idea that there should be no restriction on the flow of foreign investment, the inflow of foreign investment is not absolutely free. For example, the U.S.' 1976 *International Investment Survey Act*, 1988 *Omnibus Trade and Competitiveness Act* and many bilateral investment treaties all serve to either make reservations on particular sectors or restrict the specific rights of foreign investors in certain ways. [355]

There is a great deal of similarity in the legislation on foreign investment among developing states. On one hand, the laws have been enacted to provide guarantees

[355] For example, the Exon-Florio Amendment to the Omnibus Trade and Competitiveness Act, 1988 SEC. 5164. METRIC USAGE, which enables the President to prevent inflows of investment which threaten national security. Currently the U.S. prohibits foreign investment in mining and energy, 42 U.S.C. § 2133(d) (1995); broadcasting and communications, 47 U.S.C. § 310(b); intercostals transportation, 46 U.S.C. app. § 883; banking, 12 U.S.C. § 72; investment companies, 15 U.S.C. §§ 80a-7, a-8; domestic air transportation, 49 U.S.C. app. § 1378(a) (4); and military weapons technology, 22 U.S.C. § 2751. In addition, numerous other laws may address issues on foreign direct investment.

relating to the treatment and protection of the property of the foreign investor; on the other hand, these legislations also contain devices to screen the influx of foreign investment and permit entry only to investment that is considered desirable.

Under customary international law, a state has an absolute right to exclude an alien (including foreign investment) from entry into its territory. This is a right that derives from state sovereignty.[356] To what extent a state maintains an open door policy is totally the option of that state. It is well accepted that a state may institute laws and regulations to exclude foreign investments considered harmful to its interests. This includes foreign investment on dirty industries. However, under international law such legislative right of the host state may be surrendered when the state has executed bilateral or multilateral investment treaties to grant the entry and treatment to foreign investors.[357]

5.1.1 Investment Law of China at a Glance

There is no uniform foreign investment law in China that governs all types of FDI. On the contrary, each form of FDI is regulated by a specific series of laws and regulations. It is reported that there are approximately 200 major laws and regulations effective today in governing FDI.[358] One distinct feature of China's complex foreign investment laws is the corporate law oriented legislative approach, which means that the core of Chinese foreign investment laws is, actually, the foreign-invested enterprise laws,

[356] Sornarajah, supra note 282, at 142.
[357] Id.
[358] See Cao Jianming (the vice Chief Justice of the Supreme Court of China), "WTO and Construction of Rule of Law in China", preface to *WTO and the Judicial Judgment in China* (Law Press, 2001), at 10.

comprising the *Sino-foreign Equity Joint Venture Law* (2001) (the "EJV Law"), the *Sino-foreign Contractual Joint Venture Law* (2000) (the "CJV Law"), and the *Wholly Foreign Owned Enterprise Law* (2000) (the "WFOE Law") The EJV Law, CJV Law and WFOE Law are collectively referred to as the Foreign Invested Enterprises ("FIE") laws..

5.1.1.1 Sources of China's Investment Law

Although the legal sources of China's investment laws are complex, they can be generally classified into two categories, the domestic sources of investment law and international sources of investment law.

Generally speaking, Chinese domestic investment laws (or regulations that have the force of law) emanate officially from no fewer than eleven sources. These are, in an hierarchy from top to bottom: (1) the *Constitution*; (2) international agreements to which China has subscribed; (3) so-called basic laws (jiben fa) enacted by China's National People's Congress (the "NPC"), the supreme legislative body; (4) other laws (fa lv) issued by the NPC's Standing Committee; (5) interpretations of the Constitution and basic law (lifa jieshi) issued by the Standing Committee of the NPC; (6) regulations and other documents having the force of law (collectively, xingzheng fagui) issued by the State Council, China's highest administrative body; (7) ministerial regulations, and rules (collectively, bumen guizhang) issued by national ministries and commissions; (8) interpretations issued by the Supreme People's Court (sifa jieshi) and the Supreme

People's Procuracy to carry out their respective judicial and prosecutorial work; (9) regulations (difang fagui) issued by people's congresses (and their standing committees) at the sub-national level, consistent with national legal enactments; (10) regulations and other legal orders known as "difang zhengfu guizhang" issued by the executive branch of people's governments at the sub-national level; and debatably (11) individual cases decided by the Supreme People's Court and lower level courts.[359]

Apart from the domestic legislative sources, the international legal sources relating to Chinese investment law largely consists of three aspects:

(1) Multilateral investment-related agreements to which China is a contracting party

The multilateral investment-related conventions to which China is a party mainly consists of: (i) China's commitments under the *General Agreement on Trade in Services* ("GATS").[360] In addition to general commitments inscribed in the main text of GATS, China made specific commitments on "market access" and "national treatment" over the sectors inscribed in its Schedule. (ii) The *Convention on the Settlement of Investment Dispute between States and Nationals of Other States* ("*ICSID Convention*").[361] This Convention is mainly responsible for arbitration of disputes

[359] For a fuller discussion, see Albert H. Y. Chen, *An Introduction to the Legal System of the People's Republic of China* (Singapore: Butterworths Asia, 1992), pp. 77-127, and Perry Keller, "Sources of Order in Chinese Law", (1994) 42 *Am. J. Comp. L.* 711.

[360] General Agreement on Trade in Services (1994) 33 *I.L.M.* 1167. In GATS which China subscribed, trade in services is defined as four modes of service supply, among which the third mode refers to the supply of services "*by a service supplier of one Member, through commercial presence in the territory of any other Member*"; this includes foreign direct investment.

[361] Convention on the Settlement of Investment Dispute between States and Nationals of Other States (1965) 4 *I.L.M.* 524. China ratified the *ICSID Convention* on 1 July 1992.

between the host country and foreign investors. China ratified the *ICSID Convention* in 1993 but made reservation that only for disputes arising out of nationalization and expropriation does it agree to submit to the Convention. (iii) The *Convention on Establishing the Multilateral Investment Guarantee Agency* ("*MIGA Convention*").[362] The major purpose of the *MIGA Convention* is to facilitate investment for productive purpose to developing countries under conditions consistent with the developmental needs, policies and objectives of those countries. In addition to the abovementioned multilateral investment-related conventions, China is also a party to *Paris Convention for the Protection of Industrial Property*[363] and the *New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards*[364]. These conventions are closely related to foreign investment and thus also a source of Chinese investment laws.

(2) Bilateral investment-related treaties to which China is a contracting party

The main purpose of bilateral investment treaties ("BIT") is to promote and protect mutual investment, particularly investment in China. BITs that China has entered into have the force of domestic law. They largely fall into two categories: one is investment protection treaties; the other is avoidance of double taxation treaties. As of June 2006 China has entered into more than 100 BITs.[365] All of them contain fundamental provisions relating to definitions, admission, treatment standards, expropriation and

[362] Convention on Establishing the Multilateral Investment Guarantee Agency (1985) 24 *I.L.M.* 1598. China ratified *MIGA Convention* on 28 April 1988.
[363] Paris Convention for the Protection of Industrial Property (March 20, 1883, enter into force May 19, 1970), 21 U. S. T.1583, 828 U.N.T.S. 305.
[364] New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958) 330 UNTS 3.
[365] For status of China's BIT with other countries see UNCTAD, <http://www.unctad.org/sections/dite_pcbb/docs/china.pdf> Accessed Jan 14, 2007.

consequent compensation, war losses compensation, monetary transfers, subrogation, dispute settlement and so forth.

(3) International practice

In a civil law country like China, the role of customary international law may have limited effect on its domestic laws. China's *General Principle of Civil Law* (1986) does provide that: "International practice may be applied on matters for which neither the law of the People's Republic of China nor any international treaty concluded or acceded to by the People's Republic of China has any provisions".[366] It implies that certain international legal sources in the investment area such as customary international law or general principles of law may, on exceptional cases, be applied in China in judicial decisions.

The legal status of bilateral treaties, multilateral investment treaties and international practice is expressly recognized in the *General Principles of Civil Law*, Art.142 stipulates that: "[I]n the event of any inconsistencies between the international treaties or conventions to which China is a signatory countries and the civil law of China, the provisions of the international treaties and conventions should prevail."[367] Thus it has made clear that international treaties and conventions should prevail over domestic civil law provisions, and domestic civil law provisions should prevail over international practice. International practice should apply only if international treaties / conventions

[366] Art. 142 Para. 3 民法通则 [General Principles of Civil Law] (effective Jan 1, 1987) (PRC).
[367] Id., Art.142.

and domestic civil law contain no express provisions. In practice, many international treaties / conventions require contracting parties to enact domestic law pursuant to their treaty obligations. As a result, many such international laws have already been incorporated into Chinese domestic laws. They are largely in the form of ministerial regulations, national standards and rules issued by national ministries and commissions.

5.1.2 Pre-entry Examination and Approval of Foreign Investment

Like many other developing countries, in order to obtain necessary capital and technology from foreign investors without losing its tight control of the national economy, the Chinese government adopted a strict examination and approval system for receiving foreign investment. There is no specific law that regulates the entry of foreign pollution intensive industries; general environmental requirements are imposed on all inward FDIs.

5.1.2.1 Foreign Investment Industrial Orientation

The current framework law on foreign investment industrial guide is the *Provisions on Guiding the Orientation of Foreign Investment* of 2002 ("the Provisions"). It provides guidance to Chinese governments at all levels on the principles of screening and approving the inward FDI. On entry screening, the law has generally classified foreign funded projects into four categories: "prohibited"; "restricted"; "allowed" and "encouraged". Projects belonging to the "encouraged" industries enjoy the most

preferential treatments and least scrutiny in the examination and approval procedures. "Restricted" projects require certain conditions to be met before the entry can be approved.[368] "Prohibited" projects are excluded from entry. Some general principles are listed in determining the category of industries, for example, Article 6 and Article 7 of the *Provisions* provide that:

Art.6 "A project in any of the following situations shall be a restricted foreign-funded project: 1) Using technology lagged behind; 2) being adverse to saving resources and improving environment;"

Art. 7 "A project in any of the following situations shall be a prohibited foreign-funded project: …2) polluting the environment, damaging natural resources or harming human health;"

Despite the general language, it is apparent that the environmental impact of foreign investment is an indispensable factor for the initial examination and approval of FDI. To better facilitate implementation, China further promulgated its *Catalogue for the Guidance of Foreign Investment Industry* (2004). This periodically updating catalogue was designed to provide up-to-date guidance for the screening and approval of foreign invested projects.[369] A detailed list of encouraged projects, restricted projects and

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[368] For example, in certain restricted industries foreign investors are required to hold special qualifications; in certain industries the business scope of the FIE is limited or there is a ceiling on foreign ownership in the FIE.

[369] In fact, China has its 外商投资产业指导目录 [Provisional Catalogue for the Guidance of Foreign Investment Industry] since 1995. Prior to which China admitted foreign investment in accordance with very vague policy declarations provided in various foreign investment legislative instruments. The current & latest version is the 2004 Catalogue. Compared with previous versions (1995,1998, and 2002), the 2004 Catalogue not only reflected China's changing demand for foreign investment, but also integrated China's WTO commitments especially under GATS.

prohibited projects were provided and all the unspecified industries are deemed as permitted projects.

5.1.2.2 Requirement for Environmental Impact Assessment

An Environmental Impact Assessment ("EIA") report is required before the entry of foreign investment. EIA must be carried out by accredited professional consultant institutes, and must be accepted by the relevant environmental protection bureau ("EPB") before the project is approved. The grant of foreign investment will be denied if the EIA report proves that the environmental impact on the host state would be harsh.[370] In particular the EIA requirements are applicable to not only new projects, but also the rebuilding and expanding of existing projects. Thus, in the case that foreign investment results in the expansion of an existing plant, such activity is treated as new foreign investment for the purpose of EIA.[371]

5.1.2.3 Requirement on Technology

Apart from the environmental impacts, another determinative factor for the entry approval is technology. Jha et. al. (1999) in a study on a series of developing countries

[370] The submission and approval of EIA report is a requirement that applies not only to foreign invested projects but also to all new domestic enterprises / projects. Art. 13 of the 环境保护法 [Environmental Protection Law] (1989) reads: "The environmental impact statement on a construction project must assess… [and] the statement shall…be submitted by specified procedure to the competent department of environmental protection administration for approval. The department of planning shall not ratify the design plan descriptions of the construction project until after the environmental impact statement on the construction project is approved."

[371] Art.18 of 清洁生产促进法 [Law on Promoting Clean Production] (2002) provides that:" For the projects of new building, rebuilding and expanded building, appraisals shall be made with regard to the effects upon the environment, analytical argumentations shall be made about the use of raw materials, consumption of resources, comprehensive utilization of resources, and the generation and disposal of pollutants, etc., and priority shall be placed on the adoption of clean production technologies, techniques and equipments that have high use rate of resources and generating few pollutants."

find that in China some foreign firms use obsolete (sometimes banned by the parent company) rather than modern technology, leading to high energy consumption and pollution problems.[372] To import advanced technology is a major goal employed in the Chinese FDI policy. In the environment sphere, whether the technology is "clean" or "dirty" determines to a large extent which category the proposed investment falls in. Investment of a kind using outdated technologies will generally fall under restricted or prohibited foreign investment.[373] In fact, China's ratification of most international environmental treaties is also conditional upon developed country members' promise to transfer environmentally sound technology to China.

In addition to this, China has an established national policy called "The elimination of lagged product and production process".[374] In implementing such policy, the Ministry of Commerce periodically promulgates the *Catalogue on the elimination of Lagged Production Capacity, Production Process and Product* and sets deadlines before which the lagged production capacity and processes should be abadoned.[375] For example, in 1997 enforcement action has been directed at 15 categories of polluting enterprises, including paper mills producing less than 5000 tonnes of pulp per year, and tanneries

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[372] Jha, supra note 92.
[373] Goldenmann (1999) cited China as an example, where the government's schedule for foreign investment prefers industries that include coal-fired power plants adopting clean combustion technology. See Goldenman, G., "The Environmental Implication of Foreign Direct Investment: Policy and Institutional Issues" (1999) in OECD Proceedings, *Foreign Direct Investment and the Environment* at 75 (OECD: Paris).
[374] Article 12 of the Law of the PRC on Promoting Clean Production provides that: "The production technologies, techniques, equipments and products that are lagged behind, wasting resources or seriously polluting the environment shall be eliminated during prescribed time periods. The administrative departments of economy and trade of the State Council…formulates and publishes catalogues of the production technologies, techniques, equipments and products to be eliminated within prescribed time periods."
[375] Id.

processing less than 3000 hides per year,[376] the rationale being that the economic output of such enterprises does not justify the environmental damage they do in rural areas.

5.1.2.4 Public Consultation on Certain Foreign Funded Projects

Besides substantive environmental requirement, the environmental consideration is also integrated into the examination procedure for the approval of investment projects. In the latest *Interim Measures for Examining and Approving Enterprises' Investment Projects* promulgated in 2004, Article 14 provides that: "in the case of a project that may have a serious impact on the public interests, when making its examination, the approving organ shall seek opinions from the public in an appropriate manner. For especially important projects, the specialist appraisal system shall be adopted."

To summarize, a distinct feature of Chinese investment law is a strict examination and approval system for receiving foreign investment. In the environmental sphere, China's regulation of the entry of foreign industries includes both substantive and procedural assessment, i.e. admitted foreign investment shall first meet the substantive environmental conditions imposed by China, the fulfillment of these substantive conditions are embodied in the EIA report foreign investors submit to the approval authorities. In evaluating the environmental impact of an investment on the local community, the nature of industry and the technology it employs are two key issues assessed by the approval organs. The control of the admission of foreign investment is

[376] Anonymous, "Authorities get tough on polluting factories" China Daily, 31 May 1, 1997.

carried out by screening procedural rules. All foreign investment projects must pass two phased examinations and fulfill registration before the formal establishment.[377] Although the procedures for the examination seem to be complex and they vary from sector to sector, they have become more transparent. In some environmentally sensitive projects, public consultation and participation has become a common practice. The existence of such laws reduces the ambiguity and uncertainty for the admission of foreign investment. It serves to provide the Chinese government with a tool to monitor foreign investment to ensure conformity to the state plan and the goal of social development.

5.1.3 Post-entry Regulation of Dirty Industry Migration

Theoretically, after the initial examination and approval stage, industries that are allowed entry are considered beneficial to China's economy. The FIEs, upon establishment, become Chinese corporate nationals. The post-entry regulation of DIM thus transforms from the regulation of investment projects to the regulation of FIEs.

5.1.3.1 Treatment Standard and "Dual Track System"

There are two broad categories of treatment standards in foreign investment law: relative treatment and absolute treatment. The relative standard generally requires the host country to treat foreign investment no less favorably than domestic investment

[377] To establish an EJV, the potential Chinese partner must first submit project proposal and feasibility study to its administrative "department-in-charge.", which is generally a local, provincial, or national government department with responsibility for the relevant industry. Upon that department's approval, those documents must be submitted to the "examination-and-approval authority" of the proposed joint venture.

("National Treatment") or of nationals of any third country (Most-Favored-Nation or "MFN treatment"). The absolute standard requires the host country to provide foreign investment with fair and equitable treatment, full protection and security, and, at the very least, no less than that required by international law.

China generally adopts the relative standard including the MFN treatment but has been reluctant to promise national treatment standard to foreign investment. Such reluctance was reflected both in China's domestic laws and its BITs with other countries. As a result, many developed countries, including the U.S., have yet to conclude BIT with China. Essentially China is concerned that the core of the socialist economy, the state-owned enterprise ("SOE"), is not ready for the competitive challenges that come with foreign investment. Consequently, it is not surprising that unlike other states where foreign and domestic companies apply the unified laws of the host country, China has adopted a dual track legal system for governing foreign invested enterprises and domestic enterprises.

Despite the unification trend, the "dual-track system" currently adopted in China determines that in prescribed areas, FIEs and domestic corporations are regulated by separate sets of laws, foreign investment legislation and domestic legislation. Foreign investment law forms an independent system that co-exists with the laws solely or mainly applicable to the domestic-invested enterprises. Table 12 is a brief illustration on the "dual-track system"

Table 12 A Brief Illustration of the "Dual-Track System"

	Domestic Legislation	Foreign Investment Legislation
General	➢ Company Law of the People's Republic of China ➢ Partnership Law of the People's Republic of China ➢ Sole Proprietorship Enterprise Law of the People's Republic of China ➢ Law on Industrial Enterprise of Public Ownership of the People's Republic of China	➢ EJV Law ➢ CJV Law ➢ WFOE Law ➢ The Notice of the General Office of the Ministry of Foreign Trade and Economic Cooperation Concerning Issues Related to Foreign-Invested Joint Stock Companies
Enterprises Registration	➢ Regulations of the People's Republic of China on the Administration of Company Registration ➢ Regulations of the People's Republic of China on the Administration of Enterprise Corporate Entities	➢ Regulations on the Registration and Approval Procedures for Sino-Foreign Equity Joint Ventures
Labour	➢ Labour Law of the People's Republic of China; ➢ Regulations of the People's Republic of China on the Settlement of Labour Disputes in Enterprises	➢ Provisions on Labour Management of Sino-Foreign Equity Joint Ventures ➢ Provisions on Labour Management of Wholly Foreign Owned Enterprises
Tax	➢ Provisional Regulations of the People's Republic of China on Enterprises Income Tax	➢ Income Tax Law of the People's Republic of China for Enterprises with Foreign Investment and Foreign Enterprises
Foreign Exchange	➢ Regulation on the Foreign Exchange System of the People's Republic of China	➢ Rules for the Implementation of Foreign Exchange Regulations Relating to Enterprises with Overseas Chinese Capital, Enterprises with Foreign Capital and Sino-Foreign Equity Joint Ventures

Laws and Regulations compiled by the author

The co-existence of two parallel sets of laws in China raises question on the relationship between the two sets of laws. In this regard, the *Company Law* of 2005 makes it clear that where the domestic and FIE laws both have relevant provisions, regardless of the consistency or conflict between the two, the provisions in FIE laws shall apply to FIEs; on any other subject where the FIE laws are silent, the domestic legislation shall apply to FIEs.[378] This implies that except for the above-listed areas of laws, other Chinese domestic legislations apply uniformly to both FIEs and domestic companies. Therefore it is safe to say that in the environmental regulatory sphere, FIEs in China are treated the same as domestic enterprises.

In the long run, with China furthers its WTO commitments, the dual-track system in economic areas is destined to be eliminated and foreign investors will enjoy a more comprehensive national treatment. In fact, even before China's entry into the WTO, there was already a trend that China's BITs had gone beyond MFN and attempted to embody the national treatment standard. The quasi-national treatment standard provisions were found in the Sino-Great Britain BIT, Sino-Slovakia BIT, and Sino-Japan BIT. However, the application of these national treatments was accompanied by important conditions precedent, applicable only at the post-entry level and singles out the admission of new investments.[379] It is because if not so provided, all contracting parties of previous Chinese BITs may claim the same treatment under an MFN

[378] Art.218 of 公司法 [Company Law] (2005) provides that "The law [company law] applies to limited liability companies with foreign investment. Where the laws on Sino-foreign equity joint ventures, Sino-foreign cooperative joint ventures and wholly-foreign-owned enterprises otherwise provide, the provisions of such laws apply."

[379] For example, under China-Japan BIT, following the national treatment paragraph, there is a list enumerating "business activities in connections with the investment" for the purpose of application of national treatment and MFN treatment.

treatment.[380] Therefore, China's commitment to the national treatment standard to one BIT is far more than a promise to one country, but to all countries that have a BIT with China, and probably to all WTO member states, if one of the BIT contracting parties happens to be a WTO member.

5.1.3.2 Guarantees against Expropriation

An indispensable provision in any investment code is the host country's guarantees to foreign investments against expropriation. This is especially important for a communist country like China. Recalling China's modern history, the industrial bases of the newly founded People's Republic of China was obtained by the confiscation and redemption of existing industries owned by foreign and national capitalists. This process, started from 1952 and completed in 1957, was historically called "Socialist Transformation". Thus, China with a past history of expropriations is especially keen on giving such guarantees so as to correct any fear of expropriation that the investor may have on the basis of this history. Such keenness was reflected in a series of national legislations.

The *Constitution of PRC* was revised in 2004 to make important changes to its 1982 version on the guarantees against expropriation.[381] It was provided that "the state may,

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[380] See Jian Zhou, "National Treatment in Foreign Investment Law: A Comparative Study from Chinese Perspective". (2000) 10 *Touro Int'l L. Rev.* 39 120-122.

[381] In 中华人民共和国宪法修正案 [Amendments to the Constitution of the People's Republic of China] (2004), it was provided that: "The provisions in Paragraph 3, Article 10 of the Constitution of "The state may, for the public interest, take over land for its use in accordance with the law." shall be modified as "The state may, for the public interest, expropriate or take over land for public use, and pay compensation in accordance with the law." (Art. 20) "Article 13 of the Constitution: "The state protects the right of citizens to own lawfully earnings, savings, houses and other lawful property." And "the state protects by law the right of citizens to inherit private property" shall be modified as "The lawful private property of citizens may not be encroached upon." and "The state protects by law the

for the public interest, expropriate or take over private property of citizens for public use, and pay compensation in accordance with the law" (Art.22) Although the constitution applies to citizens only, to the extent that FIEs are incorporated under Chinese law, they are considered Chinese corporate citizens. To make such intentions more clear, in China the guarantees against expropriation to foreign investors were reiterated under Chinese FIE laws. For example, the EJV, CJV and WFOE laws all have the same article reads:

"The Chinese Government protects, in accordance with the law, the investment of foreign joint ventures, the profits due to them and their other lawful rights and interest in a joint venture, pursuant to the agreement, contract and articles of association approved by the Chinese Government. The state does not practice nationalization and expropriation of a joint venture; under special circumstances, the state, in accordance with the needs of social public interest, expropriates a joint venture pursuant to legal procedures and offers corresponding compensations". (Art. 2)

Despite the in-principle guarantees against nationalization / expropriation of the enterprise, a notable fact is that these provisions do not explicitly apply to property of that enterprise (though regulations regarding certain special economic zones do so provide).[382] This limitation in the language arguably places a higher burden on the

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right of citizens to own private property and the right to inherit private property." and "The state may, for the public interest, expropriate or take over private property of citizens for public use, and pay compensation in accordance with the law." (Art. 22).

[382] See 国务院关于鼓励投资开发海南岛的规定 [State Council Regulations for Encouragement of Investment in the Development of Hainan Island] (1988) Art. 4; reprinted and translated in two China Laws for Foreign Business: Special Zones and Cities 1985-1994 (CCH) P 96-203 (May 4, 1988) ("The State ... will not nationalize or expropriate the property [zichan] of investors. However, in special circumstances necessitated by social public interest requirements, the property of an investor may be expropriated," in which case "legal procedures" must be followed and "appropriate compensation" must be paid.) (Emphasis added).

foreign investor, who may be required to show that the challenged administrative act not only effectively denies him a part of his property, but takes the entire enterprise, otherwise it is not an "expropriation" under FIE laws, but ordinary bureaucratic interference to be regulated under *Administration Litigation Law*. Such distinction is important as China does not submit the latter to international tribunals such as the ICSID.[383] Indeed, such a delicate difference in wording on expropriation may partially evidence the government's unwillingness to embrace the idea of "indirect takings" as developed under other countries' jurisprudence, notably the U.S.[384]

Nonetheless, at least theoretically, it might be possible to construct a claim of constructive or creeping expropriation that would cover such smaller acts as bureaucratic interference or other undue restrictions on FIE's business and property. In particular, the author is interested in the circumstances in China when such "expropriation" is a result of environmental regulatory change, and whether controls instituted by the host state on environmental grounds can be regarded as takings which are compensable.[385] Although Chinese domestic laws are scant on this, partial indication may be found in BITs in which China is a party.

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[383] In signing the ICSID Convention, China did not require the exhaustion of local administrative or judicial remedies as a condition of its consent to arbitration under this Convention. However, it has made reservation that "only disputes arising out claims against nationalization and expropriation" Thus for disputes arising from nationalization and expropriation, there is no need for the foreign investor to exhaust all local remedies before submitting the dispute to ICSID.

[384] See Chen An, "Should an Immunity from Nationalization for Foreign Investment be Enacted in China's Economic Law?" in Ren Jianxin et al (Eds.) *Legal Aspects of Foreign Investment in the People's Republic of China* (Hong Kong: China Trade Translation Co., 1988), at 49 (Arguing that China must "take precautions against the theory and practice of the developed western countries in expanding the meaning of "expropriation"; and suggesting that, if an immunity is enacted, "then we might eventually end up with the situation in which the taking of such reasonable measures as proper increase of tax rates and land prices in the light of new conditions would be construed as an act in contravention of municipal law" and therefore give rise to liability).

[385] For a bundle of literature on takings based on environmental grounds, see J Martin Wagner, "International Investment, Expropriation and Environmental Protection" (1999) 29 *Golden Gate ULR* 465; Thomas Walde and Abe

5.1.3.2.1 Direct and Indirect Takings Based on Environment—A Comparison between China and U.S. Bilateral Investment Treaties

In order to offset the impact of environmental regulatory change on the interest of foreign investment, a traditional strategy of investors has been to negate environmental laws through stabilization clauses in the contract which seek to freeze such controls as at the time of entry and exclude the application of later improvements to environmental standards to the investment.[386] Chinese law and practice has permitted such clauses in certain limited instances, however the remedial issues on the violation of stabilization clause remains unclear.[387] In fact, the inter-state negotiations between the U.S. and China over a BIT started in the 1980s, but has been stalled for more than two decades largely over the issue of the formula for compensation in the event of expropriation.[388] To illustrate such gap, Table 13 compares the expropriation and compensation provisions in China Model BIT and U.S. Model BIT.

Kolko, "Environmental Regulation, Investment Protection and Regulatory Taking in Intenational Law" (2001) 50 *ICLQ* 811 ; but, for a general survey, see Gaetan Verhoosel, "Foreign Direct Investment and Legal Constraints on Domestic Environmental Policies : Striking a Reasonable Balance Between Stability and Change" (1998) 29 *Law and Policy in International Business* 451; Michael Anderson, "Transnational Corporations and Environmental Damage: Is Tort Law the Answer" (2002) 41 *Washburn LJ.*

[386] Sornarajah, supra note 282, at 251.

[387] See Lianlian Lin & John R. Allison, "An Analysis of Expropriation and Nationalization Risk in China", (1994) 19 *Yale J. Int'l L.* 135, 177-78.

[388] For early literatures on the proposed BIT between US and China, see Timothy A. Steinert, "If the BIT Fits: The Proposed Bilateral Investment Treaty between the United States and People's Republic of China" (1988) *2 J. Chinese L.* 405; Pat K. Chew, "Political Risk and U.S. Investments in China: Chimera of Protection and Predictability?", (1994) 34 *Va. J. Int'l L.* 615, at 661-663.

Table 13 A Comparison on the Expropriation and Compensation Articles between China Model BIT and U.S. Model BIT

China Model BIT	U.S. Model BIT
Article 4 1. Either Contracting Party may, for its public interests, nationalize or take similar measures (hereinafter referred to as "expropriation") against investments of investors of the other Contracting Party in its territory PROVIDED THAT such expropriation shall be: (a) under domestic legal procedure; and (b) without discrimination; and (c) against compensation. 2. The compensation mentioned in Paragraph 1 (c) of this Article shall be the market value of the expropriated investments at the time when expropriation is proclaimed, be convertible and freely transferable. The compensation shall be paid without unreasonable delay. 3. Investors of either Contracting Party whose investments suffer losses in connection with their investments in the territory of the other Contracting Party owing to war or other armed conflict, revolution, a state of general emergency, revolt or any similar events, shall be accorded treatment not less favorable than that accorded by the latter Contracting Party to the investors of a third state.	*Article 6: Expropriation and Compensation*[389] 1. Neither Party may expropriate or nationalize a covered investment either directly or indirectly through measures equivalent to expropriation or nationalization ("expropriation"), except: (a) for a public purpose; (b) in a non-discriminatory manner; (c) on payment of prompt, adequate, and effective compensation; and (d) in accordance with due process of law and Article 5 [Minimum Standard of Treatment](1), (2), and (3). 2. The compensation referred to in paragraph 1 shall: (a) be paid without delay; (b) be equivalent to the fair market value of the expropriated investment immediately before the expropriation took place ("the date of expropriation"); (c) not reflect any change in value occurring because the intended expropriation had become known earlier; and (d) be fully realizable and freely transferable. 3. If the fair market value is denominated in a freely usable currency, the compensation referred to in paragraph 1 shall be no less than the fair market value on the date of expropriation, plus interest at a commercially reasonable rate for that currency, accrued from the date of expropriation until the date of payment. 4. If the fair market value is denominated in a currency that is not freely usable, the compensation referred to in paragraph 1 – converted into the currency of payment at the market rate of exchange prevailing on the date of

[389] Article 6 [Expropriation] is to be interpreted in accordance with Annex A and B.

	payment – shall be no less than: (a) the fair market value on the date of expropriation, converted into a freely usable currency at the market rate of exchange prevailing on that date, plus (b) interest, at a commercially reasonable rate for that freely usable currency, accrued from the date of expropriation until the date of payment. 5. This Article does not apply to the issuance of compulsory licenses granted in relation to intellectual property rights in accordance with the TRIPS Agreement.

Source: Chinese BIT Abstracted from Agreement between the Governments of the People's Republic of China the Government of the State of Bahrain Concerning the Encouragement and Reciprocal Protection of Investment; U.S. BIT abstracted from the latest updated U.S. Model BIT by The Department of State and the Office of the United States Trade Representative (USTR), released on Feb 5, 2004, <http://www.state.gov/e/eb/rls/prsrl/2004/28923.htm> Accessed Feb 20, 2007

A preliminary comparison shows several differences. Firstly, the U.S. Model BIT provisions are far more sophisticated than that of China. It provides clear guidance on what constitutes "expropriation" (in its Annexes A and B), what does the compensation include, and how to define market value. All these elements are lacking in China's Model BIT. Second, in defining the right to expropriate, China's model BIT uses positive wording, i.e. "a state may …nationalize…provided that…", while U.S. applies a negative wording, i.e. "neither party may expropriate or nationalize…unless…", although the two expressions come up with largely the same conditions on expropriation. This reflects a general attitude among developing countries in keeping their sovereign rights of expropriation. Furthermore, in defining the conditions on expropriation, the U.S. BIT uses the "minimum standard under international law" as a supplementary to "due process of law". This implies that the expropriation should conform to whichever is higher. However, such a reference to the international minimum standard is missing in China's BIT. Fourth, on the compensation criteria for

expropriation, China does not use the wording of *Hull Formula* (i.e. "Prompt, Adequate and Effective"[390]) as appeared in U.S. BIT, nor does China employ the wording of "appropriate" compensation as espoused by many developing countries. Instead, China uses a separate article to define compensation as "the market value of the expropriated investments at the time when expropriation is proclaimed", and the compensation does not include the interest "accrued from the date of expropriation until the date of payment" as provided under the U.S. BIT. Finally and most important, the U.S. Model BIT clearly distinguishes "direct expropriation" (which includes the formal transfer of title or outright seizure in Annex B Art. 3) and "indirect expropriation" (effect equivalent to direct expropriation without formal transfer of title or outright seizure in Annex B. Art. 4). In particular, it's Annex B Art. 4(b) provides that:

> *"Except in rare circumstances, nondiscriminatory regulatory actions by a Party that are designed and applied to protect legitimate public welfare objectives, such as public health, safety, and the environment, does not constitute indirect expropriations".*

The existence of such article effectively protects the national legislative sovereignty and extinguishes the foreign investor's claim that the raising of environmental standards may result in compensable indirect taking. Despite the above clarification, Article 12 of the U.S. Model BIT confers the contracting parties the right to challenge each other's domestic laws if such laws inappropriately "*encourage investment by weakening or*

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[390] Cordell Hull, who was Secretary of State during the Mexican expropriations of 1938, stated this to be the standard in a letter to his Mexican counterpart. Ever since, the standard has been espoused by the United States and has been referred to as the Hull doctrine of compensation.

reducing the protections afforded in domestic environmental laws." Given the fact that the environmental laws in developing countries are generally lower than that of the U.S, such provision in fact entitles the U.S. unilateral rights to interfere with other countries' domestic laws.

With regard to whether regulatory environmental change would constitute an expropriation under China's foreign investment treaties, from the scant language in China's Model BIT, it can only be presumed that China intends to keep adequate regulatory space for its new laws and regulations. Thus even if a specific investment agreement between a foreign investor and China contains a stabilization clause against environmental regulatory change, an expropriation may still be justified when China introduces new environmental laws and bases its regulatory actions according to the due process of law. In fact, ever since China's economic reform in 1978 the country has not nationalized or expropriated any foreign invested entities. Thus there is no evidence showing that China has formally accepted the idea of expropriation (direct or indirect) based on regulatory change. Meanwhile, it remains an arguable point whether regulatory change or any sort of bureaucratic interference would fall in the definition of compensable "expropriation" under China's BITs.

5.1.3.3 Guarantees on Dispute Settlement

Provision for the resolution of disputes is a key feature of any foreign investment legal system. The Chinese guarantees on investment dispute settlement generally involve

three types of disputes: i.e. the investor-investor dispute, the state-state dispute and state-investor dispute.

5.1.3.3.1 Investor-Investor Dispute

The investor-investor dispute mainly refers to the dispute between the foreign and Chinese parties within the same joint venture.[391] The subject matter of such dispute mainly involves the rights and obligations of each party contained in the joint venture agreement. Following the Chinese tradition to amicably resolve the dispute, Chinese law strongly encourages the parties to resolve the matter through consultation / mediation. In case the consultation / mediation fails, parties can resort to arbitration based on either the pre-existing arbitration clause in the joint venture agreement or an *ad hoc* arbitration agreement formed after the dispute. Litigation of a dispute is possible, but is usually the last resort. To bring a dispute involving a foreign economic contract to the Chinese court, the foreign economic contract must not include an arbitration clause and a written agreement to arbitrate must not later be reached. In practice, few foreigners or foreign countries have chosen to litigate on their contractual disputes. If the parties decide to go to court for the final dispute settlement, it was stipulated that disputes arising from an EJV contract, CJV contract, a Sino-foreign joint exploration and exploitation of natural resources contract must be tried by a Chinese court.[392]

[391] In the case when a joint venture contract is signed between the foreign investor and a Chinese local government on behalf of its state-owned enterprise, such contract is commercial in nature and the state sovereign immunity rule does not apply, such dispute belongs to “investor-investor” dispute in the author’s definition.
[392] Art. 246 民事诉讼法 [Civil Procedural Law] (effective Apr 9, 1991) (PRC).

5.1.3.3.2 State-State Dispute

A state-state dispute often involves the interpretation or application of the BIT. China Model BIT provides that in case a state-state dispute arises, it should be settled first through diplomatic channels. If not successful, then "it shall upon the request of either Contracting Party be submitted to an arbitral tribunal". China is a party to the *New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards*,[393] thus the arbitral award given by an international tribunal can be enforced by the Chinese domestic court. [394]

5.1.3.3.3 State-Investor Dispute

In the case of a state-investor dispute, i.e. the dispute arises between the Chinese government and a foreign investor, the cause of dispute generally involves the violation of investment treaties between the parties. Examples of such violation include civil strife in the State, alleged nationalization and expropriation, or the denial of justice by a state's political subdivisions, etc. In dealing with state-investor dispute generally, China allows the free choice of parties on the forum for dispute settlement. In the absence of such agreements, the China Model BIT first requests that the dispute be settled amicably through negotiations between the parties. If not successful through negotiations within five months of the date of resort to negotiations, China requires the

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[393] Note that China made a few reservations to the Convention, which included that China would only enforce the Convention on the basis of mutual recognition (thereby refusing to enforce an award in a non-New York Convention country), and that the Convention would only apply to disputes recognized under Chinese law.

[394] For the procedure on enforcement of foreign arbitral awards, see Art. 262 to 269 of Civil Procedural Law, supra note 392.

foreign investor to submit the dispute to the competent court of the contracting party. Although in theory the foreign investor would insist on a court other than in China, in practice since the corporation was established and operates in China, the Chinese court often proves to be the most appropriate forum for the settlement of dispute.

5.2 Regulation of Dirty Industry Migration through Trade Law

China's defense against foreign "dirty" products can be traced to the notorious First Opium War (1839-1842). The cause of the war was the China's Qing Empire's ban on the importation of opium from British on the ground of public health. This resulted in the British use of force to make China open its market to the western hegemonic powers. In the *Treaty of Nanjing* (1842) after the loss of war, China ceded the island of Hong Kong to the British; abolished the licensed monopoly system of trade; opened 5 ports to British residence and foreign trade; limited the tariff on trade to 5 percent ad valorem; granted British nationals in China extraterritoriality (exemption from Chinese laws); and paid a large indemnity. In addition, Britain obtained Most-Favored-Nation treatment, which entitled the British to receive whatever trading concessions the Qing empire grants to other foreign powers by and later. The *Treaty of Nanjing* was followed by other incursions, wars and treaties that set the scope and character of an unequal relationship for the ensuing century of which the Chinese would call "national humiliations."[395] If the opium can be viewed as a "dirty" product based on its narcotic

[395] For a history of the China Opium War and its implication on the Chinese subsequent reforms see generally Waley, Arthur, *The Opium War Through Chinese Eyes*, (Stanford, CA: Stanford University Press, 1968).

effects on human health), then the *Treaty of Nanjing* can be seen as the cost of China for its first fight against the migration of dirty industry.

Of course no real sense of DIM exists at colonial times when western powers themselves were at their early industrialization stage. However, according to Sornarajah (2004), the use of overt or covert force in order to coerce settlement of disputes continued even after the Second World War into the post-colonial period, and there were spectacular instances of such uses of force.[396] Moreover, it was suggested that the power-based international law could be manipulated by the hegemonic powers to express their ideas and secure their key interests.[397] When neo-liberal ideas which advocate unobstructed flow of trade and investment outweighed other ideologies and became the mainstream of current economic globalization, rules that are generally favorable to the protection of capital exporting state and MNCs were devised and then fixed in international trade and investment legal instruments.[398] These rules can then be utilized by capital exporting nations and their MNCs to justify their continuous pursuit of trade and investment interests in the host states. This is a reality that China and other developing countries must live with under the contemporary international trade and investment regime.

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[396] See Sornarajah, supra note 282, at 35-40 (citing the incident involving the *Rosemary* [1953] 1 WLR 246 , in which the overthrowing of the governments of Mosadegh in Iran and Allende in Chile were the obvious instances of forcible intervention to assist foreign investment in recent history, Sornarajah also cites the case with the US invasion of Iraq in 2003 to suggest that capital-exporting countries, which operated outside the colonial context, were keen to devise some legal justification for pursuing the claims of their nations and for the use of force if such use became necessary.

[397] Id.

[398] The attempts to set of such rules are apparent in the recent WTO ministerial meetings in Seattle in 1999, Doha in 2001 and Hong Kong in 2005, as well as the negotiation over a Multilateral Agreement on Investment (MAI) by the OECD in 1995. Many of these occasions are severely disrupted by the widely reported Anti-WTO demonstrations as well as protests from developing countries.

5.2.1 International Sources: China's WTO Commitments Relating to Environment

China became a WTO member in 2001. Two agreements among the WTO members, the SPS Agreement and the TBT Agreement, oblige its members to promote clear and effective notice of EHS standards, greater public participation in standard setting, as well as consistent and transparent enforcement. The SPS Agreement addresses measures taken to protect humans, animals, and plants from certain risks to life and health, including risks arising from additives, contaminants or toxins in foods. The TBT Agreement addresses all voluntary and mandatory standards for products, other than any that qualify as sanitary or phytosanitary measures under the SPS Agreement, which indirectly impact free trade (i.e., create "technical barriers to trade" without directly regulating trade as such). These include product content, packaging, and labeling measures, etc. Accordingly, China is required to publish its EHS standards likely to affect international trade, including measures to regulate the import, export, and sale of goods, in a way that allows other members and entities participating in international trade to become acquainted with these requirements. The WTO members also must provide a reasonable interval between the publication and entry into force of these requirements to give trading partners the time to adjust their products and manufacturing methods accordingly.

The two Agreements also encourage members to base domestic requirements upon effective and appropriate international standards, and grant a presumption of validity to

domestic measures that are based on such standards. These agreements recognize the rights of the WTO members to establish national requirements that are more stringent than international standards. However, such requirements must conform to the WTO rules that protect against "unnecessary, unjustified, arbitrary, and disguised discrimination"[399] toward products of other WTO Members.

Currently in China the initiatives to incorporate international / developed-country standards are at an early stage, but are growing quickly. In China's *Environmental Standards Management Measures* (1999),[400] it was provided, among other things, that Chinese regulatory bodies may use existing international standards and standards of developed countries when formulating certain new environmental standards.[401] In practice, foreign experts are increasingly involved in Chinese legislative process, although such practice has not been stressed as a necessary element of the law drafting process; it represents a greater realization by the Chinese that the experiences of other countries are important for the insurance of WTO-consistency of its domestic legislation.

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[399] GATT Art. 20 Chapeau.

[400] State Environmental Protection Agency ("SEPA") promulgated 环境标准管理办法 [Environmental Standards Management Measures] on Jan 5, 1999. These Measures mirror a similar concept included in the 标准化法 [Standardization Law], (effective Apr 1, 1989). Article 4 of the Law provides that "the State shall actively encourage the adoption of international standards." For implementation of Article 4 of the Law, generally, experts typically point to 采用国际标准管理办法 [Several Regulations Promoting the Adoption of International Standards and Advanced Foreign Standards], promulgated by the State Administration of Quality Supervision and Inspection on Dec 4, 2002.

[401] Id, Art. 17(1)(iv).

5.2.2 Domestic Trade Laws on the Import of Environmental Sensitive Goods

The framework law of China on international trade is the *Foreign Trade Law* (amended in 2004). The law applies to foreign trade and the protection of foreign-trade-related intellectual property. [402] It governs the "the import and export of goods, technology, and the international trade of services" (Art. 2). In its Chapter III titled "the Import and Export of Goods and Technology", Art.16 provides that:

"The state may restrict or forbid the import or export of relevant goods or technology if:
2)…it is necessary to restrict or forbid the import or export for the purpose of protecting human health or security, protecting the life or health of any animal or plant, or protecting the environment;
4)…it is necessary to restrict or forbid the export of any of the exhaustible natural resources that are in short supply or subject to effective protection;"

These two provisions are in fact articles copied from the GATT Art XX (b) and (g). In the control over trade in services, China may restrict or prohibit the trade of relevant international services if:

"it is necessary to restrict or prohibit it for the purpose of protecting human health or security,

[402] China's laws concerning the protection of intellectual property are not, strictly speaking, foreign trade or investment measures, but rather part of the country's domestic legislation. The reason for the inclusion of the protection of foreign-trade-related intellectual property was principally to encourage the transfer of foreign technology to China and only secondarily to provide protection to Chinese citizens.

protecting the life or health of any animal or plant, or protecting the environment;" (Art. 26.2)

More concrete trade restrictions relating to environment was scattered in a variety of general and special laws, for example, the *Environmental Protection Law* (1989) ("EPL") provides the administrative liability of the importer for transferring dirty technology and equipment to China.[403] The *Law on the Prevention and Control of Atmospheric Pollution* (2001) and the *Law on Prevention and Control of Water Pollution* (1996) both prohibit the import and use of obsolete equipments and technologies.[404]

Furthermore, a special law may, for the environment and industrial efficiency purposes, preclude certain small enterprises from engaging in certain businesses. The rationale being that for prescribed pollution intensive industries which are best for unified programming and scaled economy, if individual production capacity cannot reach a certain level, their accumulated environmental harm shall outweigh the overall economic benefits.[405]

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[403] Art. 35 of EPL provides that: "Any violator of this Law shall, according to the circumstances of the case, be warned or fined by… for any of the following acts: …(4) Importing technology or a facility that fails to meet the requirements specified in the state provisions concerning environmental protection; or …(5) Transferring a production facility that causes severe pollution for use by a unit that is unable to prevent and control pollution."

[404] Art. 35 of the 大气污染防治法 [Law on the Prevention and Control of Atmospheric Pollution] (2001) reads: "If any unit, manufactures, sells, imports or uses equipment that is prohibited from being manufactured, sold, imported or used or employs production techniques that are prohibited from being employed, the competent department … shall order to set it right; if the violation is serious, the competent department …shall submit a proposal to the people's government at the same level that it, within the limits of its power authorized by the State Council, order the unit to suspend operation or to close down."

[405] For example Art. 23 of the 水污染防治法 [Law on Prevention and Control of Water Pollution] (1996) provides that: "The State shall forbid construction of any small enterprises, devoid of measures for prevention and control of water pollution that seriously pollute the water environment, such as chemical pulp mills, printing and dyeing mills, dyestuff mills, tanneries, electroplating factories, oil refineries and pesticides manufacturers."

In China FIEs are more export-oriented and have their own import and export rights. Therefore it is necessary to screen their trading activities to ensure the post-entry DIM does not occur through international trade. In 1998, the MOFTEC (now MOFCOM) issued a *Circular* which requires certain imported materials for processing to obtain in advance approval by the MOFTEC.[406] According to the *Circular*, contents enlisted under the "restricted category" are mainly those which are "liable to cause pollution, with narrow international marketability and liable to effect impact on the export of commodities for general trade".[407] Although the *Circular* is addressed to all Chinese enterprises, it has direct impact on many FIEs engaging in the processing industries, as they need to import substantive raw materials from overseas for processing.

5.2.3 Domestic Trade Laws on the Export of Environmental Sensitive Goods

Besides import, Chinese law also imposes EHS requirement on enterprises which export industrial products. This has the effect of preventing DIM from China to other countries. In the *Decree of General Administration of Quality Supervision, Inspection and Quarantine* (2001), the exporting enterprises are classified into first-, second-, and third-class. The first-class enterprise was defined as, *inter alia*, "whose products have passed random safety, health, and environmental protection inspections and are proved to have met relevant requirements," and the "pass rate of the yearly block inspection by

[406] See MOFTEC, 对外贸易经济合作部关于印发来料加工装配项目分类指导目录及有关问题的通知 [Circular on Printing and Distributing the Catalogue Guide List for the Projects of Processing and Assembling with Materials Provided and Relevant Issues] (1998) (now abolished).
[407] Id, Art. 5.

the inspection and quarantine authority is no lower than 98%."[408] As a general practice, the inspection and quarantine authority will conduct random block inspection, or inspection for each batch of industrial products to be manufactured by enterprises subject to classified administration according to their different classes. Industrial products manufactured by enterprises ranked in the first-class will be subject to minimal inspection rate while those manufactured by third-class enterprises will be subject to a very high rate of block inspection.[409]

5.2.4 Domestic Law on the Import of Hazardous Waste

The treatment of waste dumping is addressed separately under Chinese law. Liabilities from administrative, civil to criminal may be imposed on the offender according to the seriousness of its harmful effect.

The *Law on the Prevention and Control of Environmental Pollution by Solid Waste* (1995) is China's domestic law enacted pursuant to its international obligations under the *Basel Convention*. The law prohibits the import of solid wastes (Art. 24), the import of backward equipment and techniques for its treatment (Art. 25, 26), and the re-transfer of such equipment / technique within the China territory (Art. 27). According to this law, the competent administrative department of environmental protection under the State Council shall, in conjunction with the competent administrative department of foreign

[408] Art. 6 (5) and (7), 国家品质监督检验检疫总局公告[Decree of General Administration of Quality Supervision, Inspection and Quarantine] (2001).

[409] Id, Art. 14 reads: "The first-class enterprises: the yearly block inspection rate shall be 5% to 15%; the second-class enterprises: the yearly block inspection rate shall be 30% to 40%, the third-class … 60% to 100%".

economic relations and trade under the State Council may, from time to time publish both positive and negative list to control solid waste from abroad. An example of such list is the *Notice on Strengthen the Management of Import of Used Mechanical and Electrical Products* (1997). In the most serious case, the *Criminal Law* (1997) provides fixed term imprisonment of more than 10 years for importing solid wastes.[410]

According to the *Annual Statistics Reports of Chinese Customs* ("ASRCC") from 1990 to 1995, China imported a total of 25 million tons of industrial waste, of which 50 percent came from member countries of OECD, 16 percent came from Hong Kong, Taiwan, South Korea, Singapore and Macau and another 34 percent from other regions, mostly Eastern Europe. It is important to note that some FIEs in China have been directly involved in waste import, processing and disposal.

In one of the reported cases, in January 1997, the Shanghai First Intermediate People's court sentenced William Ping Chen (a U.S. citizen), chairman of a China-U.S. joint venture ("Unity Paper Co. Ltd"), to 10 years in prison for dumping foreign waste in China.[411] Chen was the first person to be held criminally liable since China's law against waste import went into effect in April 1996.[412] Wu and Hang (1998) comment

[410] Art. 339 of 刑法 [Criminal Law] (1997) reads: "Whoever, in violation of the regulations of the State, has solid waste from abroad dumped, piled up, or treated within the territory of China shall be sentenced to fixed-term imprisonment of not more than five years or criminal detention and shall also be fined; if a major environmental pollution accident is caused, which leads to heavy losses of public or private property or serious harm to human health, he shall be sentenced to fixed-term imprisonment of not less than five years but not more than 10 years and shall also be fined; if the consequences are especially serious, he shall be sentenced to fixed-term imprisonment of not less than 10 years and shall also be fined".

[411] On 13 Jan. 1997, the First Intermediate Peoples Court of Shanghai City sentenced William Ping Chen, an American citizen, to 10 years in imprisonment and a fine of 500,000 yuan for committing a crime of smuggling into China 16 containers of wastes, including 238 tons of household wastes and some hospital wastes, both are prohibited by Chinese law. William Ping Chen was ordered by the court to be deported.

[412] 固体废物污染环境防治法[Law of People's Republic of China on Preventing and Controlling Environmental

this case as sending "a clear signal to the outside world that China has finally gotten serious about ending foreign waste dumping".[413] It can be expected that more effective control of DIM in the form of waste dumping can be achieved through the use of law.

5.2.5 Domestic Law on the Transfer of Dirty Production to Suppliers

A critical issue remains as whether China's trade law has any measure to regulate the passive DIM. In a typical passive DIM, foreign trader (or an FIE in China) does not *per se* engage in the dirty production, but leave such dirty production to its Chinese suppliers (or partners). The problem arises as whether there is any legal base for holding the foreign traders (or FIEs) responsible for their supplier's environmental damage. This argument sounds difficult but the rationale of such regulation is that without the buyers creating the market, the suppliers might not have engaged their production in a manner which causes damage to human health and environment.

Under Chinese law, in the case the dirty production occurs solely within an FIE in China, there is no doubt that the FIE as a whole shall be held accountable for any environmental damage attribute to it. However, where the FIEs contract the dirty production out to other corporations, there is virtually no way to hold FIEs accountable for their suppliers' misconducts.

Pollution Caused by Solid Waste] (effective April 1, 1996).

[413] Changhua Wu and Simon Huang, "The Emerging Nexus of Environment, Development and Human Rights in China: A Case Study of Foreign Waste Dumping" (1998) The Nautilus Institute for Security and Sustainable Development Berkeley, California, <http://www.omced.org/cases/case_Wu.pdf> Accessed Jan 14, 2007, at 9-10.

Unfortunately, evidence has shown that passive DIM is rampant in China as a result of most foreign traders and FIEs pursuing the lowest purchasing price without differentiating their supplier's environmental performance. This thesis argues that in contracting out the dirty production activities; foreign traders hold not only a moral, but also potential legal responsibility to take into consideration the environmental performance of their suppliers. To illustrate this point, the author compares three scenarios and their respective consequence under Chinese law (see Table 14):

Table 14 Legal Scenarios Comparison under the Chinese Law

Scenario	Victim	Legal Consequences
Buying a car with knowledge that it is stolen	Owner of the lost property	Criminal Liability: Criminal Law Art. 312[414]
Buying a software with knowledge that it is faked	Owner of copyright	Civil Liability with reference to: Regulations for Computer Software Protection Art. 30[415]
Buying from suppliers with knowledge they are violating the EHS standards	People's health, safety and the environment	Administrative, Civil or criminal liability with reference to Criminal Law Art. 345 Para 3[416]

Prepared by the author according to the Chinese Law

[414]Art. 312 of Criminal Law (supra note 410) reads as: "Whoever, while clearly knowing that it [property] is booty obtained through a crime, conceals, transfers, purchases, or sells it for the criminal shall be sentenced to a fixed-termed imprisonment for no more than three years, criminal detention or public surveillance, and concurrently or independently be sentenced to a fine."

[415]Art. 30 of 计算机软件保护条例 [Regulations on Computer Software Protection] (2002) provides that if the possessor of the reproduction is unaware or has no reasonable basis to believe that the software infringes the copyright of a software product, there is no obligation of damages on him, the legal responsibility of him is to stop using and destroy the infringing reproduction. But if doing so would cause large loss to the user of the reproduction, the user of the reproduction, the user of the reproduction could continue using it after paying reasonable licensing fees to the copyright owner of the software concerned.

[416] Art. 345 Para 3 of Criminal Law (supra note 410) stipulates that: "Whoever, for the purpose of profit, illegally purchases forest trees which clearly known by him to be cut down or denuded in forest area shall, if the circumstance is serious, be sentenced to a fixed term imprisonment of not more than 3 years, criminal detention or public surveillance, and concurrently and independently to be sentenced a fine, if the circumstances are especially serious, the offender shall be sentenced to a fixed term imprisonment of not less than 3 years and no more than 7 years and concurrently and independently to be sentenced a fine."

As can be seen, there is some similarities in the above three scenarios, in all three scenarios the buyers are not in good faith and the purchases *per se* infringe other people's interests. In the third scenario case, the buyer actually contributes to the creation of a market which causes damage to other people's health, safety and the environment.

Although there is no direct legal source which catches these buyers. Some related provisions under Chinese law which imposes administrative, civil or criminal liability on the buyers.[417] In the event FIEs bought products that were made in violation of EHS laws, they are caught only in special circumstances such as the purchase of illegally cut forest (Art. 345 Criminal Law) or hazardous wastes (Art. 339 Criminal Law). Despite that the existence of these provisions casts some light on the possible liabilities for purchasing "dirty" products, scholars should be careful in extending the above scenarios broadly to the general outsourcing activities of FIEs. Currently for purchasers who knowingly bought goods and materials whose production process involves excessive untreated pollution or other unethical conducts (for example child labor), their potential legal responsibility is still insecure.

5.3 Regulation of DIM through Environmental Law

In the environmental law arena, the key in regulating DIM lies in the effective regulation of industrial pollution. In China the government's efforts to control industrial

[417] Supra note 414 to 416.

pollution is by adopting industrial pollution control measures through the State Environmental Protection Administration ("SEPA"). Generally, the Chinese environmental system tackles pollution through measures that reflect both strategic and tactical responses. The former involve large-scale centralized facilities that either reduce the overall pollution level (e.g. the implementation of district heating schemes in cities in the north of the country) or directly address potential sources of pollution (e.g. centralized sewage and solid waste treatment plants).[418] These are best suited to cities and larger towns, where there are more potential polluters, and where economy of scale benefits can be obtained. However, activities that require special pollution control procedures or which are dispersed, such as township enterprises in rural areas, require different measures based on the needs of individual factories or enterprises. These measures include the raising of environmental standards for newly-constructed industrial projects; the phasing out of polluting enterprises; and the introduction of pollution charges, etc.[419] In practice, the environmental protection bureaus ("EPBs") at different levels play an essential role by exercising their administrative power in granting permits, issuing licenses, monitoring emissions and discharges, and collecting discharge fees.

[418] Qu, G.P., *Environmental Management in China* (United Nations Environment Program and China, Environmental Science Press, Beijing 1991).

[419] For an excellent survey of these pollution control efforts and of their limitations, see Jian Xie & Wang Jinnan, "Environmental protection policy in a market economy" (1999) *环境观察与评论 Huanjing Guancha Yu Pinglun* 1(1): 40 – 51; Vermeer EB., "Industrial Pollution in China and Remedial Policies" (1998) *China Quarterly* Dec.(156): 952 – 985.

According to the latest Chinese government *White Paper on Environmental Protection* promulgated in June 2006,[420] since 1996, the State has formulated or revised major laws on environmental protection. In addition, the State Council has formulated or revised over 50 administrative regulations to strengthen environmental protection and relevant departments of the State Council, local people's congresses and local people's governments have, within the limit of their powers, formulated and promulgated over 660 central and local rules and regulations in order to implement the national laws and administrative regulations on environmental protection.[421] Appendix 1 is the author's selected summary on the key sections under environmental laws which covers different aspects of the environmental responsibilities of corporations operating in China. (see Appendix 1 "Framework of Laws on the Environmental Responsibilities of Corporations in China") Besides, China is a party to more than 50 international treaties on environmental protection.[422] These are also important sources of environmental regulations for corporations operating in China.

From the policy perspective, the Chinese government has attached great importance to environmental protection by setting it as a basic national policy and stressing the sustainable development as an important strategy. It was reported that between 1996 and 2004, China's investment into pollution control reached 952.27 billion yuan (119

[420] The 45-page White Paper is the second of its kind since 1996, it is titled "Environmental Protection in China (1996-2005)" and released by the Information Office of the State Council, China's cabinet.
[421] There are more than sixteen Environmental, Health and Safety ("EHS") statutes, several hundred EHS regulations, and more than one thousand EHS standards currently active in China .Chinese environmental statutes and regulations are compiled in the Law Information System, developed by the Information Center of the National People's Congress and recorded in CD format by KYInfo Technology Co., Ltd. (1999).
[422] For major international environmental treaties that China is a party, see State Environmental Protection Administration statistics, <http://www.sepa.gov.cn/inte/gjgy/> Accessed Jan 12, 2007.

billions U.S. dollars), amounting to 1% of that period's GDP. In 2006, expenditure on environmental protection has been formally itemized in the State's financial budget.[423] In addition, China has clearly set forth its main goals for environmental protection for the year 2006-2010 in its 11th Five-Year Program for Economic and Social Development. These goals include, for example, to invest a total of RMB 1.4 trillion (US$175 billion), equal to 1.5% of the country's GDP, in environmental protection from 2006 to 2010,[424] to reduce the energy consumption per unit of GDP by 20%, and to reduce the total amount of discharged pollutants by 10% by the end of 2010, compared with the end of the 10th Five-Year Plan period.[425]

5.4 Summary of the Chinese Law Review on DIM

China's FDI reliant and export-oriented economy has caused these two areas of laws to undergo very quick development in recent years. The review of these laws for the purpose of DIM regulation is therefore necessary. After examining the relevant articles under China's foreign trade, investment, and environmental laws, it is found that special environmental requirements on foreign industries concentrate mainly at the entry level. Once foreign industries are allowed entry, Chinese laws generally do not impose higher environmental regulations on them. China's membership of the WTO has forced China

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[423] See government white paper "Environmental Protection in China (1996-2005)", <http://www.china.org.cn/english/2006/Jun/170355.htm> Accessed Feb 2, 2007.

[424] It was suggested that by the end of 2010, China's environmental protection industry's annual industrial output is expected to reach 880 billion yuan ($110 billion), including 660 billion yuan ($82 billion) from comprehensive use of natural resources, 120 billion yuan ($15 billion) from environmental protection equipment, and 100 billion yuan ($12 billion) from environmental services. Source: <http://www.chinadialogue.net/blog/show/single/en/151-China-to-invest-1-4-trillion-yuan-in-environmental-protection> Accessed Feb 10, 2007.

[425] Id.

to, from time to time, re-examine its laws so as to fulfill its ongoing international commitments. The reshuffling of Chinese trade and investment laws has direct implication on other areas of law, such as the laws on labour and environment. Contrary to the common perception that host developing countries usually lag behind in formulating environmental standards. The law review suggests that China so far has developed a fairly comprehensive legal framework to screen the incoming dirty industry. Putting aside other factors, the author finds no evidence that Chinese environmental laws and regulations "on paper" are substantially laxer to that of developed countries.

Despite the above, the author holds the view that apparent regulatory gaps still exist between China and major developed countries. Such regulatory gap refers not only to the gaps in the environmental standards, but also to the ability to coordinating different areas of laws to make the regulation of DIM a coherent and integrated system. The author analyzes a number of reasons for that:

Firstly, from the legislative perspective, China's efforts to build a comprehensive environmental legal regime are still at a nascent stage. The environmental regulation on enterprises is, to some extent, still administrative rather than legal in nature. In some domains, statutory gap exist which results in a lack of national-level standards with respect to particular activities that have substantial environmental affects. For example, China has yet to enact national statutes specifically to address environmental aspects of radioactivity, toxic chemicals, and contaminated site cleanup. Sometimes the authorities stress a particular problem as a matter of policy, but because there is no law there is no

real continuity of approach. Even if laws are available, many statutes simply state that certain activities or behaviors should be encouraged or prohibited, without giving any details on the targets of regulation, measures for implementation, and liabilities.

In the meantime, in China the interplay between the Party, its ideology and laws and institutions is a crucial factor determining the overall framework for environmental policy-making. The principle of supremacy of state law as against "edicts, policy documents, exhortations of the CPC and orders, directions and instructions of senior officials" has not been firmly established.[426] Although there have been verbal statements affirming the principles of socialist legality, these have not been fully observed in practice.[427] The effect of these, as is suggested, "has been to blur the distinction between law and policy".[428] Thus, while environmental policy in China is supported by an extensive, formal legal framework, policy initiatives can also be launched by the CPC or senior officials which affect the actual effectiveness of law.

Further, from the perspective of political will, it is also unclear whether the Chinese government considers the DIM problem serious enough for which legal measures should be taken. Although the central government has posited environmental objectives at the top priority in its national development agenda, various provincial and local governments may not posit the environmental issues within their jurisdiction at the

[426] See Chen, supra note 359, at 77.
[427] See Peter Hills and C.S. Man, supra note 18, at 59.
[428] Chen, supra note 359, at 77.

same high priority.[429] Governments focus on project approvals but fail to put equal efforts in monitoring the projects that they approved. Short-sighted economic development at the cost of environment is still rampant in China. The decentralization and local protectionism have exacerbated such problems.

Finally, from an international perspective, despite the fact that China is party to most international environmental treaties, the capacity of international community to influence the environmental regulation in China is still limited. Environmental policy in China –as in so many other spheres– will continue to be determined by domestic, not international, considerations. The next section will discuss these issues in greater details from a practical perspective.

5.5 DIM Regulation in Practice

As an indispensable part of studying Chinese law, in order to answer whether Chinese environmental laws provide an incentive for foreign dirty industries to migrate there, researchers shall not only look at the laws written "on paper", but also the regulatory and legal institutions that create, monitor, and enforce those regulations.[430] Previous empirical explorations on DIM have primarily focused on differences in the direct

[429] An interesting point that arises in the literature is the extent of sub-national government decision-making and local decision-making on environmental matters. Such decisions can greatly impact FDI. In many government systems, pollution control regulations are site specific and vary according to the wishes of local governments. Few countries enact national standards that govern more than a few general categories of pollutants. In turn, international investors are more concerned about the politics of pollution than the technical and regulatory aspects of the investment. See Leonard, supra note 8.

[430] For example, it was found that in Thailand, although legislative provisions are in place under investment laws, there are insufficient personnel to monitor the environmental aspects of a project and to check if an EIA has been conducted and included in the project proposal. See Jesdapipat, S, "Trade, Investment and the Environment: Thailand" (1997) 6:3 *Journal of Environment and Development* 350-360.

compliance costs of environmental regulation—that is, the capital and operating costs of installing the control or abatement technologies mandated by the country's *de jure* regulations and laws. Total compliance costs to the firm, however, shall also cover indirect compliance costs associated with the implementation, monitoring, and sanctioning of environmental regulations, i.e., regulatory transactionor process costs.[431] These costs arise from permit applications, preparing environmental assessments, assessing and proving compliance, and resolving disputes. This section is a contribution to this study. It goes beyond the statutory provisions and studies the practical issues of implementing Chinese laws on both pre- and post-entry regulation of DIM.

5.5.1 Practical Issues on the Pre-entry Regulation of DIM

5.5.1.1 Local Government's Unlawful Approval of Foreign Investment Projects

In China the administrative department under the State Council in charge of investment approval is the State Development and Reform Commission ("SDRC"). At local level the administrative departments in charge of investment includes the local governments' development and reform commissions ("DRC") and economic and trade commissions ("ETC") with the functions of investment administration as provided by the local governments. As a general rule under Chinese FIE laws, foreign investment projects of

[431] Transaction costs are the expenditures that arise when individuals or organizations try to secure their property rights and/or limit their obligations under regulations through, for example, bribes, private security systems, insurance, and litigation.

a scale over US$ 30 million are subject to approval by the SDRC. However in practice, local government and foreign investors may wish to get approval at the local level for several reasons. First, foreign investors want to speed up the approval process. The central government approval usually takes a longer period of time than local approval. Second, many pollution intensive foreign investment projects are subject to restrictions. If these projects are submitted to the central government for approval, the approval may be delayed or even denied. Finally, as an incentive to attract foreign investment, some local governments may provide preferential policies to a certain project. However, if the project is submitted to the central government, it is likely that the central government may refuse to grant these preferential policies.

The capital intensive nature of foreign dirty industries has determined that very often it is beyond the local authorities' power to approve the project. As a result, the local government tends to evade central governmental approval with two methods.

The local government may divide one project into several small projects and each divided project is below the US$30 million threshold. Regarding this practice in 1995 the State Council issued the *Urgent Circular on Relevant Questions Regarding Examination and Approval of Foreign Investment Enterprises*, which prohibits such division of projects, and stresses that "such approval by local government on smaller projects is invalid, the relevant registration and administration authorities should not handle any registration procedures for such projects".[432] And the officials who commit

[432] Art. 4. 国务院办公厅《关于当前审批外商投资企业有关问题的紧急通知》[General Office of the State

the above offences will be disciplined. In the event that these offences are of a serious nature, criminal liability may be imposed.

Although the express prohibition against such approval, in practice, the local approval authority has substantial discretion and it is often difficult to distinguish whether a project should be one project or is divisible into several projects. If an investor intends to manufacture two or more related products, these products each could be counted as one project. At present, Chinese law does not contain express principles for ascertaining whether or not several projects should belong to one project, which makes monitoring very difficult.

Alternatively, the local approval organ simply approves foreign investment projects which are beyond its power to approve. Chinese central government makes it very clear that all approvals exceeding the approval limit of an approval authority are deemed invalid. However in practice, if such case was found, the approval authorities usually would not force foreign investment projects to leave China. For example, the State Council has handled a case in which the Guangzhou municipality exceeded its approval authority in order to approve the establishment of an EJV in pollution intensive industry, Guangzhou Yamei Polyurethane Co. Ltd. The State Council held that the Guangzhou government was erroneous in granting approval of this project because it was an investment over US$30 million. However, since a joint venture contract has been signed, the State Council decided to uphold the proposal and ordered that the joint venture

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Council Urgent Circular on Relevant Questions Regarding Examination and Approval of Foreign Investment Enterprises] Nov 22, 1995.

contract be re-signed and re-approved pursuant to the relevant appropriate procedures.[433] Therefore in practice, even though a project which exceeds the power of local government to approve is caught by upper level authority, the investment is not revoked automatically. Foreign dirty industries being wrongfully admitted would continue to operate in China.

These two methods provide examples of the gaps between the DIM regulations on paper and in practice. Considering the fact that in China the local governments are given the mandate to attract a certain level of FDI each year, They do not, however, face much countervailing pressure from environmental regulators to invest in pollution control equipment and clean manufacturing processes, or to enforce environmental regulations.[434] Consequently, in practice local governments tend to compete with each other by offering incentives such as quick approval of investment projects, waiver of environmental impact assessment, government-assisted application for required licenses, etc. If these factors are taken into account, then the actual effectiveness of China's regulation on DIM will be highly discounted.

[433] 国务院关于广州市利用外资审批权限问题的批复[State Council, Reply on the Question of the Approval Authority of Guangzhou Municipality in Utilizing Foreign Investment] (Mar 13, 1992).

[434] Similar views are shared in Goldenman (1999) and Silva (1996), where it is found that lax environmental regulation is partially a product of a much stronger influence exerted by economic officials in the government who share a bias that environmental regulation curbs economic development. See Goldenman, supra note 373, and Silva, E., "Democracy, Market Economies and Environmental Policy in Chile" (1996) 38:4 *Journal of International Studies and World Affairs* 1-33.

5.5.2 Practical Issues on the Post-entry Regulation of DIM

Foreign industries enter China with the government's expectation that they shall bring benefit to the local economy. As discussed previously, once foreign industries are allowed entry, Chinese law generally does not impose a higher environmental standard on them. Thus the recognition and enforcement of Chinese domestic laws becomes the principal way of post-entry DIM regulation.

It is to be noted that China's modern legal system draws heavily from the civil-law tradition. In this regard, the nature and format of laws in a civil law system have greatly influenced the orientation and development of China's environmental legal system. As the most significant feature of this system, adjudications or decisions of courts do not set precedent that must be followed by the courts themselves or by other courts. Rulings of courts therefore do not meaningfully influence the law, at least with respect to environmental issues. Under these circumstances, law enforcement initiatives and regulatory community compliance in the area of environmental protection relies almost solely on the edicts in various legal norm-setting documents, as well as the scope and specificity of such documents.

5.5.2.1 Regulatory Change and Investment Stability

It is generally believed that most MNCs investing in China are caring more about stable return than maximal, but risky, gains. In the environmental sphere, probably what is

currently at stake in China might not be the trade-off between high levels of incoming investment and high environment standard. Rather, empirical evidence indicates that foreign industry seemed to be more concerned about the predictability, transparency and equal application of environmental regulation rather than the severity of these regulations. Regulatory stability is crucial to foreign investment; however, environmental regulation in developing and transitional economies is currently one of the most unpredictable factors facing potential investors. Eggert (1993) points out that the rapidly changing and unpredictable environmental regulatory framework can be a disincentive for investors to explore investment opportunities in developing countries.[435] Not only do the environmental legislations in these countries change rapidly and frequently, they do also have considerable interpretative margin and are enforced with varying degrees of zeal.[436] Environmental measures that were not anticipated when the investment decision was made may threaten the profitability or even the viability of an investment project. Thus, the problem is not that foreign investors would not like to adopt high environmental standards—often they already adopted higher standards—rather they do not want to be bothered with economic costs flowing from regulatory changes that were unanticipated at the time of the investment decision. If the potential foreign investor can reasonably forecast changes in environmental measures, the investment decision can incorporate expected environmental costs to a greater degree. Therefore, the challenge here is for China to

[435] Eggert, G., "Exploration", in Landsberg, H.H., Peck, M.J.K, and Tilton, J.E., (eds.) *Public Policy and Competitiveness in the Nonferrous Metal Industries* (1993).
[436] For example, a given regulation, or even a minutes, particularly at the local level, can be promulgated in a relatively short time-frame without due regard to the means for implementation.

strike a balance between continuing to attract investment and progressively upgrading domestic environmental protection.

5.5.2.1.1 Investment Stability and Environmental Regulatory Change—Case Study of Kodak

In July 1999 the U.S. MNC Eastman Kodak, the largest film seller in China, closed its X-ray film plant in Wuxi, Jiangsu Province. The closure is a result of the tightening of waste water disposal laws by local government to preserve the Lake Tai nearby. According to the spokeswoman of Kodak, such change of law had inflated the plant upgrading cost which made the company no longer profitable. The closure decision was agreed between the U.S. Eastman Kodak, its local partner and government authorities. The closure has caused over 520 Chinese workers to become unemployed. Soon after the closure of Kodak Wuxi plant, the manufacturing was shifted to a factory in Shantou, where the environmental standards are less stringent.

The above case is representative of the investment disputes between MNCs and Chinese government based on environment. By the time Kodak entered into agreement with Wuxi government to acquire a state-owned enterprise for the purpose of its manufacturing, it relied solely on the government's guarantees and existing infrastructure. It was not expected that regulatory change would come so fast. Now Kodak was not only being forced to stop production, but had an obligation to pay the dismissal wage of over 500 workers who became unemployed as a result of

government's regulatory change.[437] Had Kodak known the government's plan earlier, it would re-consider the investment decision. From another perspective, the Kodak's decision to close the plant partially evidences the significant environmental cost previously saved by Kodak if not requested to move. Kodak certainly had calculated the cost of upgrading the existing infrastructure and feels such cost offset their expected gain in the next a few years before it made the decision to relocate.

Based on experience, it is possible to obtain local approval of sub-standard procedures or facilities. This, however, is not a reliable strategy. Choosing a location with looser standards may just be delaying what will need to be done later. The problem, however, can be at least partially avoided through more careful environmental planning, both on the side of local government and foreign investors.

The more careful environmental planning can be achieved, for instance, by using the following scheme: the authorities, both national and local, draw up environmental policy plans that cover a reasonable period such as five years; these environmental policy plans outline the options that the authorities intend to pursue and are published; the potential foreign investor will start negotiations on the basis of this plan, and make its decision accordingly. The environmental policy plan would be incorporated in the investment agreement as an annex; and the contracting parties could stipulate that within the ambit of the policy plan, such as the five years after the signing of investment

[437] The Kodak case was recorded in a EU financed China project, according to the project report, the Kodak case is "the first time that costs for environmental compliance were cited as the reason for MNC's plant closure in China." See European Union, Asia-invest Programme, "Market Study on Industrial Waste Water and Emission Treatment in Sichuan and Jiangsu Provinces in China" <http://ec.europa.eu/europeaid/projects/asia-invest/download2002/mpm170_report.pdf> Accessed Jan 14, 2007.

agreement, the authorities commit themselves not to substantially deviate, and if so deviate only on a non-discriminatory basis, from the policy plan. Such a scheme would not only provide legal certainty, but also allow an arbitrator to define a reasonable standard with greater ease. Finally, because the lifetime of many investment agreements exceeds five years, the investment agreement could include a re-negotiation clause, stipulating that the agreement will be opened for re-negotiation in order to adapt it to new environmental policy plans. Such a mechanism seems to be a practicable means of reconciling investment stability and environmental regulatory change.

5.5.2.2 Dual Standard of Treatment

The other challenge which faces foreign investors is the often differing treatment standards that Chinese officials accorded to FIEs as compared to domestic companies. Although in principle FIEs face the same environmental laws and regulations that apply to domestic enterprises, in practice many foreign companies complain that they face more-rigorous enforcement of environmental legislation than do China's domestic companies, especially State-Owned Enterprises ("SOE"). Take the EIA requirement as an example, it is not always imposed on those industries that are owned by the local government, but it will invariably be imposed on joint ventures and private businesses.

The reasons for this dual standard in practice are multi-faced: First, under the current system, the government is, in many situations, both the owner of the principal polluter and the environmental regulator. As a result, it is often difficult for regulators to carry

out objective reviews on the actions of state entities, or to take opposing positions.[438] Second, part of the reason behind such due treatment seems to be the government's rationale that those foreign corporations are equipped and have the finance to handle environmental issues. As such, they deserve to be scrutinized more closely and are held more liable for their activities than locally owned enterprises. SOEs, by contrast, generally lagged behind in both financial resources and environmental regulation, thus an equally rigorous enforcement of environmental regulations on them is potentially devastating to the already-shaky sector. And finally, it is probably undeniable that in reality, SOEs are too well connected with local authorities to face strict requirements on a level anywhere near the ones placed on FIEs.[439]

Despite that trends on unifying treatment standards have been progressed slowly, it will unlikely to be eliminated until the SOEs have indeed reformed themselves into corporate bodies absent of state protectionism. In summary, the dual standard of treatment does not incur additional environmental cost of FIEs, as full compliance with Chinese law is the obligation of any corporations operating in China, but increases the FIE's sense of unfairness, which in turn "chills" FIE's initiatives to enhance or even sustain their existing environmental standards.

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[438] State owned enterprises, being both the state's economic arm and major employers, are a special group which is to be treated differently from FIEs. Issues relating the environmental regulation on SOEs will be discussed in the Chapter Six of this thesis in the context of Corporate Social Responsibility.

[439] In reality, SOEs enjoy limited independence from government. Managers and directors are appointed by a parent holding company,which is itself subordinate to the local, provincial or national government, and responsible administratively to a particular ministry. Previous research suggests that this pattern of relationships encourages SOEs to seek alliances with bureaucrats rather than to develop horizontal relationships that extend outwards into civil society These partnerships with the bureaucracy provide SOEs with administrative protection. Such protection can be valuable when dealing with environmental regulators. See Brosseau, M., "The Individual and Entrepreneurship in the Chinese Economic Reforms, in L.C. Lo, S. Pepper and K.Y. Tsui (eds) *China Review 1995*, (Chinese University Press, Hong Kong 1995), 25.1–25. 43, also see Wank, D.L. (1995) "Civil Society in Communist China? Private Business and Political Alliance", in Held (ed) *Civil Society, Polity* (Oxford 1989), Chapter 3.

5.5.2.3 Regional Variations

Probably what puzzles foreign investors most is the regional variations in the environmental requirement on foreign investment. Apart from environmental laws and regulations from the central government, there are hundreds of regulations, administrative orders, decrees, and policy documents at regional level. It can be expected that a total grasp on the scope and nature of local environmental requirements could be very difficult. A mere understanding on the regional differences on environmental requirements can substantially increase the research cost of investors.

Not only do laws and regulations vary from region to region, they are also implemented without uniform strength. Most laws establish broad regulatory goals and then leave substantial regulatory discretions to administrative agencies at local level. In China the EPBs are dependent upon local governments for their source of funding and appointment of personnel. It is not surprising that several EPBs in wealthy areas with such as Hangzhou, Shanghai and Dalian have reputations for keeping a local environmental standards that are significantly stricter than the national standards, while other sites of China may compromise human health and environmental standards in exchange for jobs and investments. Thus the key to understand regional variation in environmental regulation lies in the understanding of the resources controlled by local governments.

It was suggested that the independence of EPBs shall first be achieved before the enforcement of environmental law can be anywhere similar to the application of other areas of Chinese law. In an effort to address this, a significant campaign by SEPA, currently being reviewed by the State Council, is to strengthen the authority of local EPBs and bring them to a position in parallel to local government departments. Under this proposal, local EPBs will continue be "horizontally" responsible to local governments that will fund them and take leadership roles in overall local environmental quality and administration. However, greater "vertical" control over local EPBs will be given to higher-level EPBs, and ultimately controlled by SEPA. This restructuring shall include the integration of all local environmental departments, including pollution control, ecological protection, environmental education and publicity departments.

5.5.2.4 Conflict of Interest

The enforcement of environmental law is an area that involves substantial conflict of interests. To mention just a few, often the local environmental protection authorities have a direct interest in the financial health of local enterprises. They do not wish to see polluting enterprises bankrupt or moved away as a result of their environmental pressure. They are as much concerned with securing an income from the fines as they are with protecting the environment.[440] Moreover, there is evidence that sometimes the income from the fines is filtered off for personal gain. For example, some local

[440] For instance, in many EPBs the effluent fees are a critical source of finance for local environmental monitoring stations.

environmental officials are associated with private companies to provide environmental services. When foreign investors apply to the local EPB for the environmental side approval of their projects, they are often instructed to hire designated private companies in association with the EPB to conduct the EIA and other environment-related work. If foreign investors refuse, then their application may be delayed of approval for several months. The existence of such practices discredits the image of the environmental protection authorities on foreign investors, and sometimes unduly increases foreign investor's cost of investment in China. In summary, the environmental regulations in China are still very much seen as a matter of policy—which is variable and ambiguous—rather than law.

5.6 Remedies and Legal Techniques

The *de facto* costs of compliance depend also on the probability that noncompliance will be detected and sanctioned. The costs for potential EHS lawsuit in the host states may serve as an important determinant for the DIM of multinationals. That is the reason of this section's study on the environmental dispute settlement in China. Once dispute arises, victims of environmental harm shall learn to utilize available resources under Chinese law to protect their legitimate interests and probably, seek remedies. Meanwhile, FIEs that engaged in dirty industries in China shall also be aware of the stance taken by the Chinese court in order to deal with the environmental related claims against them. In China, a comprehensive and effective array of legal sanctions to FIE should include three elements: (1) administrative measures, such as fees, fines, licensing

requirements and orders to take or refrain from taking specified actions, (2) civil liability to compensate for damage or injury to victims; and (3) criminal liability, to be applied sparingly as circumstances require.

5.6.1 Administrative Proceedings

Very often foreign companies' eagerness to invest is dampened by the difficulties of doing business in China. One of the most significant of these difficulties has been the extensive and *ad hoc* intervention by the State in foreign investment projects. Various national and local departments, and even domestic joint venture partners, are all in positions to oversee, interfere with, and sometimes impede FIEs' activities. FIEs in China often complain about getting bound in situations such as a bureaucratic agency has changed its position on a particular matter, or another agency with claimed jurisdiction has stepped in, etc, which translates into additional costs. Although the overreaching regulation is not a problem unique to China, such problem is more acute in China as a state undergoing transition from a planned to a market economy.

In the Kodak case previously discussed,[441] Kodak suffered great loss for the closure of its plant only after one year of manufacturing. In the end Kodak did not resort to litigation, perhaps because it either doubted its chances of winning such a case in a Chinese court or wanted to preserve important relationships necessary for the joint

[441] See infra Chapter 5.4.2.1.1.

venture's future success. The question remains, however, whether Kodak would have had any remedies under PRC law if such claim is brought to the court.

As a procedural matter, before bringing an administrative case, according to the China's *Administrative Review Law* (1999), a party (including FIE) that has been fined or unduly treated may appeal to an environmental organ at one level higher than the decision-maker,[442] alternatively it can apply for review of the administrative decision by the court. [443]

The basic principle of administrative agency liability was first recognized in the 1982 amendment to the PRC *Constitution*, which provides that "citizens who have suffered losses through infringement of their civic rights by any state organ or functionary have the right to compensation in accordance with the law"[444]. Similarly in the *General Principles of Civil Law*, it was provided that the state can incur liability to citizens or entities: "If a state organ or an employee of a state organ in the execution of his duties violates the lawful rights or interests of a citizen or legal person and causes damage to be sustained."[445]

While the general principles have established the right to sue the government, it was the passage of the *Administrative Procedure Law* ("APL") in 1989 that rendered the right more concrete. The APL allows a "citizen, legal person or other entity" (including an FIE or foreign entity) to bring suit in a people's court where such entity believes that its

[442] Art. 12-18, 行政复议法 [Administrative Review Law] (effective Oct 1, 1999).
[443] Id, art. 47.
[444] Art. 41, 宪法[Constitution of PRC] (revised and effective from Mar 14, 2004).
[445] Art. 121.General Principles of Civil Law, supra note 366.

"legal rights or interests" have been violated as a result of a "concrete administrative act."[446]

The APL is significant in that it provides FIEs with a concrete legal means to resist bureaucratic overreaching and challenge intrusive agency actions, especially since China does not formally advocate the idea of "indirect takings" based on environmental regulatory change. A study on the provisions and cases under the APL therefore provides useful guidance on how this law can be employed by FIEs to seek remedies from bureaucratic interference by the government.

5.6.1.1 Proceedings under the Administrative Procedure Law

As a general principle, the APL does not permit a plaintiff to challenge the inherent validity of so-called "abstract" regulations and rules under which a particular administrative act is implemented. More precisely, Article 12 provides that a court shall not hear a case if it "involves" or "raises", *inter alia*, "administrative regulations or rules or decisions and decrees with normal binding force which are formulated and issued by administrative organs." Thus, a general decision by the State Council, for example, to empower a local government to construct certain project may not be reviewed, even if such decision causes loss to the FIE.[447] This position is different from

[446] Art. 2.行政诉讼法 [Administrative Procedure Law] (effective Apr 4, 1989) (PRC).

[447] This article precludes the possibility of aggrieved citizen (including FIE) bringing an administrative suit against the government in respect of economic loss caused by, for example, the national "Three Gorges Dam project" For a discussion on the environmental implications of China's national "three gorges dam" project, see Liu Changming, Zuo Dakang , "Environmental issues of the three gorges project, China" (1987) *Regulated Rivers: Research & Management*, Volume 1, Issue 3, , 267-273.

that of the U.S., where a U.S. citizen can not only demand the enforcement of an environmental statute even when the government has determined that the statute does not apply to the circumstances, but also use environmental statutes to block projects that have been proposed or approved by the government.[448] Instead, in China only "specific decisions" may be reviewed under Article 11 of APL which include: "pollution fines imposed by an environmental protection body; refusal by a relevant governmental agency to issue emissions licenses; refusal to allow operation of a company on the ground that it has failed to install equipment necessary for pollution prevention or recycling; harm or losses caused as a result of maladministration, and failure to fulfill statutory obligations".[449]

Under the APL, for an administrative agency's concrete act to be upheld as "legal" by the court, the agency must not only comply with the letter of the regulation it is enforcing or which enables it to act; it must also fulfill the other requirements contained in Article 54, namely the "compliance with legal procedure, basic fairness, and proper use of authority."[450] Under Article 54, a court must order the "withdrawal" or "partially withdrawal" of an administrative act and order reconsideration if there is "violation of legal procedure." Conversely, the APL dictates that a judgment should be upheld if

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[448] This contrast is best illustrated by two dams: the Tellico Dam in Tennessee and the Three Gorges Dam in China. The Tennessee Valley Authority, a federal agency, interpreted the Endangered Species Act as inapplicable to the completion of the Tellico Dam. A citizen suit brought by local opponents of the project resulted in the Supreme Court holding otherwise. *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978). In contrast, the Chinese government presses forward with the construction of the Three Gorges Dam despite both local and worldwide concern about its environmental ramifications. Chinese citizens were afforded a number of opportunities to register their concerns about the project, but the Chinese courts have yet to be presented with a case suggesting that construction of the dam would violate China's environmental statutes. See Jack D. Shumate, "Citizen Enforcement Suits: Will an Old Tool Take on New Importance?" (1996) 24 *Northern Kentucky University Law Review* 55.
[449] Art. 11 section 4, 5 and 8, APL supra note 446.
[450] Id, Art. 54.

sufficient evidence supports the action, the correct laws were applied, and proper legal procedure was satisfied.

5.6.1.2 Procedural Fairness under Chinese Law

A fundamental question raised by these provisions is what constitutes "legal procedure". The concept of procedural fairness is in its infancy in China. Traditionally, the "focus [of administrative law in China] was state-centric, emphasizing substantive authority, rather than procedural protection for subjects of that authority"[451], and the courts themselves are not known for their procedural niceties. More generally, procedural requirements are perhaps (though not necessarily) less likely to be respected when "law itself is regarded primarily as a policy tool."[452]

Nonetheless, while the APL itself does not specify what the proper procedure is, there are three primary sources of law that Chinese courts rely upon for the determination of procedural correctness. They are specific procedural requirements contained in the relevant operative law, general statutory procedural requirements, and independent non-statutory principles of fairness.

Courts will look at firstly any specific procedural requirements stated in the particular law or regulation under which an administrative agency was acting. For instance, in one reported case under the APL, an Intermediate People's Court in Fujian Province

[451] Pitman B. Potter, "The Administrative Litigation Law of the PRC: Judicial Review and Bureaucratic Reform" in Pitman B. Potter (ed.), *Domestic Law Reforms in Post-Mao China* Armonk (N.Y.: M.E. Sharpe, 1994) 270, at 273.
[452] David L. Weller, "The Bureaucratic Heavy Hand in China: Legal Means for Foreign Investors to Challenge Agency Action" (1998) 98 *Colum. L. Rev.* 1238, at 1264.

reversed the decision of the lower court on the ground that the statutorily prescribed procedure had not been followed.[453] The plaintiff, a traffic engineering team, had lawfully procured the three-year right to excavate grit from a specified portion of the Nan Pu Xi River. During the term of the license, the new *Water Law* went into effect.[454] Under this new statute—which replaced the old regime under which the plaintiff had obtained its license—the county Water Conservancy and Electric Power Bureau (the defendant) granted rights to third parties to excavate in the same area. At the same time, the plaintiff had applied to the defendant for supplemental approval under the new regime as was contemplated in the *Water Law* and implementing regulations thereunder. The defendant, however, "made neither a decision to grant nor to refuse approval".[455] The court read the approval application provisions which require that the relevant agency respond to an application in some manner (whether affirmatively or negatively) within a prescribed period of time. Furthermore, the court found that the excavation rights held by the third parties had not been properly granted, as they had only been approved by the defendant Bureau and not by additional departments from which the law requires approval. Partially on these procedural bases, the appellate court found that the defendant had committed an "administrative infringement"[456]. Accordingly, it reversed the lower court's decision for the defendant Bureau and ordered it to compensate the plaintiff's direct economic losses.

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[453] See *Traffic Eng'g Team of Pucheng County v. Water Conservancy & Elec. Power Bureau of Pucheng County*, (1991) 3 *China L. Rep.* 220.
[454] Water Law of the People's Republic of China was adopted at the Twenty Fourth Meeting of the Standing Committee of the Sixth National People's Congress on January 21, l988, and became effective since July 1, l988.
[455] *Traffic Eng'g Team of Pucheng County v. Water Conservancy & Elec. Power Bureau of Pucheng County*, supra note 453, at 227.
[456] Id.

This case is only one of several "reported" cases demonstrating the willingness of some courts to enforce the specified administrative procedure. The explicit procedural requirements of a government agency's operative regulation thus provide at least some protection to affected enterprises. Nonetheless, laws and regulations under which administrative agencies act often contain minimal and vague procedural requirements, if they include any at all. Thus it makes foreign investors difficult to rely solely on an agency's own operative regulations.

In addition to an agency's organic or enabling statute, the second source to which courts might look for procedural requirements is the *Administrative Penalty Law* (1996). ("Penalty Law") [457] This law provides fairly detailed, generally applicable procedural requirements for the imposition of "administrative penalties," which are defined as "warnings, fines, confiscation of unlawfully acquired or illegal property, orders for cessation of production and business operations, suspension or cancellation of permits or licenses, administrative detention, or other administrative punishments specified by laws and regulations"[458].

According to the Penalty Law, before any agency imposes an administrative penalty, it must notify the affected party of the facts at issue, as well as the reasons and legal basis for the penalty. Where more serious penalties are at issue, the alleged wrongdoer is guaranteed a formal hearing. The hearing must be conducted openly (with certain

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[457] 行政处罚法 [Administrative Penalty Law] (effective Oct 1, 1996) (PRC).
[458] Id, Art. 8.

exceptions) and with certain other procedural safeguards.[459] Some of these procedural requirements have been made more specific by local legislation.[460] The general procedural guidelines of the Penalty Law have been paralleled by specification of proper procedures for fee or fine collection. To combat the long-standing problem of improper requests for fees and widespread corruption among officials, a number of localities require that detailed procedures be followed in fee collection.[461] These procedures were adopted at the national level in July 1997, when the State Council passed the *Decision on Controlling the Problem of Arbitrary Collection of Fees, Fines, and Various Types of Charges from Enterprises*.[462]

The third source which the court may rely upon is the independent non-statutory principles of fairness. Article 54 of the APL allows a court to review administrative penalties for "basic unfairness", even if the penalty imposed is within the discretion conferred on the administrative agency. If a penalty is "clearly shown" to "lack impartiality," the court must order an amendment.[463] For instance, if a local environmental protection bureau had discretion to impose a penalty ranging from RMB 1,000 (US$125) to RMB 30,000 (US$3,750) for polluting, imposition of the maximum

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[459] Id, Art. 42.

[460] For example see 上海市行政处罚听证程序(暂行) [Shanghai Municipality Tentative Provisions for Administrative Penalty Hearings Procedures] (26 August 1996), reprinted in China Law Library, Feb. 1997, at 104; also see 北京市行政处罚听证程序(暂行) [Beijing Municipality Several Provisions on the Implementation of Administrative Penalty Procedures] (19 September 1996), reprinted in China Law Library, Mar. 1997, at 102.

[461] For example, see 广东省违法收费行为处罚规定 [Guangdong Province Regulations for the Punishment of Illegal] (effective May 1, 1996) The Regulations prohibit collection of fees where the administrative agency has not used a "payment collection certificate, has not issued a proper receipt, or has failed to follow a number of other requirements". Id. Art. 4 The consequences of noncompliance include return of the payment and administrative discipline for the relevant officials.

[462] 国务院关于治理向企业乱收费乱罚款和各种摊派等问题的决定 [Decision on Controlling the Problem of Arbitrary Collection of Fees, Fines, and Various Types of Charges from Enterprises] Gazette of the PRC State Council (1997), at 1078.

[463] Art. 54 (iv), APL, supra note 446.

fine for a minor offense would be actionable under the APL. This protection is an important potential check on administrative agencies' ability either to harass an enterprise (whether FIE or domestic) or simply to generate revenue through disproportionate fines.

5.6.1.3 Conclusion on the Administrative Actions against Government Agencies

Having reviewed the measures available to FIEs to legally resist bureaucratic overreaching, in practice few FIEs utilize APL to protect their private interests.[464]The extra-legal barriers that refraining FIEs from bringing such law suits can be grouped in two interrelated categories: (1) courts' inability and unwillingness to accept jurisdiction in administrative cases and assert their *de jure* power against administrative organs; and (2) wronged FIEs' unwillingness to challenge administrative actions in court. At their most fundamental level, both of these barriers stem from the same problem—Chinese courts' lack of independence from the government.

Despite of the fact that the *Constitution* guarantees the independency of judiciary,[465] and the central government had initiated efforts to strengthen judiciary independence, in

[464]The author is not aware of any government statistics on the number of cases filed by FIEs of foreign entities under the APL. Among 236 APL cases recently surveyed by Pei Minxin, only 9 cases (four percent) were brought by Sino-foreign joint ventures. See Minxin Pei, "Citizens v. Mandarins: Administrative Litigation in China" (1997) *China Quarterly* 849, at 832. However, this sample was drawn from cases that were specially reported and may not be representative. See Pei, at 848. Given anecdotal evidence about the general rarity of suits by FIEs against administrative agencies, it is more likely that Pei's sample over represents the percentage of APL cases filed by FIEs.
[465]Art. 126 of the Constitution of PRC (2004) reads: "the people's courts shall, in accordance with the law, exercise judicial power independently and are not subject to interference by administrative organs, public organizations or individuals."

reality the judiciary continues to serve in part a policy-implementing function.[466] Courts continue to depend on government and the Party departments for personnel, financial resource and material backup. In addition, China's judiciary has been plagued by poorly educated and corrupted judges, though the quality of judges has been improving. The lack of institutional power and independence has at least two ramifications for the courts' role in the judicial review of administrative actions:

First, courts are susceptible to pressure from administrative agencies. As a result of this pressure, courts in turn frequently pressure plaintiffs to drop a suit or reach a compromise settlement with the administrative agency involved. Statistics showed that in recent years over fifty percent of administrative cases under the APL have been withdrawn by plaintiffs.[467] It must at least raise the concern that many of these cases were withdrawn because of pressure from political or administrative departments or the courts. Even if a court rules against an administrative agency, it does not follow that the agency will comply with the judicial order.[468]

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[466] See Anthony R. Dicks, "Compartmentalized Law and Judicial Restraint" in Stanley B. Lubman (ed.), *China's Legal Reforms* (Oxford; New York : Oxford University Press, 1996) 82, at 86 (discussing the "lack of differentiation between the legislative, administrative and judicial functions of the various departments of the state today"). Also see Perry Keller, "Sources of Order in Chinese Law" (1994) 42 *Am. J. Comp. L.* 711, at 753 (noting that "courts are part of what is intended to be a fully integrated bureaucratic system"); Margaret Y.K. Woo, "Adjudication Supervision and Judicial Independence in the P.R.C." (1991) 39 *Am. J. Comp. L.* 95, at 118 (arguing that the adjudication supervision system, entailing judicial reopening of judgments, may facilitate "the ultimate curtailment of judicial independence, to bring court decisions in line with central policy").

[467] Pei, supra note 464, at 850.

[468] Indeed, to avoid this problem the APL switches the burden of proof in an administrative case. After a plaintiff has provided a factual basis for the complaint, the defendant agency is "responsible for producing evidence relating to [the action] and shall be required to provide evidence supporting its determination of such an action and documents supporting the said action's conformity with standards. See APL, Art. 32. Nonetheless, because of courts' limited institutional power, they may be reluctant to order production of evidence or may not have the ability to cause compliance with such an order.

The second reason for the rarity of such case is the FIE's unwillingness to challenge administrative actions in court. Firstly, as discussed above, a foreign investor may question the ability of Chinese court to render a fair or effectual decision. Second, given the extent to which a successful investment will depend on good relations with the local and national bureaucracy, a foreign company may be reluctant to pursue litigation against them. In fact, despite the substantial number of cases brought each year against PRC administrative agencies, no comprehensive statistics are available indicating the number of administrative suits filed by foreign investors or their local investment entities.

To summarize, the existing laws and regulations on administrative agency liability, notably the *Administrative Procedure Law* and *Administrative Penalty Law* do provide the framework for FIEs to legally resist bureaucratic interferences. These laws, if applied properly, have the potential to offer significant protection to foreign investors. Despite this, there is currently no substantive administrative law that involves action which does not result in formal penalties but may amount to an indirect taking on private rights and interests. At the same time, China still lacks sufficient administrative procedure law that provides procedural requirements for all agency action, nor is the court sufficiently attuned to legal procedure in deciding administrative cases—though increasing attention has been paid on procedural requirements. Finally, there are serious extra-legal barriers which impede proper use of available legal remedies. On the whole, courts lack the institutional power to make a judicial review system truly effectual.

Potential litigants, in turn, are often wary of bringing suits to challenge bureaucratic interference in their affairs.

5.6.2 Civil Proceedings—Environmental Dispute Resolution between Private Parties

This section primarily examines the methods for resolving disputes between the FIE polluters and victims of pollution in China with an aim to assessing the effectiveness of those methods in resolving disputes and addressing the civil wrongs suffered by victims of DIM.

5.6.2.1 Negotiation

In China when an environmental dispute arises, it is most common for parties to first negotiate. Negotiation occurs prior to the more formal administrative or judicial proceedings, but remains available to the parties in dispute even after the initiation of the judicial process.[469] Where a polluting FIE takes the initiative to settle a dispute at an early stage, negotiation proves to be both effective and efficient. Although negotiation is probably the most speedy, flexible, and inexpensive way of resolving environmental dispute if the two parties are willing to reach compromise, it also has its own shortcomings. According to Chen and Ma (2000), there is a high moral risk as the

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[469] It was suggested that the preference over negotiation comes from China's cultural pre- disposition to harmony and consensus-building; a desire to avoid unnecessary conflicts, including legal disputes, between individuals, and within and between organizations. See Thireau, I.and Hua, L.S. "Legal Disputes and the Debate about Legitimate Norms" in M. Brosseau, H.S. Kuan & Y.Y. Kueh (eds) *China Review 1997* (The Chinese University Press, Hong Kong, 1997) at 349–376.

unequal bargaining power of the two parties may lead to a negotiation result that is lacking in justice and fairness.[470] It is not unusual that the stronger party may offer some money in exchange for the victims' acceptance of pollution. Without sufficient knowledge of the law or proper legal assistance, the victims tend to settle at an amount that is far less than the proper compensation. In practice, negotiation sometimes postpones the problem rather than solves it efficiently.

5.6.2.2 Mediation

The next dispute resolution method is mediation. It has been a primary method of resolving disputes in both traditional and contemporary China. It differs from negotiation in that mediation is conducted with a third party serving as a facilitator. The mediator normally has no legal authority to impose a decision. The specific role of a mediator is determined by the particular needs of the parties and their representatives. Depend on who plays the role of a mediator, mediation practiced in China can be divided into people's mediation, administrative mediation and judicial mediation, among which administrative mediation is the primary form of mediation in resolving environmental disputes.

[470] Chen Maoyun & Ma Xiangcong, *Ecological Law* (Shaanxi People's Education Publishing 2000), at 307.

5.6.2.2.1 People's Mediation

People's mediation is carried out with a mediator who has no administrative or judicial function. In the context of environmental disputes, people's mediation is mainly restricted to the resolution of disputes arising between township or community enterprise and their neighboring residents over the nuisance generated by the manufacturing and / or operation process.[471] According to the Several Provisions on Trying Civil Cases Concerning People's Mediation Agreements issued by the Supreme Court in 2002, the settlement agreement reached with the facilitation of people's mediation committees and bearing the signature or chop of the disputing parties are treated as civil contracts. Neither party may modify or repudiate the settlement agreement (Art.1). Further, the people's courts are required to accept the case where one party tries to enforce the performance of a settlement agreement in court (Art.2).

5.6.2.2.2 Administrative Mediation

The dispute resolution of environmental administrative mediation is created pursuant to Art. 41.2 of the EPL.[472] The administrative mediation, carried out by relevant

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[471] Wang Canfa, "Preliminary Study of Environmental Dispute Resolution in China" in Wang Canfa (ed.), *Theory and Practice of Environmental Dispute Resolution* (Beijing: China University of Political Science and Law Press, 2002)

[472] Art. 41.2 of EPL reads: "A dispute over the liability to make compensation or the amount of compensation may, at the request of the parties, be settled by the competent department of environmental protection administration or another department vested by law with power to conduct environmental supervision and management. If a party refuses to accept the decision on the settlement, it may bring a suit before a people's court. The party may also directly bring a suit before the people's court." Here, "another department vested by law with power to conduct environmental supervision and management" refers to the forestry, agricultural, marine, harbour and fishery

administrative bodies upon the request of either or both parties to a dispute, helps the parties to reach an agreement on the rights and obligations of each party.

In practice, the EPBs at various levels have played a major role in resolving environmental disputes.[473] With the technical expertise and familiarity with the regulated industry as a result of exercising their administrative power in granting permits, issuing licenses, monitoring emissions and discharges, and collecting discharge fees, the local EPBs are in the best position to resolve disputes at an early stage, which has the additional benefit of minimizing potential loss and achieving harmony in the community. In China, victims of environmental pollution tend to place their trust in the local EPBs. Often the local EPBs not only resolve disputes by conducting investigation and making mediation proposals, but also engage in educating the disputants on the relevant environmental laws and regulations.

Despite the obvious advantage of administrative mediation by EPBs in resolving environmental disputes, unfortunately very often EPBs do not always make themselves readily available to resolve disputes for pollution victims. There is a demonstrated reluctance by these administrative bodies to provide assistance in resolving environmental disputes between two private parties. There could be a number of reasons for such administrative inaction. First, the lack of human or financial resources allocated for resolving the environmental disputes within EPBs, which has been

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administrative authorities that exercise their legal authority to monitor and manage natural resources under relevant laws. See Zhao, supra 5, at 162.

[473] Zhao, ibid, at 164-166.

discussed above. Second, the outcome of such administrative process lacks binding force on parties. The dissatisfying party may simply ignore the mediation agreement, if there is one at all. That leads to the perception by many EPBs that administrative mediation in many cases is a waste of time and their very limited resources. Consequently, many environmental administrative bodies are inclined to view the carrying out mediation to resolve civil environmental disputes not as part of their statutory duties, but an extra burden. They'd rather focus on the exercise of the enforcement powers as regulators, i.e. granting or revoking permits, issuing licenses, imposing fines as well as collecting charges.[474] This undermines the actual effectiveness of administrative mediation available to the parties.

5.6.2.2.3 Judicial Mediation

The difference between judicial mediation and people's or administrative mediation is that judicial mediation is conducted either before or during the trial while people's or administrative mediations are extra-judicial in nature. The Chinese courts may conduct mediation not only at first instance, but also in the appellate procedure. In judicial mediation, once a settlement agreement is reached between the two parties, the court will prepare a mediation report, which is signed by the judges and clerks, chopped with the courts' seal and delivered to the parties.[475] It has the same legal force as a judicial judgment of the court. Such settlement agreements can then be enforced by the court if either party fails to perform its obligations under the agreement.

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[474] Id.
[475] Art. 89 Civil Procedure Law, supra note 392.

Although the judicial mediation is proved to be an efficient method for resolving disputes even in judicial process, it is also criticized for its inherent difficulties. First, despite the "voluntary" nature of judicial mediation, it may become equivalent to "lack of coercion" in practice.[476] What usually happens is that the judge or the collegial bench would propose one or more mediation agreements and persuade, guide or even "educate" the parties to accept the contents of the agreement. Many disputants would reluctantly give up their rights, and accept the mediation agreement under the pressure. In addition, the combination of the role of mediator and adjudicator within one single judge raises valid concern over whether justice can be done when the adjudicator, who has already expressed his views and position as a mediator, renders a judgment after the mediation fails. Further, judicial mediation, as part of the civil procedure conducted by court, lacks any formal procedural requirements that bind the judges. In practice, the judges enjoy significant discretion in deciding when to conduct mediation and when to shift to adjudication. There could be no prior notice to the disputants of the commencement of the adjudication procedure, leaving room for some judges to engage in misconduct of rendering judgment based on "personal relationships".[477] Last but not least, lower court judges are sometimes reluctant to apply the law because of insufficient legal knowledge. They prefer to rely on inter-personal skills rather than

[476] Zhou Yuebao, "Some Thoughts on Reforming and Improving Judicial Mediation", People's Court News (May 13, 2002)
[477] Zhou, ibid.

legal analysis in resolving disputes. Some courts even use mediation as stalling tactics.[478]

5.6.2.3 Environmental Civil Litigation

If negotiation and mediation all fail, then the next only available remedy for the victims of environmental harm is environmental litigation. In China, environmental litigation is still very much underdeveloped. Although averagely there are more than 200,000 environment disputes in a year, only a few of them end up in court. Some are settled by administrative measures, but most are not settled at all, with pollution victims suffering silently. Most victims, who are farmers, fishermen and urban residents, do not have the legal, technological or financial resources to go to court.

Although litigation is often cumbersome and costly, it does serve and essential function in the environmental dispute resolution process. Litigation can help improve environmental law making. According to Dinkins (1984), litigation is an important tool to sharpen the language of legal requirements and to define more clearly the respective rights and responsibilities of parties under the law.[479] Whether the legislative provisions are effective or not can only be proved by applying them in practice. When the

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[478] Zhao, supra note 5, at 173.

[479] See C.E. Dinkins, "Shall We Fight or Will We Finish: Environmental Dispute Resolution in a Litigious Society" (1984) 14 *Environmental Law Reporter* 10398; Dinkins pointed out that in America, the enormous increase in the number and the complexity of environmental laws and regulations has spawned a correlative increase in the amount of litigation relating to environmental issues. The growth in litigation is traceable both to an aggressive government litigation posture in protecting federal initiatives from legal challenges, and to the private bar's aggressive and imaginative efforts in developing and pursuing causes of action concerning the environmental impacts of federal development efforts and the economic impacts of federal environmental protection efforts.

disputing parties argue in court and debate over the application and interpretation of the law, it becomes possible to detect the gaps, loopholes and contradictions in the existing law. As a method of settling environmental disputes, litigation produces far more significant impact than negotiation or mediation on the society as a whole.[480]

In addition, litigation creates ripple effects that help raising public awareness. When pollution victims are compensated through judicial process and their stories are reported by media, other victims become aware of their environmental rights and feel encouraged to take legal actions to assert their rights.

Litigation also creates pressure on the polluting industries, whether they are foreign or domestically owned. In China, enterprises are, at best, concerned only with the compliance with administrative regulations and standards. Most are not serious about the consequence of their polluting activities because the current legal mechanisms do not seem to hold them fully liable for the pollution caused and the resultant loss suffered by the victims, as long as their pollutants discharge does not exceed what is prohibited by law. Only when the victims can shift the cost of pollution to the polluters through litigation will there be a clear and strong warning to other potential offenders that pollution prevention needs to be taken seriously.

[480] According to Zhao, legislation at best is often imprecise. Legislators produce laws in a climate of competing interests where conflict is ultimately forged into compromise. The resulting legislative documents often contain ambiguities, irreconcilable provisions and indefinite standards. The litigation helps not only to test the law, but exposes policy makers openly and substantively to the defects or problems of existing environmental law and its implementation. Zhao, supra note 5 at 175.

In environmental litigations, the victims (plaintiffs) typically seek an injunction, an order for the removal of pollutants, or damages in compensation from the polluter (including FIEs) who caused harm to human health and environment. Unlike the tort based environmental liability regime under common law system, in China the environmental damage cases are under national civil liability scheme.[481] The General Principles of Civil Law provides a number of environmentally related provisions. In the section of the law dealing with personal rights, it is provided that civil liability will arise if damage is caused by hazardous operations—such as those involving the use of high pressure, high voltage, combustibles, explosives, highly toxic or radioactive substances,[482] or where damaging pollution occurs in violation of the state provisions on environmental protection and pollution prevention.[483] Besides, provisions on civil liability for environmental damage are included in the major environmental statutes as well as hundreds of EHS regulations.

5.6.2.3.1 Fault-based Liability and Strict Liability for Environmental Damage

Most modern environmental liability regimes include liability not only for unlawful activities but also for activities which, although carried out lawfully, nevertheless cause damage to the environment (and/or to persons or property). This is particularly

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[481] As China is not a common law country, past judicial decisions do not have precedential value for either FIEs or domestic entities. But see Nanping Liu, "Legal Precedents with Chinese Characteristics: Published Cases in the Gazette of the Supreme People's Court" (1991) 5 *J. Chinese L.* 107, at 107-08 (noting that, despite common scholarly opinion that published Chinese decisions do not carry precedential weight, "decisions reported in the [Supreme People's Court] Gazette may shape the development of the law by providing "guidance" to lower courts in adjudicating cases with similar factual situations or with similar issues of law").
[482] Art. 123, General Principles of Civil Law, supra note 366.
[483] Id, Art. 124.

important in the case of hazardous activities or operations using hazardous substances. For FIEs involved in such productions in China, it is important to understand whether their liability for environmental damage is a strict ("no fault") or fault-based liability.

Fault-based liability is more commonly accepted common law jurisdictions (e.g. the U.K. and U.S.), but is also used in combination with strict liability in many other countries. Even in those countries where fault-based environmental liability used to be common, there is a tendency to introduce strict liability for dangerous activities and substances. For example civil law countries such as EU member states have all subscribed to regional treaties which set environmental liability regimes that are based on strict liability for damage.[484]

Chinese law seems to adopt a hybrid of the two. The types of damage covered in its environmental liability regimes include: personal injury; damage to private property; economic loss; and damage to the "un-owned" environment. Among all these environmental damage, strict liability is generally limited to those operations or sectors governed by specific rules. In the strict liability regime, there is no need to prove fault on the part of the person who caused the damage. The victim only needs to show the damage and prove the causal link between the act and the damage. By contrast, the

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[484] For a trend of EU on environmental civil liability, see The Maastricht Treaty (1992) 31 *I.L.M.* 247 (requiring EU to have a policy to protect the environment), the "Fifth Environmental Action Program" (committing the EU to introducing civil liability at the EU level for the year 2000), the resolution of the EU council in February 1993 (committing the EU to the rapid implementation of the measures agreed at Rio in June 1992, including Principle 13 of the Rio Declaration which requires the development of environmental liability.) and the Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment under the auspices of the Council of Europe and adopted in March 1993.

successful establishment of a fault-based liability must fulfill three essential elements, i.e. the proof of fault (negligent act or omission); damage; and causation.

In a fault-based regime of liability arising out of FIE's dirty production, the proof of fault (intention or negligence) can be difficult for plaintiffs to establish. It is because the victim is not often in a position to prove the fault of polluter, and he does not have specific knowledge of the relevant technological processes or the effects of the substances involved. It is the operator who is in the best position to carry out the appropriate risk assessment and management activities related to his operations. To address this difficulty, the courts often apply a combination of "reasonable man's test"[485] and "foreseeability test"[486] for the determination of fault. In practice, there is a strong link between fault-based liability and environmental regulations. The standards and procedures laid down in environmental statutes provide guidance for a reasonable person's behavior under the circumstances. Compliance with the then prevailing laws thus indicates that an enterprise's behavior was reasonable; non-compliance thus provides *prima facie* evidence of fault.

Other than fault, the proof of causation is also difficult for plaintiffs. The plaintiff must prove that the alleged fault by the defendant (either an unreasonable conduct, or lack of due care) is the direct cause for his damage. Often the establishment of causation

[485] "The reasonable man test" generally means the court will ask what a reasonable operator would act in the like circumstances.
[486] "Foreseeability" generally refers to the duty of operator to act with reasonable prudence under the circumstances and anticipate the consequences of one's acts and missions. In taking the foreseaability test the court will take into account customary industry practices at the time. In general, something is foreseeable if it is something that other persons / operators involved in similar activities would have foreseen under similar circumstance.

requires not only factual but also scientific evidence, which is beyond an ordinary person's ability to collect. In view of this reality, China has adopted the principle to reverse the burden of proof in environmental litigation. The 1992 *Supreme People's Court's Opinion on Certain Issues on the Application of Civil Procedure Law* mandates: "in action for compensation as a result of environmental pollution, if the defendant objects to the tortuous allegations of the plaintiff, the defendant bears the burden of proof"[487]. Thus, a party undertaking environmentally hazardous activities will be first presumed to be liable for damage caused by such activities, unless it can prove that its activities are not the cause of damage, or all proper measures have been taken at the appropriate time to prevent damage.[488]

Civil actions leading to environmental problems are processed under the *Civil Procedure Law* (1991) and are handled by the civil chambers of the people's courts. The G*eneral Principles of Civil law* (1986) provides in its Art. 124 and 134 the right for any enterprise or individual to apply to the courts for an order requiring the polluter to remove the source of pollution and pay damages. Given that an environmental related accident often involves large number of victims, Article 55 of the *Civil Procedure Law* apparently encourages victims to bring "class actions" against polluters.[489] In other parts

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[487] Art. 74, 最高人民法院关于适用民事诉讼法若干问题的意见 [Supreme People's Court's Opinion on Certain Issues on the Application of Civil Procedure Law] (effective July 14, 1992) (PRC).

[488] Palmer, Michael, "Environmental Regulation in the People's Republic of China: the Face of Domestic Law" in Richard Louis Edmonds (ed.) *Managing the Chinese Environment* (New York: Oxford University Press, 2000).

[489] Art. 55 of Civil Procedure Law (1991) provides that: "When one party or both parties consist of two or more persons, the object of action is the same or of the same category and the people's court considers that, subject to the consent of the parties, the lawsuit can be tried together, a joint lawsuit shall be constituted" (Art. 53), and "With respect to a case in which the object of action is of the same category and one party is numerous and of an uncertain number upon institution of the lawsuit, the people's court may issue a public notice, stating the particulars and claims of the case and informing claimants to file at the people's court within a fixed period of time. The judgments or orders rendered by the people's court shall be effective for all the claimants who have filed at the court. The same

of the world, particularly the U.S., this form of proceeding has proven to be an important mechanism in promoting environmental welfare.[490] The class actions against the polluter appear to be gaining some ground in China too, although they are still relatively experimental.[491]

5.6.3 Criminal Proceedings

The most serious cases of environmental pollution are dealt with as criminal offences. Criminal cases are prosecuted by the procuracy in accordance with the provisions of the *Criminal Procedure Law* (2005). [492] The principal substantive law applied in environmental cases involving criminal liability is the *Criminal Law* (1997 revised.), together with a variety of supplementary provisions typically found in specific environmental protection laws. Part II Section 4 of the *Criminal Law* provides for "crimes committed by a corporation", and includes criminal liability not only for the enterprise but also for persons directly in charge.[493]

In practice, pollution intensive production in FIE's ordinary course of business rarely incur criminal liability, unless it incurs "very serious consequences either on public or

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judgments or orders shall be binding on the claimants who have not filed at the court but instituted legal proceedings during the limitation of action (Art. 55).

[490] See generally David Robinson & John Dunkey (eds.), *Public Interest Perspectives in Environmental Law* (London: Wiley Chancery, 1995).

[491] For a excellent review on the development of class action litigation in China, see Benjamin L.Liebman, *Class Action Litigation in China* (1998) *Harvard Law Review*, Vol. 111, No. 6, pp. 1523-1541.

[492] 刑事诉讼法 [Criminal Procedure Law] (effective Jan , 1997) (PRC).

[493] Art. 31 of Criminal Law (1997) reads: "A unit which commits a crime shall be punished with a fine and the person(s) directly in charge and other person(s) directly involved in the crime shall be given a punishment, where specific provisions of this law or other laws stipulate otherwise, such stipulation shall apply."

private property or bodily injury or death or another person".[494] However, in the event that FIEs in China are directly involved in waste import, processing and disposal, Art.339 of *Criminal Law* provides for the criminal offence of importing solid waste for both corporations and the persons in charge.[495]

The *Pinggu incident* in the suburb of Beijing is one of the a few "reported" foreign waste dumping cases. In 1997 Zhiqiang Caoxian Co. Ltd—a China-Australia joint venture—was discovered to have dumped 639 tons of what is labeled as "waste paper" which actually was hazardous hospital wastes[496] from Long Beach, California to China's port of Qingdao. Considered the serious consequences it has on China's human health and environment, China decided to not only criminalize the FIE, but also to seek international cooperation. On May 13, 1997 China's SEPA filed a complaint to the Secretariat of Basel Convention, alleging that it violated China's national interest.[497] The site was sealed and the garbage was later returned.

5.7 Conclusion

In this chapter, the author's review of both legal and extra-legal issues indicates the sharp divergence between the *de jure* and *de facto* regulations on foreign DIM. In China where no aggregate quantitative data on costs arising from the *de facto* compliance is

[494] Id, Art. 338.
[495] Id, Art. 339.
[496] The medical waste is on the top of 47 kinds of wastes prohibited from exporting by the Basel Convention, thus a serious violation of international convention and China's domestic laws.
[497] See Changhua Wu & Simon Wang, "Environment, Development and Human Right: A Case Study of Foreign Waste Dumping, in Lyuba Zarsky (ed.), *Human Rights and the Environment: Conflicts and Norms in a Globalizing World* (London ; Sterling, VA : Earthscan, 2002).

available, the influence of *de facto* compliance cost on foreign investor's investment decision can be salient. On one hand, the environmental regulatory change, dual standards on domestic and foreign corporations, regional variations in environmental laws and wide spread corruption increase the transaction costs by increasing the amount that FIEs must spend delineating their legal obligations and enforcing their rights.[498] On the other hand, the non- or low enforcement on environmental laws significantly undermined both the pre- and post-entry regulation of DIM, which has the same effect of lax environmental standard. It has been suggested that a possible key to understand the "implementation gaps" in China is to be found in the wide discretionary powers exercised by environmental regulators.[499] It is therefore not surprising that enterprises in China are likely to seek alliances with officials in the bureaucracy. Usually a company that was able to negotiate good relationship with government would end up with significant savings on environmental cost.

Based on these findings, it is difficult to draw a general conclusion on whether or not Chinese laws as a whole have created incentives for the migration of dirty industries. Each migration shall be studied on a case by case basis. Regarding the second common understanding that the increase of Chinese environmental standards would deter foreign corporations and thus decreases China's FDI inflow, the author did not find an apparent

[498] For a discussion on transaction costs of industrial flight, see C. Leigh Anderson & Robert A. Kagan, "Adversarial Legalism and Transaction Costs: The Industrial-flight Hypothesis Revisited" (2000) 20 *International Review of Law and Economics* 1, at 6.

[499] As Clarke (1994) observes, "enforcement activity at an industrial facility may be a sign that the EPB considers it an important and viable local industry. In contrast, particularly stringent enforcement, especially where the punishment does not seem to match the offence, may be a sign of poor relations between facility management and the EPB. On the whole, the relationship between the facility management and the EPB officials is perhaps the most important factor in influencing the degree of environmental regulation". See Clarke, S. (1994) *Pollution Control in the PRC: Regulations and Reality* (ERM, Hong Kong), at 80.

connection between the two, but rather, the environmental regulatory change as well as bureaucratic interferences may serve as real challenges for China's sustainable FDI.

There are many aspects that Chinese law can be strengthened to improve its control over DIM. The regulation of DIM is an area Chinese foreign trade and investment laws are intertwined with environmental considerations. To fully utilize the benefit of trade and investment liberalization and inhibit their negative effect on China's environment, improvements shall be made in the following aspects:

In the investment area, the promotion of investment stability and incrementally strengthen the environmental standards probably has the greatest potential, although the goals of investment stability and environmental regulatory change inevitably clash. The resolution lies in the better environmental planning as well as enforcement. In the enforcement of existing trade, investment and environmental laws, special attention shall be given to the application of national treatment standards that are often evaded or ignored at the local level.

In the foreign trade area, the environmental cost internalization is the ultimate way to extinguish incentives for the passive DIM. This implies that not only environmental sensitive industrial products shall be controlled from import / export, but also out-dated technologies, subsidies, price distortions, and other adverse incentives that encourage pollution need to be eliminated. It must be stressed that, to achieve all these goals, trade measures *per se* are not sufficient. China requires more in-depth reform in other areas of

law, for example, to the ownership reform including that of environmental assets, to protect the intellectual property rights for transferred environmentally sound technologies, to safeguard people's health and their right to a healthy environment, etc.

Other than effective law making, the implementation of laws are crucial in the regulation of DIM. At present, the policy and organizational reform to strengthen the power of environmental authorities at national and sub-national level (especially the SEPA and local EPBs) to monitor and implement environmental laws and regulations probably has much potential. In the meantime, the judiciary—as the important propeller of this process—must be kept independent of government interference. The power of courts to interpret environmental laws and to adjudicate disputes based on legal and regulatory provisions needs to be strengthened. Otherwise the laws would remain remote to the victims and have little deterrence on polluters.

It has been suggested that except in a handful of countries, the "top-down planning approach" did not bring about real change. National governments acting alone simply could not generate the political will and financial and human resources needed for action. The problem was that national-level plans were too extensive, too general, and sometimes too complicated, and thus they were not effectively translated into action.[500] The author acknowledges the difficulty of eliminating China's huge bureaucratic administration and judiciary over-nightly. Instead, other values and initiatives "from the

[500] See Jacob Scherr & David Barnhizer, "Showdown at Implementation Gap: The Failure of Agenda 21" (1997) *ECODECISION*, at 34-35.

bottom” are particularly important to evade the top-down bureaucracy for the regulation of DIM. Such values and initiatives are discussed in the rest of the work.

CHAPTER VI CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL CITIZENSHIP IN CHINA

In previous chapters the author discusses both the international and Chinese legal framework on the regulation of DIM. It is found that despite the formal institutions imposed on foreign corporations, there is no single way that comprehensively assures full compliance with all legal requirements on a continuous and uninterrupted basis. Empirical evidence does show a large variance in the conduct of foreign corporations in the host countries. Some MNCs stick to a uniform code of conduct despite the various legal context in which they operate, while others are found being engaged in social and environmental abuses in countries with lax environmental standards. This implies that there exists other regulatory force in addition to domestic and international laws which shapes the conduct of MNCs. The self-regulation of corporations, and in particular the Corporate Social Responsibility ("CSR"), is what the author envisages as a third force in the global regulation of DIM. Such force has the potential to overcome the systemic deficiencies underlying both international and domestic institutions in the regulation of DIM, which deserves intensive study.

This chapter does not intend to address full issues of CSR in China. Previous public concerns over the social performance of foreign corporations in China focus on the labour aspect of CSR, i.e. to take China as a haven for cheap labour and study the labour rights of Chinese workers. However, few researchers have ever taken a serious

look on the environmental aspect, i.e. to take China as a potential "pollution haven" and studies the environmental performance of various forms of corporate entities operating in China. This chapter seeks to fill this gap. It takes into account the Chinese institutional environment for the examination of CSR. Furthermore, the environmental aspect of CSR is studied as one of the resolutions for the regulation of dirty industry migration in China.

6.1 The Development of Corporate Social Responsibility—Theories and Practice

While there is no single, commonly accepted definition of CSR,[501] CSR is generally accepted as operating businesses in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business.[502] While the labour and environmental issues have traditionally formed the core of most CSR approaches, CSR encompasses human rights, employee rights, community involvement, supplier relations, and environmental protection, and exhort MNCs to make decisions that fairly balance the claims of all key "stakeholders".[503]

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[501] The sources of CSR comprise of public international instruments, domestic legislations relating to CSR, individual business codes of conduct, as well as NGO guidelines, See Ilias Bantekas, "Corporate Social Responsibility in International Law" (2004) 22 *B.U.Int'l L.J.* 309, at 317, see also Kathryn Gordon, "The OECD Guidelines and Other Corporate Responsibility Instruments: A Comparison", in OECD Guidelines for Multinational Enterprises: Annual Report 2001 (OECD, Working Paper No. 2001/15, 2001) <http://www.oecd.org/dataoecd/46/36/2075173.pdf> Accessed Dec 18, 2006.

[502] For a brief overview and discussion of CSR's origins, see Daniel T. Ostas & Stephen E. Loeb, "Teaching Corporate Social Responsibility in Business Law and Business Ethics Classrooms" (2002) 20 *J. Legal Stud. Educ.* 61

[503] While the traditional definition of stakeholders offer descriptions akin to the definition of shareholder, the use of

The modern debate on CSR can be traced to the 1930s on an exchange of views between Professor Merrick Dodd and Adolf Berle on the extent to which the corporation should be regarded primarily as an economic entity, or as a social entity. [504] Such debate on the nature of corporation not only had a significant impact on subsequent researchers in shaping theories of CSR, but also formed the basis of contemporary debate on models of corporate governance, especially after the large corporate scandals in major developed economies.[505]

6.1.1 Shareholder View *vs.* Stakeholder View of Corporation

The traditional western view about CSR is directly derived from the shareholder-oriented theory of corporation.[506] This view suggested that corporations have no specific social responsibilities beyond profit-maximization for the benefit of shareholders, but that such

"stakeholder" in the environmental, social responsibility, and sustainability contexts usually connotes a broader group of interests or affected constituencies. From the public, NGO, and government perspective this broadening often encompasses those individuals and groups impacted by the enterprise's activities. For the corporation, the connotation of "stakeholder" might be best defined as those individuals or groups whose opinion or interests bear on a corporation's reputation, and hence it's brand value. Monsma, supra note 37, at 174.

[504] Dodd and Berle developed different implications about the fiduciary duties of boards of directors from their differing concepts of the nature of the corporation. Thus, Dodd viewed the modern corporation as a quasi-public entity, and so argued that the board of directors had quasi-public responsibilities to multiple constituencies, while Berle thought that until the problems created by potential accountability to multiple constituencies could be solved, it was necessary for boards to exercise their fiduciary duties in the interests of shareholders only See E. Merrick Dodd, Jr., "For Whom Are Corporate Managers Trustees?" (1932) 45 *Harv. L. Rev.* 1145, 1162; Adolph A. Berle, Jr., "For Whom Are Corporate Managers Trustees: A Note" (1932) 45 *Harv. L. Rev.* 1365, 1368.

[505] See Shleifer & Vishny, "A Survey of Corporate Governance" (1997) *Journal of Finance*, 737-83; Also see OECD Principles of Corporate Governance (2004) <http://www.oecd.org/dataoecd/32/18/31557724.pdf> Accessed Feb 20, 2007.

[506] See Jenry Hansmann and Reinier Kraakman, "The End of History for Corporate Law" (2001) 89 *Geo. L. J.* 439 (Suggesting that there is convergence trend on the structures of corporate governance in the world and such convergence is towards the Anglo-American model, which they term as "standard shareholder-oriented model". Under this model, as Hansmann and Kraakman describes it, ultimate control over the corporation is in the hands of shareholders, corporate managers are charged with managing the corporation exclusively in the interest of shareholder's economic interests; and the interests of other corporate stakeholders, such as creditors, suppliers, employees and customers, ought the be protected by explicit contracts or by other bodies of law, rather than through participation in corporate governance.).

profit-maximizing must occur within the confines of the law, without deception or collusion.[507] In other words, the constraints of law, supplemented in some specific instances by contractual obligations, will be sufficient to address any and all concerns about the exercise of corporate power and in particular will be sufficient to ensure that companies fully internalize all of the social and environmental costs of their productive processes and labour relationships.[508] The notions of such view were probably best expressed by the Nobel Prize winner Prof. Milton Friedman, who once launched an ardent attack on advocates of CSR: "In fact, they [advocates of CSR] are – or would be if they or anyone else took them seriously – preaching pure and unadulterated socialism. Businessmen who talk this way are unwitting puppets of the intellectual forces that have been undermining the basis of a free society these past decades".[509] Friedman remarked that a corporate executive, who "imposes taxes and spends proceeds for 'social' purposes", is not responding to 'market mechanisms' and is not mandated through 'democratic procedures'. Hence, "the doctrine of 'social responsibility' involves the acceptance of the socialist view that political mechanisms, not market mechanisms, are the appropriate way to determine the allocation of

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[507] Under this view, corporations meet their proper social responsibilities by excelling in their economic activities, which then contributes to a well-functioning economy by employing people, by providing needed goods and services, and by contributing the social welfare through paying taxes. The most widely quoted exemplar of this view is Professor Milton Friedman, who has stated that in a free economy "there is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays with the rules of the game, which is to say, engages in open and free competition, without deception or fraud." See Milton Friedman, *Capitalism and Freedom* (Chicago: University of Chicago Press, 1962), at 133.

[508] This point of view, in the eye of the author, has its merit in that some categories of participants in the corporate governance are well positioned to protect themselves by contract. However, it must be noted that there are other groups of people or entities-employees, consumers, communities, and "the environment" who typically have not negotiated explicit contracts with the business entities of interest, who are not protected by contracts, or whose contracts are not very protective. Often these people are not in a position to negotiate a contract to protect their interests, either because of a lack of bargaining power or perhaps because they don't know they're about to be affected by an exercise of corporate power.

[509] Milton Friedman, "The Social Responsibility of Business Is to Increase Its Profits?", N. Y. Times Magazine., Sept. 13, 1970, at 32.

scarce resources to alternative uses".[510] Such strong libertarian notion of CSR probably still represents the predominant academic view in the U.S.[511]

In competition with the shareholder view of CSR are the views that derive from the stakeholder oriented theory of corporation.[512] In 1984, Edward Freeman published *Strategic Management—A Stakeholder Approach*, which has become the backbone classic of the subsequent and very extensive elaborations of the stakeholder model.[513] Proponents of the stakeholder view of CSR contend that corporate managers' underlying duties are by no means confines to the maximization of shareholder interests, and they ought to consider the impact of their decisions on a wider range of constituents than shareholders.[514] As the interests of shareholders may sometimes clash with that of other stakeholders, academics have sought to evaluate the conditions under which

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[510] Friedman, ibid, inverted commas in the original.

[511] See, e.g., Frank H. Easterbrook and Daniel R. Fischel, *The Economic Structure of Corporate Law* (Harvard University Press 1991), at 12 (stating that shareholders, as residual claimants, have implicitly contracted for promise that firm will maximize profits in long run); Henry G. Manne & Henry C. Wallich, *The Modern Corporation and Social Responsibility* (Washington, D.C.: American Enterprise Institute, 1972) (noting that social responsibility of corporations is shareholder wealth maximizing); Bernard Black and Reinier Kraakman, "A Self-Enforcing Model of Corporate Law" (1996) 109 *Harv. L. Rev.* 1911 (arguing that principal goal of corporate law is to maximize shareholder wealth); see also Michael Bradley, Cindy A. Schipani, Anant K. Sundaram and James P. Walsh, "The Purposes and Accountability of the Corporation in Contemporary Society: Corporate Governance at a Crossroads" (1999) 62 *Law & Contemp. Probs.* 9 ; Roberta Romano, "The Political Economy of Takeover Statutes" (1987) 73 *Va. L. Rev.* 111, 113 (asserting that core goal of corporate law is to maximize equity share prices).

[512] See for example, Clarkson, M. B. E. "A Stakeholder Framework for Analysing and Evaluating Corporate Social Performance" (1995) *Academy of Management Review* 20: 92-117; Wood, D. J., Jones, R. E. "Stakeholder Mismatching: A Theoretical Problem in Empirical Research in Corporate Social Performance" (1995) *International Journal of Organizational Analysis* 3: 229-267; Maignan, I., Ferrell, O. C., Hult, G. T. M. "Corporate Citizenship: Cultural Antecedents and Business Benefits" (1999) *Journal of the Academy of Marketing Science* 27: 455-459.

[513] Freeman, R. Edward, *Strategic Management: A Stakeholder Approach* (Boston: Pitman 1984). (Freeman defines stakeholder as "any group or individual who can affect, or is affected by, the achievement of a corporation's purpose", and offers the following list of possible stakeholders "employees, customers, suppliers, stockholders, banks, environmentalists [and] government" at 25.) Also see Freeman, Edward R., "The Politics of Stakeholder Theory: Some Future Directions". (1994) *Business Ethics Quarterly*, vol. 4, issue 4, pp. 409-421; Freeman, R. Edward & Robert Phillips, "Stakeholder Theory: A Libertarian Defense", (2002) *Business Ethics Quarterly*, Vol.12, No. 3, 331-350.

[514] See Steven M.H. Wallman, "The Proper Interpretation of Corporate Constituency Statutes and Formulation of Director Duties" (1991) 21 *Stetson L. Rev.* 163; Peter Nobel, "Social Responsibility of Corporations" (1999) 84 *Cornell L. Rev.* 1255, 1259.

decisions presumed to be shareholder wealth-maximizing have had negative effects on, for example employees, consumers, suppliers, the community, and the environment.[515]

The stakeholder view of CSR is not simply an academic construct but is evident in the structure of corporate governance and in the social democratic underpinnings of most European and other civil law countries.[516] A substantial study comparing business ethics in North America and Continental Europe finds a significant difference between the two continents: "Europeans are predominantly concerned with systemic macro-issues while North Americans mainly deal with personal micro-issues".[517]As suggested, CSR in the American context seems to have evolved in society with a minimal state on the sideline, while CSR in Europe evolves in interactions between state and society on a fairly equal footing.[518] In effect, the European conceptualization of business ethics predominantly refers to "legal regulations and negotiations between social partners (management, labour, professional associations, etc.) at the national and European levels".[519] As to the legal regulations in question, Enderle (1996) specifies European labour laws and provisions by governments for education, health care, and

[515] The scholarship on this point is voluminous. For an overview to this discussion, see Symposium, "Corporate Social Responsibility: Paradigm or Paradox?" (1999) 84 *Cornell L. Rev.* 1133; Symposium, "Corporate Social Responsibility" (1999) 62 *Law & Contemp. Probs.* 1.

[516] See Cynthia A. Williams, "Corporate Social Responsibility in An Era of Economic Globalization" (2002) 35 *U.C. Davis L. Rev.* 705, 716; Also see Mark Roe, "Some Differences in Corporate Structure in Germany, Japan, and the United States" (1993) 102 *Yale L. J.* 1927. Mark J. Roe, "Political Preconditions to Separating Ownership from Corporate Control" (2000) 53 *Stan. L. Rev.* 539, 566-68 (describing attitudes towards social responsibilities of firms among German and French public officials).

[517] Enderle, George, "A Comparison of Business Ethics in North America and Continental Europe" (1996) *Business Ethics: A European Review*, vol. 5, no. 1, pp. 33-46.

[518] Mads Holst Jensen, "Serve the People! Corporate Social Responsibility in China" (2006) Asia Research Centre, CBS, Copenhagen Discussion Papers, <http://chinaworld.cbs.dk/cdp/paper/mads.pdf> Accessed Jan 18, 2007

[519] Id.

environment.[520] In other words, nation states and the EU seem to play decisive roles in the systemic organization of social welfare responsibilities of businesses.

In practice, developing countries compete for American and European MNCs' investments and MNCs can choose to make their investment only in the country that is able to offer them the most corporate-friendly business environment. In light of this reality, MNCs are in a position to influence a country's social and environmental practices, forcing the change of a country's practices or policies by refusing to invest in a country if its policies are adverse to the goals of the company. [521] It is therefore important that MNCs maintain a high ethical standard in choosing the countries they wish to invest and bear a social responsibility throughout its operation.

6.1.2 Corporate Social Responsibility and Environmental Citizenship

The non-unified definition of CSR is not necessarily a detriment to the CSR movement. As companies look inward to develop their own approaches to diverse stakeholders, and governments and NGOs seek to promote an ethos of corporate citizenship, the amorphous nature of CSR allows a great deal of flexibility in its approach and application. Until the late 1980s, the social responsibilities of corporations towards the environment were not treated differently, but as a part of the term "social responsibility".

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[520] Id.
[521] Since the 1970's, the investment pressure on companies was used to persuade the government of South Africa to change its apartheid policies. See Monsma, supra note 37, at 190.

However, the content and the significance of environmental responsibilities of corporations widened in the course of time and it became necessary to distinguish the studies concerning environmental responsibilities. The concept of corporate environmental citizenship ("CEC"), [522] which has been developed parallel to the development of "social responsibility", has started to be used by researchers in order to indicate corporate responsibilities for the environment.[523] Thus in this thesis the author defines the concept of CEC as all of the precautions and policies corporations need in order to reduce the hazards they give to the environment.

In the environmental arena, the high visibility of environmental issues drives customers, investors and employees to pressure companies to go well beyond regulatory and legal compliance. Media scrutiny and market-based environmental activist campaigns are raising the importance of proactive environmental management to protect and enhance brand image and corporate reputation. As a result leadership companies around the globe are adopting more sophisticated environmental practices and policies. They are increasingly expected to address environmental impacts of their facilities throughout the entire product lifecycle, from sourcing, production and transportation to marketing, use and disposal.

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[522] For the development of the concept of corporate environmental citizenship, see Carroll AB, "The four faces of corporate citizenship" (1998) *Business and Society Review* 100/101; Maignan I, Ferrell OC., "Measuring Corporate Citizenship In Two Countries: the Case of the United States and France" (2000) *Journal of Business Ethics* 3(3): 283–297; Küskü F, Zarkada-Fraser A. "An empirical investigation of corporate citizenship in Australia and Turkey" (2004) *Journal of Management* 15: 57–72.

[523] Rondinelli DA, Berry MA."Environmental Citizenship in Multinational Corporations: Social Responsibility and Sustainable Development" (2000) *European Management Journal* 18(1): 70–84.

6.2 Synthesizing the Principle of Sustainable Development, Environmental Justice, and Corporate Social Responsibility for the Regulation of DIM

MNCs have an important role to play in the promotion of global sustainable development. Although international treaties have not endowed MNCs with legal personality, the whole structure of sustainable development is necessarily dependent upon MNC's direct participation. Principles 5 and 27 of the 1992 *Rio Declaration* have made it clear that the obligations arising from sustainable development are addressed to "all States and people".[524] *Agenda 21*, the implementing blueprint of the *Rio Declaration*, in its Chapter 30 spells out the role of industry and MNCs in sustainable development, particularly by increasing the efficiency of resource utilization, reduction of waste, promoting of cleaner production, environmental reporting, and other concerns.[525] These practices thus become social responsibilities of MNCs, regardless of the place they operate.

The principles of environmental justice, on the other hand, seek to address the disproportionate impact of environmental pollution caused by MNCs operating around the world and the lack of equal environmental protection experienced by the disadvantaged people.[526] To apply the environmental justice principle to the MNCs thus require MNCs to bear a responsibility that they do not exacerbate the environmental

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[524] Rio Declaration on Environment and Development, U.N. Conference on Environment and Development, Annex I, Agenda Item 21, at 8-11, U.N. Doc. A/ CONF.151/26 (Vol. I) (Aug. 12, 1992).
[525] U.N. Conference on Environment and Development, Agenda 21: The United Nations Programme of Action from Rio (1992) § 30 U.N. Doc. DPI/1344, U.N. Sales No. E.93.I.11 (1993).
[526] See Ke Jian, "Environmental Justice: Can An American Discourse Make Sense in Chinese Environmental Law?" (2005) 24 *Temple Journal of Science, Technology & Environmental Law* 253, at 254.

injustice by transfer pollution to the host state or cause any environmental harm to the local people and environment.

As Monsma (2006) observes, environmental justice could serve as the "conceptual link between human rights and the environment that is missing in the dialogue on corporate social responsibility and sustainable development."[527] Insofar as CSR is explicitly aligned with global standards for corporate conduct, which define human rights as an ethic (if not a right) to a healthy environment, it would seem logical for proponents of CSR to also reference environmental justice principles as conferring a duty on corporations to evaluate and report on their activities in terms of their potential for discriminatory disparate impacts".[528]

Monsma's argument was supported by the relevant principles under Global Reporting Initiative (GRI).[529] The GRI's *Sustainability Reporting Guidelines* had called on

[527] It was suggested that the principles of sustainable development and CSR "both share a potential for addressing environmental justice principles through a framework of transparent reporting commitments linked to social investment and stakeholder responsibility", and "both receive the criticism that neither system is sufficiently developed, accountable, or "legal" enough to become as effective as, for instance, financial accountability." See David Monsma, "Equal Rights, Governance, and the Environment: Integrating Environmental Justice Principles in Corporate Social Responsibility" (2006) 33 *Ecology L.Q.* 443, at 492 and 497; also see Benjamin J. Richardson, "Enlisting Institutional Investors in Environmental Regulation: Some Comparative and Theoretical Perspectives", (2002) 28 *N.C.J. Int'l L. & Com. Reg.* 247, at 247 (noting "the role of private financial organizations in environmental policy and argu[ing] that the effectiveness of environmental regulation may be enhanced when it can encourage institutional investors to take account of the environmental effects of their decisions"). Gerald F. Tietz, "Strict Product Liability, Design Defects and Corporate Decision-Making: Greater Deterrence Through Stricter Process" (1993) 38 *Vill. L. Rev.* 1361, at 1403 (analogizing to the duty of care in manufacturing, Tietz observes: "Corporate resistance to safety is substantially due to the absence of a sense of social accountability. As Blackstone observed, corporations have no souls. If this is true, then perhaps it is unreasonable to expect corporations to act as responsibly—and be held as socially accountable—as individual persons.").
[528] Monsma, ibid, at 492 (Comparing the nature and history of the principle of environmental justice and CSR, Monsma suggests that "fundamentally, environmental justice, as a set of ethical principles, is as much an issue of corporate social responsibility and sustainable development as it is a matter of equal protection of laws." same, at 469)
[529] Global Reporting Initiative (GRI) <http://www.globalreporting.org> (Accessed Dec. 18, 2006) is one of the most widely known corporate self-performance standard that focuses on the economic, environmental, and social dimensions of corporate activity, products, and services. The GRI Sustainability Reporting Guidelines were first issued in 1999 and are renewed regularly, laying out a coherent format upon which corporations are to structure their

corporations to “intend, among other things, to assist organizations in reporting information clearly demonstrating the impact of their operations, products, and services on air, water, land, biodiversity, and human health”, [530] and further encouraged companies to “describe global policy and procedures for preventing all forms of discrimination in their operations”.[531] It was suggested that the above GRI provisions are clear reporting indicator for environmental justice on corporate social responsibility which is essential to sustainable development.

6.2.1 Codes of Conduct

Starting from 1991 when the U.S. jeans producer Levi-Strauss developed the first “Code of Conduct” at the pressure of its being accused of labour abuses in developing countries, a large array of social responsibility movement was initiated by consumers, environmental groups, trade unions, human rights groups as well as other non-governmental organizations towards MNCs. As a result, MNCs and other industrial leaders vied with each other to set up their own code of conduct enlisting the ethical standards that they claim to uphold.[532] In addition to the code of conduct designed by

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social reports. The importance of the GRI Guidelines is stressed by the fact that the UN Global Compact has entered into an agreement of collaboration with it, whereby corporate submissions that meet the GRI Guidelines will be accepted under the relevant Compact reporting procedures. See Ananymous, “Guide to the Global Compact: A Practical Understanding of the Vision and Nine Principles, U.N. Global Compact” (2002) <http://www.uneptie.org/outreach/compact/docs/gcguide.pdf> Accessed Dec 18, 2006, at 9.

[530] Global Reporting Initiative (GRI) Sustainability Reporting Guidelines, Part C (2002), <http:// www.globalreporting.org/guidelines/2002/c53.asp> Accessed Dec. 18, 2006.

[531] Id.

[532] Benjamin J. Richardson, supra note 527, at 247, who investigates the role of private financial organizations in environmental policy and argues that the effectiveness of environmental regulation may be enhanced when it can encourage institutional investors to take account of the environmental effects of their decisions. Through a combination of incentive, informational, and regulatory mechanisms, governments can mobilize institutional

corporations, there are a great number of industry codes,[533] union sponsored codes,[534] as well as codes of conduct that come from international organizations.[535] These codes of conduct stress the absence of pollution, the non-abuse of human rights, the eradication of corruption and similar aims,[536] and they all serve to facilitate the self-regulation and social responsibilities of MNCs.

6.2.2 Socially Responsible Investment

Another significant change in the movement of CSR is that investors in developed countries have increasingly taken into consideration the social performance of corporations while making their investment decisions. Investors have begun to realize that investment shall contribute to sustainable development, and that a sustainable investment must consider its economic, social and environmental impacts in a multidisciplinary context. The term "Socially Responsible Investment" ("SRI") refers to investing funds based on ethical, environmental or social conditions. Although currently

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investors to support environmental policy by providing a means of transmitting and amplifying primary regulatory controls through the market.

[533] See for example, Apparel Industry Partnership (AIP) Workplace Code of Conduct (Prepared by the AIP, an affiliation of apparel manufacturers, contractors, retailers and the U.S. Department of Labour developed to address domestic and international sweatshop labour, <http://www.itcilo.it/english/actrav/telearn/global/ilo/guide/apparell.htm> Accessed Jan 18, 2007; World Federation of the Sporting Goods Industry Model Code of Conduct (Developed by the Federation's Committee on Ethics and Fair Trade in 1995 to serve as a model for member companies committed to labour, human resource, environmental and legal standards in their operations, <http://www1.umn.edu/humanrts/links/wfsgi.html> Accessed Jan 18, 2007.

[534] See for example, International Confederation of Free Trade Unions (ICFTU) Basic Code of Labour Practice, <http://www.itcilo.it/english/actrav/telearn/global/ilo/guide/icftuco.htm>; International Federation of Building and Wood Workers (IFBWW) Model Framework Agreement, <http://www.ifbww.org/index.cfm?n=191&l=2&on=7> Accessed Jan 18, 2007.

[535] See for example, the OECD Guidelines for Multinational Corporations (2000), <http://www.oecd.org/dataoecd/56/36/1922428.pdf>; United Nations Global Compact (2000), <http://unglobalcompact.org/> Accessed Jan 18, 2007.

[536] For a useful resource of company based, industry based as well as other-based codes of conduct see <http://www.codesofconduct.org> Accessed April, 4, 2005.

accounting for a small percentage of all funds invested worldwide, SRI has seen a significant growth in recent years. Commentators point out that in 2003, the total amount invested in SRI-type screened portfolios exceeded $2.15 trillion.[537] Most SRI funds operate under specific social or environmental criteria. Some funds use negative criteria, excluding industries such as tobacco and alcohol, while others seek out investment in companies that act proactively to address social or environmental issues. Some investors participate in SRI funds based on purely ethical or moral motives; while many other proponents believe that socially and environmentally responsible corporate policies are indicative of sound internal and external management.

For corporations, they can benefit financially by listing their stock with an ethical stock market index.[538] Such a listing enhances the appeal of a company to investors and acts to protect a corporation's core assets of brand and image. In fact, the Dow Jones Sustainability Index has outperformed the Dow Jones Global Index by more than 140% over an eight-year period, and the Domini 400 Social Index ("DSI") has outperformed the S&P 500 over the eleven years since DSI's inception in 1990.[539] Generally, corporations in these funds are considered best-practices performers in managing the myriad factors that affect financial performance, most importantly social and

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[537] See William Baue, "Social Investment Forum's Trends Report Tracks Rises and Falls in SRI" (2003), <http://www.sri-adviser.com/article.mpl?sfArticleId=1258> Accessed Feb 22, 2007.

[538] For example, the Dow Jones Sustainability Index (DJSI) has been established to cater to those investors. The DJSI was launched in 2000 as an investment information resource to rate companies according to their ability to meet stated goals related to sustainable development and corporate social responsibility. See Pall A. Davidsson "Note, Legal Enforcement of Corporate Social Responsibility within the EU" (2002) 8 *Colum. J. Eur. L.* 529, at 532

[539] EC, "Green Paper: Promoting a European Framework for Corporate Social Responsibility" (2001) COM(01)366 <http:// europa.eu.int/comm/employment_social/publications/2001/ke3701590_en.pdf> (Accessed April 4, 2005), at 25.

environmental factors. [540] Conversely, if the corporation disregards its social responsibility, the disclosure of such negative information would cause the price of its shares to drop and even causes the collapse of the corporation.

In addition, CSR-related sustainable development is reinforced through the lending or insurance mechanisms of inter-governmental institutions. For example, Art.12(d)(i) of the *MIGA Convention* provides that MIGA would agree to guarantee only those investments that are "economically sound" and which contribute to the development of the host country. This has been interpreted by MIGA to include environmental performance and sustainability with regard to natural resource management. [541] Similarly, the World Bank as well as other lending institutions would make it impossible to secure a loan without proper environmental assessment and sustainable operations.[542]

6.3 Corporate Social Responsibility in China

6.3.1 Values of the Chinese on Business Ethics

CSR is part of the field of business ethics. The discussions on business ethics had been initiated in North America in the 1960s and that research on business ethics issues had

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[540] Simon Zadek, "Comment, Materiality in Reporting" (7 August 2003) *Ethical Corp. Online*, <http://www.ethicalcorp.com/content.asp?ContentID=928> Accessed Apr 4, 2005

[541] World Bank Group, "MIGA's Environmental and Social Review Procedures" (1999), <http:// www.miga.org/screens/policies/disclose/soc_rev.htm> Accessed Oct, 10, 2006.

[542] See European Bank for Reconstruction and Dev., "Sound Business Standards and Corporate Practices: A Set of Guidelines" (Sept. 1997) <http://www.ebrd.com/pubs/law/standard/stande.pdf> Accessed Feb 22, 2007.

begun in Europe and Britain in the 1980s.[543] Although some western scholars might think that business ethics has never come about in China, Chinese scholars have explained that the basic norms of business ethics emerged as early as 2,500 years ago in the eras of The Spring and Autumn and the Warring States.[544]

6.3.1.1 Business Ethics under the Confucius Doctrine

Chinese business ethics scholars go a long way to substantiate the Chinese tradition of business ethics. A tentative survey of their explications indicates general agreement that the Confucian virtue of "Yi" (义) is the pivot around which the Chinese tradition of business ethics evolves. "Yi" is commonly translated as "righteousness". Under the Confucian doctrines, it refers to the virtue of knowing and acting according to what is right.[545] Scepticism towards profit (li-利) is a defining characteristic of Confucianism, and righteousness ("yi") is elevated as the opposing virtue. Shi (1995) has pointed out that,"Throughout history, numerous business people have encountered the problematic opposition of "righteousness" and "profit". If they could not help focusing on short term profit, they would go for the petty gain. But if they appreciated the large, long term gain of the nation; they would bring about national common prosperity, even if that entailed sacrificing their own personal revenue."[546] So far, the Chinese explications of the opposition between "righteousness" and "profit" appear to be almost identical to the

[543] Enderle, supra note 517.
[544] See Liu Xiusheng, "The Emergence and Development of the Chinese Traditional Business Ethics" (1995) *北京商学院学报 Journal of Beijing Business School,* vol. 61, no.1, at pp. 41-44.
[545] See Shi Xiyan, "Tentative Analysis on Business Ethics" (1995) *理论与现代化 Theories and Modernization*, no. 9, pp. 32-35.
[546] Id, at 32-33.

explications of the opposition between ethics and profit offered by the Western CSR literature.

Furthermore, as Chinese scholars elaborate further on the connotations of "righteousness", it is found that "righteousness" is ingrained upon the Chinese traditional emphasis on hierarchal ordering of human relations. It is the key norm of the superior interacting with the inferior.[547] According to Liu (1995), "righteousness" includes the approval, protection and favor bestowed by the superior upon the inferior".[548] Such a view is consistent with the Confucius saying that "The mind of the Superior man is conversant with righteousness, the mind of the mean man is conversant with profit."[549]

6.3.1.2 "Serving the People"

For thousands of years, leadership in China has been intensively influenced by the Confucius doctrines. Such influence is reflected by the way that leadership at different times educates its people by performing role models for righteousness. For example, Mao Zedong has created the doctrine of "serving the people" ("wei renmin fuwu") and performs the role model of righteousness by educating the Chinese Communist Party ("CCP") that "We [the CCP] should be modest and prudent, guard against arrogance

[547] Liu, supra note 544, at 41. (Liu gives the example that "'righteousness' should guide a virtuous ruler interacting with a subject, a father interacting with his son, a husband interacting with his wife, an elder brother interacting with his younger brother, etc".)
[548] Id.
[549] Anonymous, *Analects*, Book 4, Chapter 16.

and rashness, and serve the Chinese people heart and soul....”[550] Mao also legitimized the authority of CCP by aligning the interest of CCP with that of a multiplicity of stakeholders. “Our point of departure is to serve the people whole-heartedly and never for a moment divorce ourselves from the masses, to proceed in all cases from the interests of the people and not from one’s self-interest or from the interests of a small group, and to identify our responsibility to the people with our responsibility to the leading organs of the Party.”[551]

6.3.1.3 “Socialist Spiritual Civilization”

Since the start of the reform era, Deng Xiaoping, the successor of Mao, proposed an outstanding theoretical creation to “allow some regions and people to get rich first, so they can help others for common prosperity”,[552] Such an idea greatly stimulated entrepreneurial spirit that has energized China’s rapid economic development over the past decades. However, things turned out that those who “get rich first” did not promote “common prosperity” as Deng envisaged, and the opposition between profit and ethics had quickly become severe problem which arouse civil unrest. During the economic reform era the traditional inequalities have been unfolding between the urban and rural sectors, between the new entrepreneurs and the traditionally privileged working class, and between the rich coastal provinces and the backward inner provinces. As a result, the leadership had to re-emphasize on ethics by creating the idea of “Socialist Spiritual

[550] Mao Zedong, “China's Two Possible Destinies” (April 23, 1945), Selected Works, Vol. III p. 253.
[551] Mao Zedong, “On Coalition Government” (April 24, 1945), Selected Works, Vol. III, p. 315.
[552] It was generally believed that Deng first proposed this idea in the late 1970s. Other occasions when Deng re-iterated this idea see: <http://news.xinhuanet.com/newscenter/2005-01/16/content_2467918.htm> Accessed Jan 19, 2007.

Civilization" ("she hui zhu yi jing shen wen ming"). The heading "Socialist Spiritual Civilization" aimed at establishing a consistent ideological foundation for the economic development, referred to as "Socialist Material Civilization".

In educating the people (including the businesses) on ethics the leadership again adopted the approach of first performing the role model from the above. For instance, Jiang Zemin remarked in his speech on the 80th anniversary of the CPC in 2001 that "the comrades of the whole Party must have a comprehensive mastery of the dialectical relations between the two civilizations and while promoting material civilization, it is necessary to promote socialist spiritual civilization. In contemporary China, to develop advanced culture is to develop culture with distinct Chinese characteristics and to build socialist spiritual civilization". [553] Similar to Mao, Jiang Zemin re-enforced the authority of CCP by aligning its interest with the general public when he created the theory of "Three Represents" in 2000.[554]

6.3.1.4 "Harmonious Society"

Probably what best incorporates the Chinese values of business ethics is the recent

[553] See Jiang Zemin, "Jiang Zemin's Speech on Party's 80th Anniversary (part III)" (2001) China DailyOnline, 1 July. <http://www.chinadaily.com.cn/en/doc/2001-07/01/content_241278.htm> Accessed Jan 19, 2007. Also see former Premier Zhu Rongji's governmentwork report to the First Session of the 10th NPC in 2003, Zhu stated that "Firmly grasping the orientation of advanced culture, we should redouble our efforts to build up a socialist spiritual civilization" and that "We should encourage popular participation in activities to raise the cultural and ethical standards of the general public" See Zhu Rongji, "Chinese Premier on Democracy, Rule of Law, Cultural Ethics" (2003) China Daily Online, <http://english.people.com.cn/200303/05/eng20030305_112747.shtml> Accessed Jan 19, 2007.

[554] "Three Represents" refers to what the Communist Party of China currently stands for. That is: "It represents the development trends of advanced productive forces; it represents the orientations of an advanced culture; it represents the fundamental interests of the overwhelming majority of the people of China."See speech by CPC General Secretary Jiang Zemin on strengthening Party building in the face of new situations and tasks during his inspection tour of South China's Guangdong Province in February, 2000.

policy slogan of “Harmonious Society” (“he xie she hui”) propagated by the CCP and president Hu Jintao.[555] Hu Jintao offered explications of this vision of the political leadership in a speech on 19 February 2005 at a seminar, which was sponsored by the CPC Central Committee Party School and attended by major provincial- and ministerial-level leaders. “A Harmonious Society should feature democracy, the rule of law, equity, justice, sincerity, amity and vitality”, said Hu and “honesty, unity, fraternity, professional ethics should be advocated to the whole society”. [556] Furthermore, he stressed that “without a common ideological aspiration or high moral standard, a Harmonious Society will be a mansion built on sand”.[557]

President Hu’s this speech has been so far the clearest interpretation of what the political leaders demand for business ethics in contemporary China. It was suggested that the fact that Hu Jintao mentions “vitality” as one of the features of the vision indicates that the harmonization is not intended to hamper the entrepreneurial spirit that has energized China’s rapid economic development over the past decades. The vision rather signals the wish that part of the entrepreneurial energy should contribute to the common good.[558] Here the Chinese political leaders seem to draw on the insights of the concept of “Stakeholder Society” as promoted by Western European social democratic

[555] The slogan of “Harmonious Society” was first introduced at the Fourth Plenum of the 16th Central Committee held 16-19 September 2004, and a whole section was devoted to explications of it in the 中共中央关于加强党的执政能力建设的决定 [CPC Central Committee Decision on the Enhancement of the Party’s Governance Capability] which was adopted during this plenum. See <http://www.people.com.cn/GB/42410/42764/3097243.html> Accessed Jan 19, 2007.
[556] See Anonymous, “Harmonious Society Crucial for Progress” (2005) Xinhuanet, 26 June. Retrieved Feb 29, 2006 <http://news.xinhuanet.com/english/2005-06/26/content_3139097.htm> Accessed Jan 19, 2007.
[557] Id.
[558] Jensen, supra note 518, at 20-21.

parties,[559] which supports the idea that the government should facilitate the active participation of all stakeholders and provide the organization and norms for the social responsibility of companies, individuals and other social groups.[560]

6.3.2 Corporate Social Responsibility—Does East Meet West?

A review on the western and eastern values of CSR gives rise to the question whether western values of CSR can be adapted to a Chinese context. In recent years, CSR has become very topical in China especially as the country becomes increasingly integrated into the global production chain. However, the reality of the transitional economy has determined that on the one hand, the Chinese leadership maintains the principle of absolute Party-State control and China is still characterized by heavy bureaucracy and remnants of the centrally planned economy. On the other hand, decentralization and the current mode of economic development imply at times unlimited permissiveness to representatives of the entrepreneurial spirit. This is the context where the western values of CSR try to fit in.

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[559] The idea of "Stakeholder Society" was first introduced by Tony Blair in his speech to the Singapore Business Community in January 1996, in which Blair proposed abolishment of universal welfare; instead certain duties and conditions should be required from welfare beneficiaries. Each having a stake in society, all citizens and groups should have equal opportunities. Business should play an active role in the Stakeholder Society and the government should serve as the facilitator. See Tony Blair, "The Singapore Speech" <http://www.psa.org.nz/library/psa/02%20partnership%20for%20quality%20materials/tony%20blair%20-%20the%20singapore%20speech%201996.doc> Accessed Jan 19, 2007.

[560] In February 2006, the journal 学习时报 [Study Times], an organ of the CPC Central Committee Party School, published an article. The article notes that Western European social democratic parties have come to acknowledge that the state should not be regarded as the only agent responsible for social welfare. In stead, "companies, individuals and other social groups must undertake responsibility together with the government." As to the role of government in this new setup, the article quotes British Labour Party representatives stating that "It is not automatically the role of govern- ment to provide all social welfare, but rather to provide the organization and norms for it" See Wang Yu, 国外政党如何处理效率与公平的关系 ["How Do Foreign Political Parties Handle the Relationship between Efficienty and Fairness?"] (2006) 学习时报 Study Times, February 23, 2006. On-line edition <http://service.china.org.cn/link/wcm/Show_Text_xx?info_id=1060904> Accessed Jan 19, 2007.

As discussed above, the American conceptualization of CSR is characterized by strong libertarian notions which stress freedom and individualism. As a result, CSR in an American context is based on a dynamic interplay of descriptive and instrumental aspects of business, set in a self-regulated normative framework in which governments and intergovernmental organizations may take part as facilitators rather than regulators. By contrast, in a European context the American libertarian notions seemed somewhat downplayed and the nation states and the EU seem to play more decisive roles in the systemic organization of social welfare responsibilities of businesses. However there seems to be a convergence trend towards the American model as we have seen governments of EU states began to publicly advocate a "stakeholder society" to change government's role from the regulator to facilitator and to encourage more active participation by private sector (most importantly businesses).[561]

In China, the leadership seems to conceptualize CSR by reference to a blend of an eclectic interpretation of Western European welfare models and CSR conceptions of Chinese tradition and political culture.[562] On the one hand, the government wants to energize the private sector and gradually engage them in the welfare program so that "common prosperity" can be achieved. On the other hand, the Party-State retains tight control over various national stakeholders and the system is still in the nature of rule of man rather than the rule of law". As a result, CSR in China lacks the element of multi-stakeholder dialogue, which is commonly recognized as the core element of

[561] See the idea of "Stakeholder Society" introduced by Tony Blair, supra note 559.
[562] See Jensen, supra note 518, at 31.

CSR in Western countries.

Furthermore, when the stakeholder conflict becomes severe which threatens the authority of leadership, the leadership tends to adopt the traditional Chinese approach of government educating its people by performing role model for righteousness, as illustrated above. From this perspective, the "Harmonious Society" as envisaged by the Chinese leadership is still harmonious society under the regulation of CCP. It is quite diverge from the Western European social democratic welfare models, because it leaves out the latter's ideals of a representative democracy. It is, to the author, the reason why the western concept of CSR finds it hard to fit in the Chinese context.

6.3.3 China's Recent Initiatives on CSR

In China, the issues of development and stability are always among the most important tasks for the leadership, as they have served as the basis for the legitimacy of the political leaders in the reform era.[563] Based on this, the Chinese government is receptive to foreign ideas such as CEC or CSR. For example, the Global Compact was introduced by Kofi Annan in 1999 as an international initiative to advance CSR. Since its introduction into China, the Global compact has enjoyed official support from the political leadership and by the end of 2006 a total of 72 Chinese companies are now

[563] See Deng Xiaoping's saying "To China's problems, the overwhelming priority is stability. Without a stable environment, nothing can be achieved, and what has been achieved will be lost... Democracy is our goal, but the country must remain stable." cited from Deng's meeting with George H. W. Bush on Feb, 26, 1989. Also see Deng Xiaoping's saying "Development Is the Absolute Principle" , Source: Selected Works of Deng Xiaoping, Vol. 3 (1993) the People's Press.

Global Compact members.[564]

In recent years, the Chinese government has made continuous progress in fostering a social base that embraces CSR values. In 2001 China ratified the *International Covenant on Economic, Social and Cultural Rights* ("ICESCR"). [565].This includes the state's commitment in protecting people's rights to environment, health and safety (Art. 12). Although the commitment under the covenant is only going to be realized "progressively" according to "available resources" (Art. 2), it is nevertheless a good starting point. Without states formally advocating these rights of people, there is no way these rights can be exerted at the corporate level.

Labour and environment are among the two most important issues of CSR. In the labour area, in addition to the *Labour Law* (1994), China has passed the *Trade Union Law* (2001),[566] the *Law on Work Safety* (2002),[567] and the *Law on Industrial Injuries Insurance* (2003).[568] These legislations proscribe labour standards that meet or even surpass international standards and they are addressed specifically to corporations. In the environmental area, the Chinese government promulgated the *Law on Promoting*

[564]Figure cited from Global Compact website: <http://www.unglobalcompact.org/ParticipantsAndStakeholders/search_participant.html> Accessed Jan 20, 2007. In late November 2005, a Global Compact Summit was held in Shanghai and it was launched by UN representatives as the largest event ever held in China on the topic of responsible business. See Ho, Brian, "The UN Global Compact Summit" (2006) *CSR Asia Weekly*, vol.1, week 49. <http://www.csr-asia.com/index.php?p=5377> Accessed Jan 29, 2007.

[565] However, China entered a reservation on a crucial article. Article 8, which guarantee the right to form and join trade unions of one's choice, will not apply to China. Currently, Chinese law only permits one official, government-sponsored trade union.

[566] 中华人民共和国工会法 [Trade Union Law] (effective Oct 27, 2001) (PRC).

[567] 中华人民共和国安全生产法 [The Law on Work Safety] (effective Nov 1, 2002) (PRC).

[568] 国务院工伤保险条例 [State Council，Procedures for Industrial Injury Insurance] (effective Apr 1, 2003) (PRC).

Clean Production.[569] To the author's knowledge, it is the first law of this kind in the world which directly aimed at promoting clean production. The law has imposed liabilities on companies which fail to, for example, notify the material composition of the products (Art. 37), reclaim the used products or packages (Art. 39), or publicize the emission of pollutants (Art. 41).

More recently in 2005, China amended its 1982 *Constitution* to incorporate two important articles: Art.13 "private property obtained legally shall not be violated" and Art.33 "the state respects and safeguards human rights". The constitutional protection of private property is very much needed for the furtherance of Chinese reform to transform a semi-market economy to a market based one. While through formally upholding human rights in the *Constitution*, the concept of "human rights" has, for the first time been elevated from a political concept to a legal norm.

Probably the most interesting legal change took place in 2005 when China incorporated the open demand for social responsibility in its new *Company Law*. Article 5 of the amended *Company Law* reads:

"In conducting business operations, a company shall comply with the laws and administrative regulations, social ethics, and business ethics. It shall act in good faith, accept the supervision of the government and general public, and bear social responsibilities." [570]

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[569] Law on Promoting Clean Production, supra note 371.
[570] Art. 5 of Company Law, supra note 378.

Although nowhere in the *Company Law* defines the scope of CSR, other laws, such as labour laws, environmental laws and consumer laws, complement the *Company Law* in forming a framework of mandatory and voluntary social responsibilities on corporations. This article has made it clear that complying with laws and regulations is no longer sufficient for companies. Instead, companies shall be prepared to be supervised by a broader range of stakeholders. It was the first time the term CSR was used in Chinese law and it implied the policy trend that corporations are gradually being integrated to the Chinese welfare system.

6.3.4 Legislation on CSR—International Trend and Initiatives

Despite the argument that the whole rationale behind CSR is premised on de-regulation thus any reference to CSR legislation raises questions of paradox.[571] Evidence have shown that followed by a series of corporate scandals,[572] a growing number of countries have begun to legislate on CSR to impose legally enforceable public disclosure requirements upon corporations.[573] For example, the 2002 U.S. *Sarbanes-Oxley Act* requires companies to disclose and observe their codes of ethics.[574] In France, the newly amended *Nouvelles Regulations Economiques* is a law that imposes reporting obligations on all nationally listed companies, pertaining among others to the

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[571] See Ilias Bantekas, supra note 501, at 324-326 (discussing the regulation of CSR through domestic legislation).
[572] For example in the case of Enron and WorldCom,the corporation not only defraud in its financials, but their collapse also caused substantial loss of jobs and pensions because pension funds were invested in these deflated corporations.
[573] It has been suggested that a merge of voluntary reporting and national mandatory reporting on social and environmental issues has become a reality in many countries with which the corporations must live. See generally KPMG, "International Survey on Corporate Sustainability Reporting" (2002) <http://www.wimm.nl/publicaties/KPMG2002.pdf> Accessed Dec.18, 2006.
[574] Sarbanes-Oxley Act (Pub. L. No. 107-204, 116 Stat. 745) §§ 7241-7266.

environment, domestic and international labour relations, local community, and others.[575]

In U.K., the 2002 *Corporate Responsibility Act* has imposed a duty on corporations to publish an annual report on all major CSR areas of concern.[576] Other than Articles 7 and 8 which provide for the environmental and social duties of directors, Article 6 establishes further the liability of the parent company with regard to its subsidiaries: "A parent company of a corporate group shall be liable to pay compensation in respect of damages where … the *group*'s activities are managed and undertaken in a manner which fails to ensure… the health and safety of persons working in or affected by the activities and the protection of environment" and "such failure may be regarded as a cause of serious physical or mental injuries to persons working in or affected by the activities, or serious harm to the environment, or both".[577] Therefore the *Corporate Responsibility Act* not only imposes a CSR reporting obligation on corporations, but also creates an effective cause of action for victims of the subsidiary to sue the parent company in an English court.

6.4 Fieldwork

As an indispensable part of this research, during the period April to August 2004, the author has conducted a five-month fieldwork in mainland China. The fieldwork is

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[575] S. Nahal, "Mandatory CSR Reporting: France's Bold Plan" (2002) in International Chamber of Commerce (ICC) UK, Guide to Global Corporate Social Responsibility, at 182.

[576] Art. 3, United Kingdom, Corporate Responsibility Act 2002 <http://www.publications.parliament.uk/pa/cm200203/cmbills/129/2003129.pdf> Accessed Dec 18, 2006.

[577] Id, Art. 6

designed to achieve three primary objectives. First to collect China sourced industrial and environmental data for the testing of the author's hypothesis on DIM to China; second to obtain a true and fair picture of problems arising from DIM in China and its regulation by interview experts in related areas and conduct factory site visits; finally to examine the level of the corporate environmental citizenship and social responsibilities in China by interview selected corporations and their stakeholders.

6.4.1 Fieldwork Methodology

This thesis is the first comprehensive research on DIM in China. Considering the complexity of this issue and the multiplicity of stakeholders that are involved, together with the sensitivity of this topic not only to the investigated corporations, but also to the interviewed governmental bodies in China, the author decided to adopt the social science research method of snowball sampling to access a larger sample for the fieldwork.[578] While this approach has its limitations, the process of the fieldwork has later proven that it is the most suitable method for the author to obtain a true and fair picture of DIM and CSR in China.

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[578] Snowball sampling is a special non-probability method used when the desired sample characteristic is rare. Snowball sampling relies on referrals from initial subjects to generate additional subjects. This sampling technique is often used in hidden populations which are difficult for researchers to access. While this technique can dramatically lower search costs, it comes at the expense of introducing bias because the technique itself reduces the likelihood that the sample will represent a good cross section from the population. See Salganik, M.J. & D.D. Heckathorn, "Sampling and Estimation in Hidden Populations Using Respondent-Driven Sampling" (2004) *Sociological Methodology* 34 at 193-239.

6.4.1.1 Designing the fieldwork

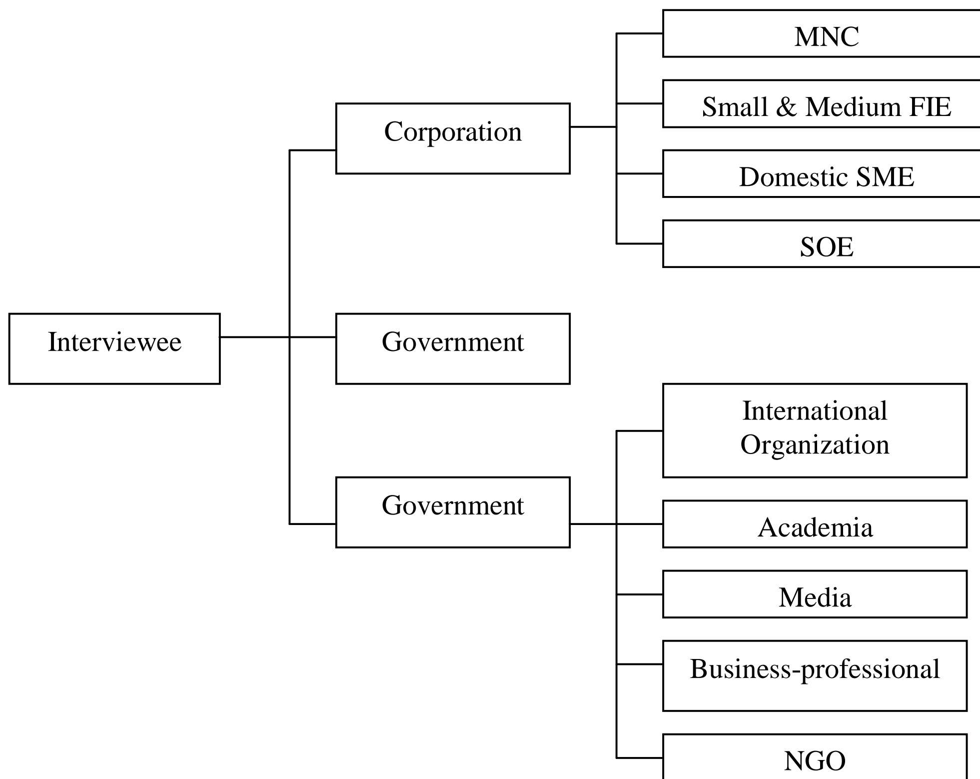
In designing the populations for the research, the author first identified three broad groups of population. They are corporations, government, and other stakeholders. In the author's opinion, these three groups represent the three major institutional forces for the regulation of DIM, i.e. the formal regulation of law (mainly driven by the government), the "invisible" regulation by the market (mainly driven by the stakeholders),[579] and the self-regulation (mainly driven by the corporations). For corporations, based on their nature and ownership, the author further divides them into large multinational corporations, state-owned enterprises, [580] small and medium foreign invested companies, [581] and small and medium domestic companies. For governmental bodies, based on areas of regulation, the author has divided them into government bodies that are related to foreign investment foreign trade, and environment. For other stakeholders, based their roles in the society the author has divided them into international organizations, academia, media, business professionals, and NGOs. An illustration on the categories of samples is shown in Chart 4:

[579] Some researchers suggested that a more effective solution to resolve apparent conflicts between business interests and environmental protection is to use market-oriented adjustments rather than political or regulatory mechanisms. See Hull, B. and St-Pierre, A., "The Market and the Environment: Using Market-Based Approaches to Achieve Environmental Goals" (1990) The Conference Board of Canada; Also see Cooper, P.J. "Toward the Hybrid State: the Case of Environmental Management in A Deregulated and Re-engineered State" (1995) *International Review of Administrative Sciences*, 61, 185–200.

[580] State owned enterprises traditionally refer to non-corporation economic units where the entire assets are owned by the state and which have registered in accordance with the Regulation of the People's Republic of China on the Management of Registration of Corporate Enterprises. Now with the SOE reform, state owned enterprise includes sole state-funded corporations in the limited liability corporations, a corporation pursuant to an investment where state-owned capital accounts for more than 50%, in some circumstances where the largest shareholder in a corporation is the state, this corporation can be called state-owned corporation.

[581] The standard for "Small and Medium Enterprises" was defined in 中小企业标准暂行规定[Provisional Rules on the Standardization of Small and Medium Enterprises] (2003), which takes into account indexes such as the number of employees, the sales value and the total assets of the enterprises and in light of the characteristics of the industries. Also note that not all foreign invested enterprises are foreign invested corporations. For example, Sino-foreign contractual joint venture and Wholly foreign-owned enterprise can choose whether to register as a corporation, a partnership, or a sole-proprietorship under Chinese law.

Chart 4 Categories of Interviewees (Fieldwork)



The initial short listed interviewees under each category are from the author's contacts and referrals from the contacts. For categories under which no contacts of the author are available, the initial targets are selected from open sources.[582]

After identifying the initial targets, a customized covering letter, stating the purpose and

[582] These open sources are mainly from internet. For example, the information of previous authors on DIM and related topics from University websites, the contact information of governmental departments from governmental websites, the contact information of Chinese environmental NGOs from <http://www.greengo.cn/>.

significance of the study, and promising confidentiality of responses, was emailed or faxed to each targeted interviewees. During the period from January to April, around 250 such letters were sent which ensured that under each category there are at least 10 candidates being approached. Based on their response status,[583] interested parties were subsequently contacted by telephone to arrange a convenient meeting time for interview. This process initially secured at least two interviewees under each category for a face-to-face interview.

6.4.1.2 Face-To-Face Interview

The author adopts the face-to-face interview rather than traditional survey method as the primary research method for several reasons:

First, considering the large variance between the professional and educational level of different interviewees, although the questions were framed in practitioner jargon, the author is concerned that the respondent's apprehension about research of this nature may require further reassurance and clarification which could not be achieved through a mailed questionnaire.

Second, given the complexity and sensitivity of this topic, many useful information and innovative ideas the author wishes to get from interviewees are hard to be designed in a

[583] According to the responses, excluding those who did not respond or were uncontactable (58), corporations that are inactive (14), and those who are unwilling to participate in the study (35), a total number of 89 feedbacks were received, representing a response rate of 45.4%. The author considers the initial response rate encouraging in view of the difficulty of conducting survey research of this kind in China given the general tradition of secrecy.

questionnaire manner. Some generic "yes" or "no" questions or multiple choices questions have been utilized in many surveys and they are less likely to be serious questions for this research. Face-to-face interviews were expected to help in this respect and in the event respondents had no problems comprehending the questions.

Finally, the nature of the snowball sampling methodology requires the author to use the referral of initial subjects to generate additional subjects. Therefore it is important that the author first win the trust of the interviewees so that larger subjects can be accessed. This approach is also in consistent with the Chinese culture which stresses *guanxi* and such personal relationship can not be obtained by questionnaires.

Throughout the research period of this thesis (from 2003 to 2007) and most intensively during the period from April to August of 2004, a total number of 70 face-to-face interviews and 28 telephone interviews were successfully conducted in China and elsewhere.[584] A list of interviewees is attached in Appendix 2 for reader's reference. (see Appendix 2 "List of Interviewees")

The final interviewees comprised of 13 from the government, 18 from corporations, and 67 from other stakeholders. Among the 13 interviewees from the government, 4 are

[584] In addition to interviews conducted in mainland China, some interviews were conducted in the United States during the author's conference attendance at the 6th Annual Association of Pacific Rim Universities Doctoral Student Conference held by University of Oregon in July 2005; Harvard East Asia Society (HEAS) Graduate Students Conference held by Harvard University in March 2005; International Conference on "Corporate Social Responsibility in China" held by Columbia University, New York, in April 2004; Some interviews were conducted in Singapore during the author's attendance at the International Conference on "Fair Trading and Business Ethics", held by Center for Commercial Law Studies of NUS in Singapore November 2003. Some interviews were conducted in Hong Kong and Macau during the author's conference attendance at the World Business Ethics Forum, held by Hong Kong Baptism University and University of Macau on November 1-3, 2006.

governmental officials from the central or ministerial level, and 9 are local level governmental officials. Among the interviewees from corporations, 6 are from MNCs, 2 are from SOEs, 10 are from foreign or domestic invested SMEs. The interviewees are primarily at management level. Among interviewees that are characterized as "other stakeholders", 24 are academia. These scholars are mostly professors from law or management schools of esteemed Chinese Universities and most of them have published literatures in relation to the author's research interest. 7 are from international organizations such as the World Bank, International Finance Corporation (IFC), United Nations High Commissioner for Human Rights (UNCHR), Social Accountability International (SAI), etc. 5 are from foreign and domestic consultancy firms which provide business solutions to corporations, and help Chinese factories to obtain the international accreditations such as ISO9000, ISO14000, and SA8000. 17 are professionals comprising of lawyers, accountants and auditors. 4 are from the media. Among the interviewees, 62 are Chinese and 26 are of other nationalities.

In order to create an interview environment conducive to ideas sharing, a customized and original questionnaire consisting of both informational and open-ended questions was used. For example, questions were structured to deal with the interviewee's attitude towards not only DIM, but also the relationship between society and the environment, the future development of Chinese society, the law, government and other institutions relating to environment, etc. During the interviews, extensive notes were taken by the author. An interview summary form was prepared after each interview within 24 hours to highlight emergent themes and other issues of interest. In the process of filling the

summary form, when it was realized that the data collected was not satisfactory, follow-up interviews were arranged and conducted through meetings or telephone. Each interview lasted an hour on average.

6.4.1.3 Factory Site Visits

Besides face-to-face interview, another essential part of the author's fieldwork is the site-visit on corporations. The on-site visit of corporations not only facilitates the author's understanding on the most pollusive production processes of different industries, but also enables the author to compare the extent of pollution control employed by corporations in the same industry but under different ownership.

Throughout the research and most intensively during the period from April to August of 2004, the author has successfully conducted site visits to 14 corporations. A list of visited corporations classified by industry, ownership structure, location, and with brief introduction is provided in Appendix 3 (See Appendix 3 "List of Site-visited Factories"). Some general criteria of selecting corporations for site-visit is summarized as follows:

(1) The company, no matter foreign or domestically owned, is incorporated in China with an annual turnover of at least US$1 million; and
(2) The company's primary business must fall under the author's definition of pollution intensive industry;[585] and

[585] For the list of pollution intensive industries identified by the author see infra Table 2.

(3) If a company is not an FIE, then at least half of the company's revenue must be achieved through exportation.[586]

Companies that meet the above criteria generally fall under the author's description of either active DIM or passive DIM in Chapter 2.2.3. The initial pool of candidate corporations is sourced from the author's contacts and their referral. Subsequently, snowball sampling was used to access a larger sample. Sometimes the interviewees would recommend and direct the author to the corporations that they have visited before.[587] In other occasions the author was arranged to follow the staff of EPB to investigate on the polluters, or to follow the local environmental consulting firms to provide on-site technical assistance to corporations. In both processes the author primarily took the form of participant-observer, documenting exchanges between the parties. When specific points required clarification, they were raised subsequently with the EPB staff or the environmental consultant, but not to the corporate managers directly. Through this approach the author was able to access larger samples of polluting enterprises. Finally, when the author's interviewees are themselves entrepreneurs, they were often willing to guide the author for a visit at their factories immediately after the interview.

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[586] This category of companies, although domestic, falls under the author's definition of "passive DIM" as described in chapter 2.2.3.

[587] The author would like to thank those interviewees who were very generous in sharing with the author their business contacts and referring the author to the targeted corporations for site-visit, especially Mr. Li Xiang, director of Chengdu Miracle Consulting Co., Mr. Miao Xiaoxing, vice chief editor of the Xinhua Daily Newspaper, Ms. Chen Rong, officer of the IFC China Project Development Facility, and Ms. Annie Y. Ma, CEO of Beijing Alliance Investment Co., and Professor S. Prakash Sethi, president of International Center for Corporate Accountability, Baruch College, CUNY, etc. Without their support and referral the site-visit could not have been carried out successfully.

In addition, the author had the opportunity to visit three provincial and municipal-level industrial parks where foreign and domestic manufacturers concentrate and share the same infrastructure. The three industrial parks are Zhengzhou Hi-tech Industry Development Zone, Henan Zhengzhou Export Processing Zone in Zhengzhou city and the Chemical Industry Park of Jiangsu Funing Economic Development Zone in Funing city.[588]

Throughout the factory site visits, observations and interviews with managers on site were carried out. For example, questions were asked on environmental improvements and how they were related to cost savings, waste reduction, customer satisfaction, new business markets and improved products, etc. In addition, opportunities were given for entrepreneurs to comment freely on any environmental laws and regulations which affect them directly or indirectly. In most industrial factories, photographs were taken under the permission of entrepreneur.

6.4.2 Fieldwork Results and Analysis

6.4.2.1 General Findings from Interviews and Factory Site Visits

Most interviewees were asked about their opinion about the phenomenon of DIM globally and its implications on China. To summarize, over 85% (84) of the

[588] For the information on three industrial parks, see Zhengzhou Hi-tech Industry Development Zone <http://www.zzgx.gov.cn/>, Zhengzhou Export Processing Zone < http://www.zzepz.gov.cn/>, Jiangsu Funing Economic Development Zone <http://www.jsfnkfq.com/>.

interviewees support the hypothesis that free trade and investment would drive pollution intensive industries to migrate from one country to the other, of whom over 70% (69) support the hypothesis that China has the potential to become a pollution haven.

When the interviewees were asked to name a few representations of DIM, the most cited ones are: (1) the transfer of hazardous waste to China (55%); (2) FDI in pollution intensive industries in China (37%); (3) purchase from China the pollution intensive industrial products (32%); (4) MNCs to apply double standard / obsolete technology in its operation in China (24%); (5) export to China products that have potential harmful effect on people's health and environment (15%).

Interviewees were asked about which factors are driving the above representations of DIM, the most cited causes are: (1) low labour and environmental cost which provide incentives to foreign traders and investors (65%); (2) A pro-growth political and social environment which favors foreign trade and investment (52%); (3) the legislative shortcomings (including the inadequacy of environmental and other related laws, as well as poorly designed policy instruments) (46%); (4) the non- or low-enforcement of existing laws and policies (42.5%); etc.

Interviewees were asked about their understanding on the connotation of CEC in the context of China, most interviewees consider the compliance with relevant laws and regulations to be the non-negotiable starting point (82%). This includes to install the pollution control equipment, conduct the EIA, and pay for pollution discharge in

accordance with law, etc. Other environmental responsibilities raised by the interviewees include to apply the energy saving / environmental friendly technologies, to publicize the potential human health and environmental effect of its production processes, to be responsible for the recycling of products, to adopt accounting policies that taking into account the environmental factors, to make donation or sponsor environmental programs, etc.

During the factory site visits, the author observed that all the corporations visited have installed biological treatment, wastewater treatment, or chemical treatment units. More than half of the corporations stated that they have provided EHS training to their employees. Four of the visited corporations had shown the author their EHS policies in written form. The reasons for the installation of these units and provide EHS training were given as the obligation to meet the legal and governmental regulations (85%), the common trends in the sector / industrial practice (61%), and to meet the requirement of environmental management systems (18%).

In the author's interview with corporate managers in selected pollution intensive industries, most of the interviewees believed environmental issues to be issues that affect their business. Despite that most corporate managers expressed a positive attitude in supporting and directing the environmental activities, they generally perceive the meeting of environmental requirements as a cost which was not transferable to customers in terms of added benefits, and few could show that environmental activities led to a competitive advantage. Among all factories visited, only one stated that it has

informed its customers about the possible hazards their products and / or production processes may pose to the environment. The majority of companies do not tend to use environmental activities as a marketing tool. Only a few of them perceive environment-friendly activities as a means of marketing. This implies that neither do the customers have any pressure to put on corporations obliging them to adopt environmental activities, nor do the corporations try to improve their environmental performance to gain more customer satisfaction. Such a finding is consistent with several previous studies which hold the view that in developing economies corporations' environmental activities tend to be more affected by obligatory regulations coming from institutional forces than by voluntary regulations coming from their own social awareness.[589]

In addition, it was found that different types of firms have different perceptions about CEC. Such perceptions are driving the corporations to engage in different types of environmental activities, with varying degree of zeal. Such a finding gives rise to the necessity of analyzing the CEC of corporations based on their different nature and ownership.

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[589] For example, see Banerjee SB., "Managerial Perceptions of Corporate Environmentalism: Interpretations from Industry and Strategic Implications for Organizations" (2001) *Journal of Management Studies* 38(4): 389–513; Küskü F, Aydın I. "Corporate Motivations and Pressures for Environmental Citizenship Behavior: the Case of Turkish Medicine Industry" (2002) paper presented in Eleventh World Business Congress–the Impact of Globalization on World Business in the New Millennium: Competition, Cooperation, Environment, and Development, Antalya, Turkey, 2002; 111–117.

6.4.2.2 Corporate Environmental Citizenship of MNCs in China

For various reasons, existing research on CSR in China tend to focuse on the social performance of MNCs that operate in China. MNCs, because of their transnational character, have always been the focus of public attention. Countries are competing for the investment by MNCs and MNCs are capable of negotiating with host countries about taxes, subsidies, rule of law issues, wages, environment and other parameters prior to investing.[590] In practice, most MNCs operating in China are located in more developed coastal areas that have more stringent environmental standards and enforcement. They are careful in selecting their local partners and many of them formed joint venture with monopolistic SOEs. These joint ventures are industrial leaders in a wide range of productions and responsible for a broad spectrum of hazardous and pollution intensive activities. On one hand, a sizeable investment from MNCs benefits the local economy and represents investor's confidence in the government's ability to maintain a thriving business environment. On the other hand, it would be irresponsible for policy makers to assume that MNCs will voluntarily contribute to the government's environmental protection effort. MNCs are neither charitable organizations nor philanthropists. They seek real profit and policy makers should develop realistic long-term and short-term goals which integrate MNCs into their overall strategic planning. The keen suspicion by the host country governments manifested by the closer scrutiny

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[590] See United Nations ESCOR, Division for Social Policy and Development, Report on the World Social Situation: 1997 (1999), <http://www.un.org/esa/socdev/rwss97c0.htm> Accessed Feb 20, 2007, (stating that "Transnational forces that propel global changes, in particular mobile investment and finance, are weakening the ability of national governments to influence economic and social outcomes, often putting fulfillment of even the national political commitments, not to mention the ability to influence global trends, beyond the reach of elected national representatives.")

directed towards compliance with environmental standards than towards their local counterparts is an example of such a paradoxical relationship.[591]

6.4.2.2.1 Case Study: BASF Nanjing Site

6.4.2.2.1.1 Background of BASF-YPC Company Ltd.

The company BASF-YPC Co. Ltd. ("the Company"), which the author selected for site visit, is a joint venture project between the German MNC BASF and Chinese SOE Sinopec Yangzi Petrochemical Co. Ltd ("SYP") with an overall investment US$2.9 billion.[592] BASF is the largest chemical producer in the world, specializing in the production of a wide range of chemicals, plastics, performance products, agricultural products & nutrition, and oil & gas. The BASF Group comprises more than 160 subsidiaries and joint ventures and operates production sites in 41 countries. In recent years, BASF is active in expanding its international activities with a particular focus in Asia. The local partner SYP is a subsidiary of China's chemical giant Sinopec. It is a super large SOE with shares listed in Shenzhen stock exchange. BASF and SYP each holds fifty percent stake in the Company.

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[591] Warhurst, supra note 90

[592] For an introduction on the joint venture Company, see BASF-YPC Company website: <http://www.basf-ypc.com.cn/en/about_us/company.htm> Accessed Feb 9, 2007.

The Company produces a wide range of petrochemical products, which can be widely used in fields of light industry, textile, electronics, foodstuff processing, automobile, aviation, modern agriculture and etc. The Company's 2.2 km^2 integrated petrochemical site (IPS) comprises of 9 world scale petrochemical plants. It was built in a chemical industrial park located in the Luhe District of Nanjing, Jiangsu province. (See Photo 1)

Photo 1 BASF Nanjing site—BASF-YPC Co. Ltd.

Source: BASF

6.4.2.2.1.2 Social and Economic Impacts of the Company

The existence of the Company has large social-economic impact on the local community. The construction of the site caused the relocation of over 2000 farmers. At

the same time, the existence of the Company had a strong influence on the implementation of local public infrastructure projects such as roads and pipelines. The Company helps increasing the attraction of the Nanjing chemical industrial park for new businesses to settle down in the park and neighbouring areas. The Company facilitates local welfare by guaranteeing safe jobs for more than 1,000 employees, who mostly used to work with SYP. The local economy benefits from the growing expenses spent there by workers in the Company and the local government profit from increasing tax incomes.

6.4.2.2.1.3 Environmental Impacts and Control

As a chemical company, perhaps what is most concerned is its potential impact on the environment. Indeed, the existence of a world-scale chemical production site inevitably increases emission in the region. However, as will be shown, the Company has taken environmental protection seriously and embraced the principle of sustainable development throughout its production processes. According to the director of the Company's EHS department, during the application phase of the project the Company conducted several mandatory EIA in accordance with law. Due to the size of the investment volume the SEPA instead of sub-national EPB was responsible for the approval of the EIA report, which translates into stricter examination and approval. Ever since the production phase, the Company has introduced the worldwide BASF

monitoring standard Responsible Care®[593] to ensure satisfactory compliance with local laws and regulations.

The Company has its own management system to deal with all sources of pollution. For example, on waste water, the major environmental risk is the pollution of the adjacent Yangzi River by waste water from the petrochemical plants in the Chemical Industrial Park. It was found that all waste water by the Company is treated by the waste water treatment plant of the joint venture partner SYP. Over ten years the quality of waste water treated by SYP was monitored by Nanjing EPB (which has monitoring stations within and around the Nanjing Chemical Industrial Park) and 98.8% of its waste water was below the necessary level. In addition, the Company demands regularly waste water analyses from SYP and in case of irregularity the Company will send its people on site to find out the problem.

On the air emission, substances like NH_3, SOX, NOX as well as CO are measured and controlled by the Company on a regular basis. The Company set up an air monitoring spot within the site which reports to the Nanjing EPB. Notably, the Company uses a gas power plant instead of a coal based power plant in order to reduce the emission of CO_2. Notably, according to the corporate manager, the Company has to meet not only the emission standard set by the Chinese law, but also that required by its foreign lender.

[593] The term Responsible Care® is copyrighted by the ICCA, the International Council of Chemical Associations.

It is a demand by the lenders that World Bank standards[594] have to be followed. If a Chinese standard is higher than the World Bank standard then the Chinese standard will be chosen as the benchmark. As a result the current power plant emissions level is much lower than any applicable standard, reaching only 5% of the World Bank's limit.

On the treatment of residuals, it was reported that most residuals are treated by registered third party service providers. For example the heavy residuals of the Acrylic Acid / Acrylic Esters plant are either burnt or sold to a local purchaser. The light residuals are generally burnt while the heat is recovered and used for high pressure steam which again is used on the site. Toxic waste is also bought by a third party and buried in the ground. For solid waste incineration a contract with the Jiangsu Fuchang Chemical Waste Treatment Company Ltd. was signed.

On the relationship between the Company and local environmental authorities, it was suggested that the Company is working closely with the Nanjing EPB in monitoring the plant's environmental performance. Every month the Company sends report to the EPB about all emissions by the waste water pre-treatment facilities, boiler and furnace, the process of waste gas and flare. Every year the emission plan from the past year is discussed with the EPB and a new plan is negotiated.

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[594] For a serious of World Bank standards, see for example, Environmental Assessment, Safeguard Policy OP 4.01, IFC, October 1998; World Bank Guidelines for Petrochemical Plant (1998); Environmental Assessment Process (Pollution Prevention and Abatement Handbook, World Bank Group, July 1998); Water Resources Management OP 4.07, World Bank, February 2000.

Finally, on the aspect of public awareness and participation, it was reported that during the period from 2002 to 2006, the Company has held four environmental impact dialogues with representatives from the nearby community, enterprises and the government. During the dialogue the Company introduced its EHS protection measures and listened to feedback from the community on the social and environmental impact from their operation.[595] In addition, the Company sponsored public programs especially in the field of education.

According to the Nanjing EPB, the Company had a positive impact in terms of setting high standards for environment, health and safety standard which can be used as a "best practice" for the whole industry. Although the operation of the Company definitely increases the environmental risks to the nearby environment and community, the Company has demonstrated a good sense for environmental protection and has taken all possible environmental effects seriously. It can be considered as a model for environmental management for other nearby SMEs which traditionally have problems with environmental protection.

In summary, despite the suspicion that the lack of effective state standards as well as regulatory capacity might draw the worst performing firms and dirtiest industries to the

595 For the Company's Environmental Impact Dialogues on its Integrated Petrochemical Site (IPS) Project see <http://www.basf-ypc.com.cn/en/hse/environment.htm> Accessed Feb 9, 2007.

least regulated countries, thereby creating “pollution havens”,[596] the author’s site visit of the Company shows that super large MNCs like BASF operating in China tend to rely on their own interrelated array of policies and procedures to assure satisfactory compliance with applicable laws. They generally did better in environmental citizenship than domestic enterprises. Interview with corporate managers revealed that there are several reasons for that: First, MNCs like BASF usually have ambitious plans in entering China and these plans are often a part of their global business strategies. Most of them targets China’s market and economic outlook rather than solely cost advantages. Second, MNCs generally have access to superior technological and financial resources. They are also leaders in technological innovation, institutions of technological change and agents of commercialization for new technology.[597] Thus their capacity to comply with the local regulations is beyond doubt. Due to an unfamiliarity and incompatibility with institutions nurtured within the socialist traditions, and probably also because of the ambiguity of Chinese local regulations, MNCs in China seem to be more cautious in their behavior and subject themselves more to the standards of their headquarters in the home country, and such standards are generally higher than China’s domestic standards. Finally, for their presumed “superiority” and reputation considerations, MNCs are obliged to pay attention to their social performances. This was reflected in their annual CSR or Sustainability Reports.[598]

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[596] Zarsky, supra note 29.

[597] See generally, Choucri, N. Global Accord, *Environmental Challenges and International Responses* (Cambridge, Massachusetts: MIT Press, 1993).

[598] For an example of annual environmental sustainability report of MNC operating in China, see Ricoh Group Sustainability Report (Environment) (2005), <http://www.ricoh.com/environment/report/pdf2005/china/all.pdf>; Ricoh Group was ranked the 3rd of “the most socially responsible Fortune 500 MNCs in China 2006”. The ranking was prepared by the Chinese influential newspaper Nanfang Daily, the ranking is available in Chinese at: <http://www.china.com.cn/economic/txt/2006-11/23/content_7399647.htm> Accessed Feb 5, 2007.

6.4.2.2.2 Problem with MNC's CEC—"Green" the Supply Chain

Despite the general superiority of MNCs' CEC over other forms of corporations, a critical issue remains as how do MNCs respond to the accusation of "passive DIM" whereby some MNCs appear "green" themselves but in fact they have contracted out their dirty production process to local suppliers. For example, it was reported that 70% of the MNC Wal-Mart's world-wide suppliers come from China. With Wal-Mart's massive purchasing power, it is capable of keeping the procuring price as low as possible while still attracting numerous suppliers. When the supply orders from MNCs come, the Chinese suppliers produce and sub-contract their orders at an even lower margin. Among these contractors and sub-contractors there are numerous heavy polluters. Under these circumstances, although Wal-Mart itself is not involved in any "dirty" production, it simply transferred such responsibilities to its suppliers who are less able than Wal-Mart to deal with environmental problems.

The literature on the supply chain environmental management suggests that purchasing can be viewed not only as way of greening the procurement function of an organization but also as a way of influencing others in a supply chain.[599] To green the supply chain may require the corporation to undertake a range of activities such as to seek information on environmental aspects of policies, processes and systems from

[599] Lamming R, Hampson J. "The Environment As A Supply Chain Management Issue" (1996) *British Journal of Management* 7 (Special Issue): S45–S62.; Morton B. "The Role of Purchasing and Supply Management in Environmental Improvement" (1996) Business Strategy and Environment Conference Proceedings 136–141.

suppliers, [600] to impose specific environmental requirements upon suppliers, [601] to address the company's accreditation to an environmental management standard by assessing a supplier's environmental performance,[602] to cease purchasing from suppliers who fail to meet the company's environmental criteria,[603] and to share experiences and best practice with suppliers,[604] etc.

Despite these principles, in practice MNCs seldom make efforts to influence their suppliers. Bowen et al. (2001) point out that many large firms with strategic purchasing have not undertaken green supply, as it is not commercially important enough to their business.[605] Holt (2004) examines the supply management activities undertaken by a sample of 149 large UK based organizations. It was found that larger, higher risk organizations are beginning to reach out to their suppliers, although still at a fairly low level. The method of supply chain management is primarily through assessment and evaluation, and to a much lesser extent through supplier education, mentoring or coaching. [606] According to his survey, only 21 of the 149 organizations stated that they felt their own environmental stance had influenced their suppliers. 18 organizations stated that they would not reject a supplier even if they failed to meet their own

[600] Hill KE. "Supply Chain Dynamics, Environmental Issues and Manufacturing Firms" (1997) *Environment and Planning* 29: 1257–1274; Green K, Morton B, New S. "Case study in the UK – Green Purchasing and Supply Policies: Do They Improve Companies' Environmental Performance?" (1998) *Supply Chain Management* 3(2): 89–95.
[601] Business in the Environment (BiE), Chartered Institute of Purchasing and Supply (CIPS). (1997) *Buying Into A Green Future*. BiE: London.
[602] Clayton J, Rotheroe C. "An Analysis of Supplier Environmental Assessment in the UK" (1997) Eco-Management and Auditing Conference 3–4 July, The Manchester Conference Centre: Conference Proceedings. ERP Environment: Shipley; 19–24.
[603] Baylis R, Connell L, Flynn A. "Small and Medium Enterprises: the Implications of Greener Purchasing" in Russel T (ed.) *Greener Purchasing Opportunities and Innovations*,(Greenleaf: Sheffield 1998), at 135–150.
[604] Business in the Environment (BiE). (1993). supra note 601.
[605] Bowen FE, Cousins PD, Lamming RC, Faruk AC. "The Role of Supply Management Capabilities in Green Supply. (2001) *Production and Operations Management* 10(2): 174–189.
[606] Daniel Holt, "Managing the Interface between Suppliers and Organizations for Environmental Responsibility—An Exploration of Current Practices in UK", (2004) *Corporate Social Responsibility and Environmental Management* 11, 71-84.

environmental criteria. Interestingly, the most popular supplier assessment criterion as identified by respondents is that "the supplier must not have been identified publicly as having poor environmental or ethical performance". Only the largest companies have identified their suppliers' accredit to ISO14001, EMAS or similar standards to be essential.[607] According to Holt, this lack of assistance for suppliers is especially disturbing for the SME sector, which traditionally need more "hand-on" guide, and may eventually be rejected as suppliers for failing to confirm to environmental standards they do not understand or require assistance to achieve.[608]

6.4.2.2.3 Supply Chain Environmental Management in China

An examination on the commodity's chain and foreign investment vehicle in China may cast some light on the problem. In the case of China, (as shown in Chart 5) there is a hierarchy among various corporations within the same commodity's chain. At the top level are the external markets (mainly U.S., Europe and Japan) served by MNCs. These MNCs, like Wal-mart, Nike, and IBM, no longer hold their own manufacturing workshops since 1990s instead, they have suppliers all around the world, and their headquarters mainly function as a business and R&D center.

At the middle level are corporations from Hong Kong, Taiwan, and Southeast Asia. These corporations play an intermediary role in that on one hand, they receive orders from top tier MNCs and are their direct suppliers; on the other hand, they also invest in

[607] Id, at 80.
[608] Id, at 81.

manufacturing plants in the mainland China. Although mostly small and medium in size, these investors comprise of the largest source of FDI in China.

At the bottom of this hierarchy are the Chinese domestic enterprises, be they state-owned, collective-owned, or private-owned. These Chinese enterprises are fortunate in the sense that they are privileged to supply the foreign customers, which often translates to better pay compared with their domestic peers. However, these Chinese enterprises are also unfortunate in the sense that they are positioned at the bottom of the supplier's chain. They are the group with the least CEC awareness but meet the real environmental challenges.

For a long time since economic reform, China has adopted a foreign trade operator approval policy. It implied that most domestic enterprises do not have their own foreign trade rights.[609] In order for these enterprises to receive orders and export products, they rely on the complex licensing arrangements with "Trading Houses" and agents who arrange their production. In other words, supply and demand are matched by the third party and buyers and sellers do not know each other (though this situation has recently been improved).[610]

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[609] According to this policy, import / export rights may only be granted to the following operators: (1) Specialized foreign trade houses affiliated to MOFTEC, provincial, and municipal governments; (2) Foreign invested enterprises, and confined to its own products and production facilitates; (3) other productive enterprises upon approval; (4) Certain scientific institutions and academies engaged in technological products; and (5) approved large commerce and materials enterprises 中华人民共和国对外贸易法[Foreign Trade Law] (1994, now abolished).

[610] Note that the situation has changed since the promulgation of the Foreign Trade Law of 1994. On 1 January 1999 and 1 January 2000, MOFTEC had twice relaxed controls on approving import and export rights, some 1,000 enterprises had been granted rights to do import and export business. In 2001 the MOFTEC has issued a Circular which provides that private enterprises each with registered capital not less than RMB 5 million (not less than RMB 3 million in central and western regions) can apply for the right to handle foreign trade business. Enterprises with registered capital not less than RMB 3 million (not less than RMB 2 million in central and western and ethnic

Chart 5 Illustration on the Hierarchy of the Supplier's Chain in China

Under the above hierarchy, the serious problem of information asymmetry arises. As trading houses and agents do not necessarily share the stated values and business practices of the brand name company, it is often difficult for MNCs to supervise what is going on at the bottom Chinese domestic suppliers. In fact, this lack of information has, in some cases, even become a calculated risk management strategy of MNCs to assist in ensuring minimal damage to their reputation as a result of potential liabilities. For example, in a recent product quality survey conducted in March 2005, cancer-causing Sudan-I was found in Kentucky Fried Chicken (KFC) food; hazardous contents were found in P & G's well known cosmetic brand SK-II, and in Johnson & Johnson's baby-

minority regions), research institutes, high-tech firms and electromechanical enterprises not less than a registered capital of RMB 1 million) can apply for import and export right. Such rights may even be granted to individuals, subject to certain conditions.

care products. When the scandal was released to the public, the first thing that these MNCs do was to stand out and claim innocence themselves, and attribute the responsibilities to their Chinese suppliers.[611]

It was suggested that to manage the suppliers is an integral part of CSR for MNCs.[612] Positioned at the top of the "buyer-driven commodity's chain",[613] and receive the highest margin from the production, MNCs are both capable and under a duty to influence their suppliers on environmental citizenship.

Understanding that customers and other stakeholders do not always differentiate between a company and its suppliers, and may hold companies accountable for their suppliers' environmental and labour practices, it was reported that some MNCs have started to look beyond their own facilities and involve their suppliers in environmental initiatives. In practice, some MNCs have initiated routines of monitoring or auditing, in which personnel or specific sections within the corporation perform so called "social audits" of their suppliers. It is the aim of these social audits to assess whether the suppliers comply with the Codes of Conduct of the corporations. The fact that some MNCs, such as Reebok, Nike and Disney, have set up specific CSR offices in mainland

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[611] Anonymous, "Johnson & Johnson: Baby Products Are Safe" Xin hua Daily March 24, 2005, <http://english.peopledaily.com.cn/200503/24/eng20050324_178038.html> Accessed Feb 5, 2007.

[612] Bantekas, supra note 501, at 311 (commenting that "essentially, CSR recognizes that corporations are not only responsible to their shareholders, but owe, or should owe, particular duties to persons or communities directly or indirectly affected by their operations;" and "[t]he human rights and environmental conformity of the supply chain can be guaranteed by entering into binding contracts whereby such agents and suppliers are obliged to adhere to the corporation's Business Principles").

[613] Gereffi, Gary, "The Organization of Buyer-Driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks" in Gary Gereffi & Miguel Korzeniewicz (eds.) *Commodity Chains and Capitalism* (Praeger: West Port CT, 1994), at pp. 95-122.

China and Hong Kong indicates the high priority given to these efforts.[614]

As a global trend, the Supplier Environmental Management ("SEM") focuses on streamlining company's supply base and to develop more cooperative, long-term relationships with key suppliers and service providers.[615] Many companies that have undertaken SEM programs have found that working with suppliers on environmental issues not only generates significant environmental benefits, but also offers opportunities for cost containment and competitive advantage. For example, in the BASF Nanjing site that the author visited, it was reported that due to the Company's large quantity of waste residuals, the Company has always been careful in selecting service providers which implement up-to-date standards in terms of EHS protection. Given the situation that there is few qualified purchasers in Nanjing which can meet BASF's standard for waste treatment, the Company stated that if a local purchaser doesn't have fully compliant standards yet, the Company would sell the waste for less than the market price on the condition the local purchaser can invest in building up the standards. The Company also offers trainings for third parties and audits the quality of their services. All these measures have already created several positive results with the service providers. For example, it was reported that new equipped trucks were purchased by a transportation company that provides logistics service for BASF and a new furnace being built at a waste treatment plant. Additionally there is evidence that

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[614] See Tan Shen & Liu Kaiming, Social Responsibilities of Multinational Corporations and the Chinese Society (Social Science Press, Beijing, 2003), at 20.

[615] Examples of SEM include screening suppliers for environmental performance, setting purchasing standards to bar the purchase of products made through prohibited production processes, working collaboratively with suppliers on green design initiatives, and providing training and information to build suppliers' environmental management capacity For a general briefing on the issues of supplier environmental management and initiatives of paradigm MNCs, see <http://www.bsr.org/AdvisoryServices/Environment.cfm> Accessed Apr 20, 2005.

some solid waste subcontractors expanded their capacities because of the Company. These are all excellent examples on how MNCs can have a positive impact on the CEC of their suppliers in China.

6.4.2.3 CEC of Foreign Invested Small and Medium Size Enterprises in China

Small and Medium Size Foreign Invested Corporations ("foreign invested SMEs") is a group that should be treated differently from MNCs in many aspects. Their instinct to maximize profits, coupled with the absence of keen international observers and relatively low risk of world-wide boycott on their production activities, have rendered the foreign invested SMEs reluctant to take CEC seriously. Some of them were involved in the direct transfer of dirty production into China. In regard to corporate vehicles, foreign invested SMEs usually take the form of Equity Joint Venture (EJV), or Contractual Joint Venture (CJV) with local partner(s). According to EJV laws, there is a requirement for joint subscription of registered capital, joint management and joint sharing of profits and risks. Such arrangement serves as a channel for the Chinese party to learn advanced technology and management from the foreign party. While in CJV, the Chinese and foreign parties cooperate in joint projects or activities according to the terms and conditions stipulated in their joint venture agreements. This has the main advantage of flexibility, as the proportion of sharing is not necessarily the same as their respective proportion of investment.

The author's fieldwork showed that the social performance of foreign invested SME varies drastically. Generally, compliance with local EHS standards is not problems for most of these FIEs as they have both the financial and technological capacity to meet such standards. However, given that such corporations are invested in by small and medium investors, to whom the main objective is to achieve high yield with minimum inputs, these corporations are found more likely to speculate in those pollution intensive industries and their chance of being caught in violation of environmental standards is potentially high. There is evidence that a selected number of foreign investors (including Hong Kong, Macau and Taiwan investors) routinely chose to neglect environmental regulations in pursuit of high economic returns on investment, and then relocate, bribe or declare bankruptcy when caught red-handed. In the phosphate industry, for example, the author has found rampant dirty production in western China, especially Sichuan and Shanxi province, where phosphate resources are abundant. The Township and Village Enterprises ("TVEs") there are the major polluters.[616] The author's incomplete estimation on the TVEs in phosphate industry in Mian Zhu city of Sichuan province shows that over 80% are either foreign invested or suppliers to foreign clients.[617]

Youfou (1995) notes that many foreign investors in dirty industries enter into joint ventures with China's township factories that are beyond the reach of enforcement

[616] According to Vermeer (1998), seriously polluting township and village enterprises (TVEs) have accounted for about half of China's industrial output in recent years. See Vermeer EB, supra note 419, at 960.
[617] Source from the author's interview with Mr. Li Xiang, director of Chengdu Miracle Consulting Co. Ltd in May, 2004.

efforts by national government officials.[618] TVEs are, in many respects, a "soft target" for regulators because of their size, dispersed nature, small workforce and lack of administrative protection from controlling ministries.[619] The author's site visit on these enterprises revealed that most of them do not have a separate department on environmental issues. They usually conduct environmental activities through a quality coordination department, or a quality security directorship. The few firms that do have separate department on environment generally demonstrate a higher willingness to introduce to the author on their environmental measures and initiatives. Such a finding is consistent with the empirical findings of Zhu and Sarkis (2004) that there is a relationship between whether organizations have quality-based programs and their support or adoption of environmental management practices, and that the strength of this relationship depends on the size of the organization.[620]

Another notable finding is that in China a few paradigm FIEs have begun to hold the belief that if local contractors want to establish and continue business with them, they will let themselves be audited and comply with relevant EHS requirements. Interview with a CEO of a pharmaceutical Co. which had recently received private investment from Singapore revealed that an increasing number of foreign parties are requesting ISO and GMP standards over its Chinese partners and suppliers. Such initiative stimulates

[618] See Xia Youfou, Study on China's Control Measures to the Transfer of Foreign Wastes and Pollution Intensive Industries Through Trade and Investment (Winnipeg, Canada 1995).
[619] See Peter Hills and C.S. Chan, supra note 18, at 54.
[620] See Qinghua Zhu and Joseph Sarkis, "the Link between Quality Management and Environmental Management in Firms of Differing Size: An Analysis of Organizations in China" (2004) *Environmental Quality Management* Spring 2004, 53-64, at 54.

local suppliers to self-discipline on its environmental management which also benefits them through access to broader market.[621]

In conclusion, being positioned in the middle of the global hierarchy of supplier's chain, and pressured their closer exposure to global market as well as their deemed superiority to domestic SMEs, the foreign invested SMEs in China is a group which has just started to derive some sense of CEC. An opportunity is growing for these companies to demonstrate their credentials to rapidly growing international markets which increasingly favors sustainable production and socially responsible investments. Despite these good initiatives, there is still large room for improvement which requires foreign invested SMEs to take the lead in not only engaging in clean production but also supporting their suppliers to meet their set requirements. Such support shall include not only supplier assessment and evaluation, but also supplier education, mentoring or coaching.[622] These improvements shall not only save the FIE's own environmental cost, but also help the FIEs to establish long-term business relationship with trustful suppliers.

6.4.2.4 CEC for Domestic Small and Medium Enterprises in China

The standard for "Small and Medium Size Enterprises" was defined in the 2003 *Interim Provisions on the Standards for Medium and Small Enterprises*,[623] which takes into

[621] Sourced from the author's interview with Mr. Zhang Yinhua, CEO and director of Yancheng Huaye Pharmaceutical Co. Ltd.
[622] See Holt, supra note 606.
[623] Interim Provisions on the Standards for Medium and Small Enterprises (2003) issued jointly by the National Economic and Trade Commission, National Planning Commission, Department of Finance and National Statistics Bureau.

account such criteria as the number of employees, the sales value and the total assets of the enterprises and in light of the characteristics of the industries.[624] Ever since China's economic reform in 1978, the SME is undoubtedly the fastest growing sector. Statistics show that as of October 2004, the number of SMEs exceeds 8 million in China, accounting for 99% of the nation's total enterprises in number. Their industrial output accounts for 60% of the national total, and provides over 80% of the new employment.[625] The development of SME is a priority in the country's economic reforms.

SME has its unique advantage in implementing social responsibility. They are generally well connected with their respective communities and in many ways understand the local needs better. Often their interest is hand-in-hand with that of the local government. In addition, as China is gradually transforming from a semi-market economy to a market one, the SMEs play a key role in accommodating the redundant labour that were cut down by state-owned enterprises.[626] According to the data provided by China NBS, between 1996 and 2001, the number of employees in private enterprises increased by nearly 300%, and 31.7 million jobs were created. This emphasized the role of SME in

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[624]According to Art. 4 of Interim Provisions on the Standards for Medium and Small Enterprises, supra note 581, the standards for industrial medium and small enterprises are: "less than 2000 employees, or sales amount of less than 300 million yuan, or total amount of assets of less than 400 million. Among which, medium enterprises must concurrently meet these conditions: 300 employees or more, sales amount of 30 milliona yuan or more, and total amount of assets of 40 million yuan or more; and the rest are small enterprises."

[625] Data from China Industry News, <http://my.tdctrade.com/airnewse/index.asp?id=1113> Accessed Nov 19, 2004.

[626] Statistics shows that from 1997 to 1999, the reform of State-owned enterprises and the cut of governmental organs had resulted in a "lay-off" up to 47 million. During the same period the new employment opportunities was 22 million, and these opportunities are almost exclusively created by private owned economies. *China Securities Newspaper*, 10 Dec 2002.

reducing poverty and providing supplementary employment opportunities for the society. In the author's view, these are SME's two most important social responsibilities.

To find out the status among domestic SMEs on CEC, the author did his fieldwork in Sichuan Province of western China. During the fieldwork, the author received a great deal of assistance from the China Project Development Facilities ("CPDF") of the International Finance Corporation ("IFC") based in Chengdu.

6.4.2.4.1 IFC-CPDF: Missions and Approaches in China

CPDF is a multi-donor SME facility managed by the IFC, the private sector arm of World Bank Group. It was planned and implemented in close collaboration with the Chinese government. The facility was established in 2002 to support the development of a vibrant private sector, and to foster the societal base of CSR in the interior of China.[627] One of the core programs of CPDF is to strengthen the local enterprises through technical support projects; design and support management education on corporate governance and environmental management programs.

According to the author's interview with Dr. Xiaofang Shen, the director of CPDF, the local companies need assistance in getting started in the process towards becoming an environmentally sustainable business. However, based on CPDF experience, it is

[627] For an introduction of the organizational goals of CPDF and its work see <http://www.cpdf.org/en/index-new.htm> Accessed Feb 10, 2007.

difficult to offer a pure environmental or CSR program, simply because there is no appreciable market demand for such programs in the interior China. Therefore, CPDF decided to change its strategy. Understanding that Chinese SMEs generally show a preference for advice that is company specific, face-to-face and preferably delivered on site,[628] and that such advices need to be delivered at an affordable cost with measurable benefits,[629] the CPDF turned to promote its business enabling programs which embrace environmental performance as an intrinsic part of business development.[630] Over the years the CPDF has developed a fairly large pool of corporate clients.[631] It was through CPDF that the author was able to access one of their clients—the Chengdu Miracle Environmental Consultancy Ltd., and through which to further access the SMEs for site visit.

6.4.2.4.2 Environment Consultancy Firms and International Accreditations

Chengdu Miracle Environmental Consultancy Ltd ("Miracle") is a private company

[628] Groundwork, "Small Firms and the Environment: A Groundwork Status Report" (1998) Groundwork: Birmingham.
[629] See Rowe J, Hollingsworth D., "Improving the Environmental Performance of Small and Medium-sized Enterprises: A Study in Avon" (1996) *Eco-Management and Auditing* 3: 97–107, at 104.
[630] Accordingly, the services they provide cover the issues that are most popular among SMEs, such as marketing, internal cost reduction, and financial management, etc. A special feature, which distinguishes these CSR facilitation organs from general business consulting firms, is that the role of CSR is highlighted as a business strategy which is integrated in their training. Source: the author's interview with Chen Rong, officer of CPDF.
[631] Throughout the interview, it is interesting to find that the marketing of CSR programs in China is an art. At the beginning, in order to create incentives for these potential clients to join the program, CPDF organized a series of seminars and business activities to promote their tenets and services. Many local entrepreneurs have seen it as an opportunity to meet people and seek advice from IFC experts. While the World Bank does not guarantee it would provide financial assistance to local SMEs, many enterprises enter their CSR program with the hope that they would obtain sources of financing from the World Bank. In view of this reality, facilitation organs like the CPDF did substantial research to target a group of people / corporations who may become their long-term partners. According to their officer, University lecturers, educated entrepreneurs as well as local business consultancy firms are their most favorable client bases. The distinct characters shared by these people are: Firstly they are relatively open to modern concepts of management, including those integrate the values of CSR; secondly they are innovative and have potentials for growth; finally these people have the widest social contacts thus could disseminate the CSR values to people they communicate with. Empirical evidence indicates that this approach is a fast and effective way to market the CSR programs. Source: the author's interview with Ms. Shen Xiaofang, director of CPDF.

specializes in providing environment-related consultation services to corporations. An essential part of the company's business is to provide technical assistance to SMEs that wish to obtain international accreditation such as ISO9000, ISO14000, and Social Accountability 8000 ("SA 8000"), etc. According to Mr. Li Xiang, director of Miracle, currently in Chengdu alone there are more than 50 companies which provide similar services. The emergence of such professional business consultancy firms, which specialize in the promotion and training of international environmental accreditations in China, is in itself an indication of the growing market demand for such services.[632]

Consider the fact that most SMEs are sensitive to open questions on their EHS performances but prefer on-site advices, the author adopted the suggestion of Miracle to acts as the director's assistant and follows the director in his on-site training of a series of Miracle's client firms in Sichuan Province. During the on-site training the author mainly acted as an observer and documented the process as well as exchanges between the parties. The author's questions to SMEs were raised in advance to the director and were asked through him to the corporate managers. If some points required clarification, they were raised subsequently with the director, but not to the corporate managers directly. By this means, the author was able to capture a true picture of environmental activities among SMEs.

[632] For instance, the SA 8000 certification program was initiated in 1996 by the New York based NGO Social Accountability International (SAI). By the end of 2006, the number of SA8000 certified facilities around the world totals 968, of which 127 are located in China. <http://www.sa-intl.org/_data/global/includes/worldmap.htm> Accessed Jan 18, 2007.

6.4.2.4.3 Case Study: SMEs in Phosphate Industry in Sichuan Province

The pollutive nature of phosphate industry has been recognized extensively in literature.[633] The fieldwork covers four domestic SMEs in the phosphate industry. They all locate in the city of Mianzhu, which is about 50 miles from Chengdu. The Mianzhu city is famous for its phosphate mines and as a result, there are more than 50 SMEs which engage in the production and sale of phosphate and phosphate-related chemical products. For confidentiality reasons in this thesis the author would not disclose their names.

The author's fieldwork first reveals that before the training there is a general lack of CEC awareness among SMEs. Interviews with corporate managers reveal that many SMEs consider their impact on the environment to be minimal and therefore are insensitive to the regulatory changes on environment. Most SMEs had a generally poor perception of the need for environmental improvements and were ill equipped to take advantage of such improvements. For example, when the corporate managers were asked about whether their enterprise in the past has ever benefited from environmental improvement, almost all held the opinion that environmental responsibility and improvements were a cost and that cost were not possible to pass on to customers in the

[633] See for example, Demandt, I, "The World Phosphate Fertilizer Industry, A Research Project for the EU on Environmental Regulation, Globalization of Production and Technological Change" (1999) United Nations University, Institute for New Technologies, Brussels; Scott H. Dewey, "The Fickle Finger of Phosphate: Central Florida Air Pollution and the Failure of Environmental Policy 1957-1970 (1999) *Journal of Southern History*, Vol. 65, No. 3, pp. 565-603; Michael Connett, "The Phosphate Fertilizer Industry: An Environmental Overview" (2003) Fluoride Action Network, <http://www.fluoridealert.org/phosphate/overview.htm> Accessed Feb 10, 2007; Constantine Yapijakis and Lawrence K. Wang,"Treatment of Phosphate Industry Wastes", in Lawrence K. Wang, Yung-Tse Hung, Howard H. Lo, Constantine Yapijakis, Kathleen Hung Li (Eds.) *Handbook of Industrial and Hazardous Wastes Treatment* (2nd Edition, Marcel Dekker, Inc., New York-Basel).

form of higher prices since the competitive forces in the marketplace were keeping prices down. A manager of a small scale factory even told the author they cannot afford to comply with local environmental laws in the absence of guarantee that their competitors will do.

Regarding the motives of these SMEs to employ experts to improve their environmental mental performance, the "request from customers" and "access to broader market" are their two most cited reasons. According to the corporate managers, it is now a common practice in China for potential customers, before placing an order, to send representative or contract third party to inspect the production plants, and customers from U.S., Europe and Japan are especially interested in checking and inquiring into their environmental performances.[634] Sometimes local suppliers do not know how to satisfy these queries yet they do not want to lose any potential customer. Consequently, an ISO accreditation becomes a proof to satisfy most standards that customers demand of them. An ISO accredited enterprise often distinguishes itself from those without accreditation in showing the potential customers that it is more capable of meeting the required specifications. Such an observation is in line with a series of literature which find that international economic competition and greater economic openness can influence the rate of strengthening environmental regulations.[635] For example, Lee (1993) finds that Korea upgraded its regulatory standards (pollution abatement for cars) to match what

[634] Sometimes consultancy firms like Miracle itself is mandated by the buyers to conduct routine checks on their suppliers, which makes these firms in many aspect understand the buyer's needs better. That is probably also one of the reasons why SMEs are willing to employ consultancy firms to improve their social and environmental performance.

[635] See Vogel, D., "Trading Up and Governing Across: Transnational Governance and Environmental Protection" (1997) 4:4 *Journal of European Public Policy* 556-571. (finding that obtaining access to greener industrialized country markets can motivate higher environmental standards.)

was in effect for the United States, EU and Japan.[636] Ruishu et al. (1993) finds that in China, there is evidence that large state owned factories have endured higher production costs as a result of stronger environmental policies and regulations in industrialized countries.[637] In Chile, the pulp and paper industry has decreased chlorine bleaching largely in response to export market pressures,[638] and Israel was reported to have adopted EU pesticide standards in order to get market access to the European Union.[639]

Regarding the main obstacles for these SMEs to implement environmental activities, one of the most cited ones is the short of finance. To allocate resources on environmental protection would mean that less resource will be spent in the production and sale, and further make SMEs uncompetitive on the market. As a result, it is not surprising to find that many SMEs are engaged in reckless production at the cost of environment. More profoundly, the deficiency in working capital has caused these SMEs to pursue short-term goals without an overall scientific planning, which conversely makes them unsustainable in the first place. Suppose the corporate finance environment for SMEs in China can be improved so that SMEs have wider access to bank loans and other sources of capital,[640] they would consider long-term goals and

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[636] See Lee, D., "The Effect of Environmental Regulations on Trade: Cases of Korea's New Environmental Laws", (1993) *5 Georgetown International Law Review* 659.
[637] See Ruishu, L., Xia, Y., Zhang, J., & Lu, Y. (1993) *A Study on Environmental Protection and Foreign Trade Development in China* (United Nations Conference on Trade and Development/United Nations Development Program (UNCTAD/UNDP) Project on Reconciliation of Environment and Trade Policies: Geneva).
[638] See UNCTAD, World Investment Report 1999: Foreign Direct Investment and the Challenge of Development, (UNCTAD: Geneva 1999).
[639] Vogel, D., "Environmental Regulation and Economic Integration" (2000) 3:2 *Journal of International Economic Law* 265-280.
[640] In regard to the external environment for SME fund raising, in China the capital market is far from fledging. To most SMEs the sources of financing are limited to bank loans. However the Chinese banking system has inherent problems. Generally banks and other investors are reluctant to provide small loans to SMEs because the interest gain for such loans are minimal and the risks of non-repayment are high, but overlooking the fact that today's SME may become tomorrow's magnate if they obtain funds to carry out their expansion plans. It therefore created a vicious

more wisely manage their production. This is crucial as the return for the investment on environmental improvement usually become appreciable over a long period of time.

The other obstacle for SMEs to take environmental activities is perhaps their inability to take the advantage of environmental improvements. Past literature has shown the potential for SMEs to benefit from engaging in environmentally sustainable ways of production.[641] However, according to the fieldwork, many SMEs did not realize that environmental improvements are associated with cost reduction and more efficient energy use. Furthermore, it was found that none of the visited phosphate factories had ever used their environmental activities as a marketing tool.[642]

All the above problems highlight the importance of capacity building among domestic SMEs. In this regard local consultancy firms like Miracle have an important role to play in guiding them to scientifically manage their limited resources in achieving socially desirable production without undermining profit maximization. Throughout the process

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cycle that on one hand, Chinese banks overstock trillions of loanable capital but fail to lend; on the other hand, large numbers of SMEs thirsty for finance are unable to borrow due to their small size. Although other sources of financing such as Venture Capital, Private Equity, or Overseas Fundraising etc are developing quickly in China, the investors seemed to be interested only in those SMEs that either possess unique technology or already establishes an economy of scale. In other words, for most SMEs that engaged in the traditional pollution or labor intensive industry, the over-narrow sources of financing is their obstacle for development and further to implement their environmental activities.

[641]See generally Smith, A., Kemp, R. and Duff, C. "Small Firms and the Environment: Factors that Influence Small and Medium-sized Enterprises' Environmental Behaviour" in Hillary, R. (Ed.) *Small and Medium-Sized Enterprises and the Environment: Business Imperatives* (Greenleaf Publishing, Sheffield, UK, 2000) See also Tilley F. "The Gap between the Environmental Attitudes and the Environmental Behaviour of Small Firms" (1999) *Business Strategy and the Environment* 8 (4): 238–248; Huang X, Brown A. "An Analysis and Classification of Problems in Small Business" (1999) *International Small Business Journal* 18 (1): 73–85; Rutherfoord R, Blackburn RA, Spence LJ. "Environmental Management and the Small Firm–An International Comparison" (2000) *International Journal of Entrepreneurial Behavior and Research* 6(6): 310–325.

[642] The primary reason for this is perhaps that their product (mainly phosphate raw materials and intermediary phosphate chemicals) do not face consumers directly. This implies that neither do the consumers have any pressure to put on corporations to oblige them to adopt environmental activities, nor do the corporations try to improve their strategies to inform their consumers.

of Miracle's on-site technical assistance, it was found that in many cases the improvement of environmental performance is not as complicated or costly as entrepreneurs often contemplate. The training process is more like a timely review of these SMEs' former bad habits, and it is often surprising to find that one small change would lead to big difference in cost reduction, higher efficiency, or environmental improvement.

For example, coal is the most widely used fuel in China, for most SMEs, they are accustomed to purchase the high sulphur coal which generates great amount of Sulphur Dioxide ("SO_2") into the atmosphere. In fact on the market there is low sulphur coal available, which is only RMB20 (about US$2.5) per ton higher than high sulphur coal. These coals have undergone the desulphurization process, which makes them more efficient and generate much less SO_2. In fact after the training many SMEs turn to purchase low sulphur coal because they realize it is more cost-efficient for them to do so.

In one visited phosphate factory (see Photo 1), the manager let the factory's wasted water to discharge directly to nearby river without any treatment. In fact these waters can be reserved and circulated to cool the boilers and machines. In small scaled factories, to construct a waste water reserve pool together with circulation system (see Photo 2) only costs around RMB 2000 (US$250). One small such effort would result in not only substantial water saving but also improvement in safe production as well as environment protection.

Photo 1 Phosphate workshop of a small scaled factory

Photo 2 Sample of A Circulation Pool of a Small Scaled Phosphate Factory

Photos taken by the author at Mian Zhu, Si Chuan Province, June 2004

6.4.2.4.4 Conclusion on the CEC of Domestic SMEs

In summary, the domestic SMEs are a group that currently has the least CEC awareness but has the broadest market potential for improvement. The author's fieldwork indicated that although laws play a fundamental role in setting the minimum environmental standards that SMEs are obliged to comply, domestic SME's interest to implement environmental activities seemed to be driven by both external pressures such as the demand from customers and internal demand such as the access to broader market. Unlike MNCs, SMEs in dirty industries often do not face end users directly, but they also face pressures from other stakeholders such as buyers, potential investors, and competitors. Consequently, the key in improving domestic SME's CEC lies in the joint effort from multi-stakeholders.

In order for SMEs to integrate CEC values into their daily operation, they need both financial and technical assistance. In 2002, the promulgation of the long awaited *Law of the People's Republic of China on the Promotion of Small and Medium-sized Enterprises*[643] has marked a new stage of official promotion of SME development. The law provides guidelines on all levels of governments in directing their policies in favor of SMEs. These policies are divided into five portions, namely capital support, support

[643] 中华人民共和国中小企业促进法 [Law on the Promotion of Small and Medium-sized Enterprises] (effective Jan 1, 2003) (PRC).

on the start of business, support on technology innovations, support on market development, and support on social services.[644]

To provide financial assistance, it is essential to expand the direct financing channels for SMEs. In this regard banks shall take a lead in strengthening the direction of credit policies and give more credit support to improve the financing environment for SMEs. Considering that the main difficulty of SMEs in applying for bank loans is that they are often unable to offer adequate security, a new trend in China is the emergence of credit guarantee institutions. These institutions not only act as guarantors of SME in respect of their applications for bank loans, but also act as the company's business advisor. Being the guarantors, credit guarantee institutions have a direct interest in ensuring the sustainable growth of these SMEs. Being the company's business advisor, these institutions are better in a position to influence the SMEs by incorporating CEC into the SMEs' long term business strategies.

To provide technical assistance, a multi-stakeholder approach is generally desired. Investors have an important role to play in giving preference to SMEs through making socially responsible investment. The buyers, who are sometimes also investors of SMEs, have a responsibility to ensure that their suppliers conform to prescribed environmental standards. Evidence has shown that there is market for professional bodies to engage in the marketing and training of environmental best practice to facilitate SME's sustainable development. Finally, SMEs themselves shall be educated to understand

[644] Id.

CSR as a long term investment rather than cost. After all, there is no uniform way of implementing CEC, each company understands the local needs best and has its own best practice for CEC. It is to be noted that often the improvement of CEC can be achieved at a cost efficient manner.

6.4.2.5 CEC of State-owned Enterprise in China

China's SOE has historical link with its central planning system. Formerly they were the vehicles through which the government carried out economic plans, collected taxes and profits, provided social welfare support, and exercised its overall control over the society. Since the 1990s the SOE reform had been on the top agenda of the China's economic reform. Unlike those Eastern European countries which simply closed down or sold off loss-making state enterprises, China's strategy has been to let the private sector gradually reduce the state's share of the economy.[645] This is to avoid the shock caused by drastic reforms, maintain social stability, and in the meantime facilitate the SOE's transformation from the traditional government's economic arm into profitable state-owned corporations. As a result, over the years SOEs have witnessed a declining share in industrial output from 64.9% in 1985 to less than 38.04% in 2004.[646]

Despite this, there should be no underestimation of SOE's role in China's national economy. So far large and medium SOEs remain the backbone of the industrial sector.

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[645] *The Economist*, Sept 13, 1997, p.22.
[646] Grace O. M. Lee et al, "The Decline of State Owned Enterprise in China: Extent and Causes", (1999) City University of Hong Kong, <http://www.cityu.edu.hk/sa/working_paper/csop9902.pdf> at 1 Accessed July 15, 2006.

Currently there are more than 220,000 industrial SOEs in China. They account for about 52% of the country's total assets, 60% of the net fixed assets, and 33.6% of country-wide employment.[647] In addition, SOEs play a dominant role in the nation's key industries such as oil and gas, mining, machinery, etc. Consider the capital and pollution intensive nature of these industries, it is fair to say that SOEs are among the nation's largest sources of industrial pollution.

6.4.2.5.1 Case Study: Tuo River Pollution by the SOE

In March 2004, a serious pollution disaster occurred in the Tuo River of Sichuan Province. The cause of the pollution was the continuing release of untreated industrial wastewater from Sichuan Chemical Limited Company ("the Company"), a large state-owned fertilizer factory. The disaster has caused the contamination of water supplies for about 1,000,000 people living in the Tuo River region for three months from late February to March 2004, and over 1,000 businesses were forced to shut down operations during the period. It was anticipated that the total damages caused by the pollution were above RMB 300 million (US$37.5 million) and it will take at least five years for the Tuo River to recover to its former state.[648]

In February 2005, two separate criminal trials initiated in the Sichuan Chengdu Jinjiang District People's Court. The first is the prosecution of the three managers of the

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[647] Source from: National Statistics Bureau, China Statistics Yearbook 2005 (2005). Percentage calculated by the author.
[648] See Xinhua Net, "An Investigation on the Large Scale Tuo River Pollution Accident in Sichuan" <http://news.xinhuanet.com/newscenter/2004-04/05/content_1401893.htm> Accessed Feb 9, 2007.

Company (the former general manager, deputy general manager and the head in charge of environmental safety). They were each charged with causing large-scale pollution to the Tuo River region.[649] The second trial was the prosecution of three former officials at the local EPB, including the former deputy head, who were charged with criminal negligence in the monitoring and supervision of environmental protection.[650]

Compared with the relatively tough stance on the individuals who are responsible for the pollution, the administrative liability towards the polluting SOE is much softer. The EPB of Sichuan Province ruled the maximum administrative penalty within its power against the Company which is only RMB 1 million (US$125, 000). Such penalty was significantly less than the estimated costs of RMB 300 million (US$37.5 million) for damage actually caused.

More importantly, so far there appears to be an absence of private claims against the Company for compensation. The reason is that the Company's parent corporation, which is another SOE, has threatened to liquidate the Company if the Company is sued and being ordered to pay full compensation. According to news reports, the local government has persuaded the affected peoples and businesses to "have patience and try to avoid litigation in order to maintain social stability" because if the Company goes into liquidation then thousands of local workers would lose their jobs.[651]

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[649] Under the Criminal Law, if convicted, such crimes could carry a maximum sentence of three years' imprisonment, or if the circumstances are deemed to be particularly serious, the sentence could be up to seven years. Art. 338 of Criminal Law (1997), supra note 410.

[650] Under the PRC Criminal Law, if convicted, such crimes could carry a maximum sentence of three years. See Art. 397, id.

[651] Lucille Barale and Lily Wei Zhou, "The Tuo River Pollution Case" Business Law Bulletins, Disputes and Cases -

The "Tuo River Pollution Accident" reflected several important realities on the environmental performance of SOEs in China. First, in China most SOEs have historically very weak concept of environmental protection. The Company in question is a listed SOE with over 40 years' history but it did not install the pollution treatment monitoring facilities as required by law.[652] Evidence shows that the Company's management was aware of the problem as early as February but covered the truth and continued to release waste chemicals into the river without reporting to the local EPB. Furthermore, it was later found out that the Company had two set of books on its environmental performance, the true one is for internal reference and a "cooked" one for submitting to the local EPB. When the reporter interviewed the former EHS director of the Company, it was admitted that keeping two set of environmental books has been the traditional practice for the Company and also the common practice for other SOEs within this industry.[653]

Second, the local EPB has a duty to identify the disaster at an early stage and take immediate actions to prevent the accident from escalating. However, the fact that the accident was only publicized after more than 20 days of occurrence indicated that the local EPBs have been extremely negligent in monitoring the pollution SOEs within the region. Furthermore, given that the Company is the top 5 large chemical enterprise in Sichuan, it would be unacceptable for the EPB to claim that it did not know the

(2005), <http://www.chinalawandpractice.com/default.asp?Page=5&F=F&SID=4375&M=2&Y=2005> Accessed Feb 9, 2007.

[652] Xinhua, supra note 648.

[653] Id.

Company hadn't installed the pollution treatment monitoring facilities, as it is clearly in violation of the "Three Synchronous" principle as required by law.[654]

Finally, the role of the government as the mediator to avoid private actions against the Company after the disaster attracts the author's interest. As owner of the SOE, the government has a direct interest in the Company and also suffers as a result of any penalties or compensation being paid by the Company. Ironically, the RMB 1 million administrative penalties paid by the Company to the government amounts to the money being transferred from the government's left to the right hand. As the regulator, the government has to balance the interest of peoples and businesses affected by the pollution with that of thousands of workers who are employed by the Company. As a result, the government has been active in dealing with the aftermath of the disaster, such as ordering the Company to install the necessary environmental protection equipment; using significant amounts of government funding to clean up of the Tuo River; coordinating various businesses and parties to share the burden of the damages caused; and trying to minimize the loss of jobs in the local economy by not forcing the Company to liquidate.

The Tuo River Pollution Accident reveals a general lack of CEC among SOEs. Despite this, the author's site visit and interviews with SOE managers revealed that it would be irresponsible to draw an easy conclusion that Chinese SOEs do not take their social

[654] Art. 26 of EPL stipulates that: Installations for the prevention and control of pollution at a construction project must be "designed, built and commissioned" together with the principal part of the project. No permission shall be given for a construction project to be commissioned or used, until its installations for the prevention and control of pollution are examined and considered up to the standard by the competent department of environmental protection administration that examined and approved the environmental impact statement".

responsibilities seriously. On the contrary, the reason that environmental issues are often overlooked by SOEs may be partially explained by the fact that many SOEs have traditionally carried excessive social burdens. Living with these social burdens occupies large resources of SOE, which causes SOEs to place the environmental issues in a low priority compared with other issues.

6.4.2.5.2 Social Burdens of SOE—A Case Study on "Enterprise Society"

Traditionally, as the government's economic arm, SOEs in China perform many social functions that otherwise should be provided by the government. This phenomenon is collectively called the "enterprises taking care of society" (*qiye ban shehui*). In other words, rather than being businesses, SOEs were "small societies" (*xiaoshehui*) and undertook all aspects of social welfare functions of within the community.

To give an example of unnecessary social burdens that is borne by SOEs, the author visited a typical large-scale SOE group in the mining industry with total assets over RMB 5 billion (US$625 million) and employing a workforce of over 10 thousand.[655] It was found that this SOE provides almost "from cradle to grave" social services to its workers and staffs. Apart from providing daily life facilities such as dining, residency, groceries, entertainment and hospitals, this enterprise has its own kindergarten, primary and middle school which accommodate 4,200 children and supporting staff of over 500. Such educational scale and expense amounts to 54% of its municipal government and

[655] For confidentiality reasons, at the request of the SOE group, its name is not disclosed in the thesis.

this translate into an annual educational expense of RMB 80 million (US$ 10 million). In addition, the SOE also undertakes to keep 20 police stations of the local public security bureaus, which employs another 500 people. Moreover, the enterprise was asked to "sponsor" different local governmental departments under various items which eat up an annual expense of 30 million. Such heavy social burden is not the end of the story, the enterprise has to follow the government's order to donate like "inexhaustible charity organizations",[656] to "lend" money often without being told when and in which form the money would be repaid; and to absorb the lay-offs in the society despite its existing high ratio of redundant labour.

The above example reveals that the SOEs have traditionally shouldered excessive social burdens in a sense far beyond or quite divergent from what the modern concept of CSR. During the old times when the state controlled most of the society's assets, SOEs provided social welfares to their own "communities" with support from the state by ways of land-use, raw materials, bank loans and subsidies. However with the conditions of China's economic reform and the country's fast transition from a central-planned to a market economy, these privileges are gradually being eliminated. As a result, Chinese SOEs are facing both intra- and supra- market pressures while still undertaking social responsibilities in-proportion to their power. These changes have also influenced the way in which SOEs respond to environmental concerns. In the past, any pollution charges they paid did not affect their material interests, or the welfare of their

[656] Zhou, M. S. & Sang, X. C, "Diagnosis on the Loss of State-owned Enterprises" (1997) *China Reform* 5, at 26; Also see Kang, Y. F. & Li, S. D., *Going to the Market – Problems of Large and Medium-Sized State-owned Enterprises and Their Ways Out* (Beijing: Zhonggong Zhongyang Dangxiao Chubanshe, 1994).

workers.[657] However, these charges are now more directly reflected in increases in the costs of production and a reduction in profits, thus affecting the interests of SOEs and the benefits of their staff. Findings from a survey indicated that on average about 81.6% of the net income of SOEs has been submitted to various levels of government through profits, taxes and fees, and another 10.2% has been used to repay loans, leaving only 8.2% to be retained by the enterprises.[658] If SOEs spend too much financial and management resource on providing public welfare (which is generally regarded as the responsibility of the government), then the resource left for environmental protection will be minimal. Not surprisingly, many SOEs have tended to downplay their responsibility for environmental protection to reduce the costs of production, and to protect their profits.

In fact, a comparison between the modern western concept of CSR and the old Chinese SOE practice of "enterprise taking care of society" indicates that the two concepts differ fundamentally (see Table 15) .

Table 15 Comparison between CSR and "Enterprise Taking Care of Society"

Content / Gauges	Corporate Social Responsibility	Enterprise Taking Care of Society
Societal Base	Market Economy	Planned Economy
Beneficiary	Stakeholders of Corporation	Enterprise Employees and Their Family
Core Principles	Provide Safeguard to Stakeholders' Interest	Provide Social Welfare
Conduct Authority	Laws, Regulations, Private Codes of Conduct, etc	Policy

[657] Luo, D.R. and Deng, J.X., "Industrial Effluent Fees and Preventing the Industrial 'Three Wastes'" in L. Ross and M.A. Silk (eds) *Environmental Law and Policy in the People's Republic of China* (Quorum 1987), pp. 211–213.
[658] Zhou, supra note 656, at 26.

Content / Gauges	Corporate Social Responsibility	Enterprise Taking Care of Society
Conduct Mode	Economic Behavior	Political Behavior
Conduct Objective	Corporate Sustainable Development	To Comply with the State Order
Bodies of Action	Corporation(s)	Upper-level Management
Substance of Conduct	To Safeguard and Develop Business Opportunities	Unlimited "Lump Work"
Source of Financing	Corporate Operation Capital	State Contribution
Code of Conduct	Inner-Corporation Rules and Guidelines	Upper Administrative Orders
Other Participants	Corporate and Employees	Enterprise Alone
Consequence of Implementation	Benefiting corporate and the society	Excessive Social Burden

Summarized by the author

China's SOE reform comprises a series of laws and policies which on one hand aim at separating the enterprise from the government, on the other hand to maintain a social and economic environment that are generally favorable to SOEs. For example, sectors in which SOEs have a monopoly are often protected by policies, subsidies in various forms are given to SOEs to facilitate their production, marketing and sale, large SOEs are given the priority of fund raising through listing on the domestic and foreign stock exchange, etc. Despite all these efforts to transform the SOEs from the former government's economic arm into profitable separate legal entities under competitive market condition, the historical social burden of SOEs, especially their redundant labour, continues to consume SOE's revenues and restrain SOEs from scientifically allocate resources, which makes them uncompetitive in the first place. Western economists even consider that as many as 30% to 40% of SOEs working force might be released if the

enterprises were to operate on strictly commercial lines.[659] The government's dilemma and inability in dealing with redundant labour is illustrated in the following issue study of Xiagang.

6.4.2.5.3 Xiagang—A Chinese Way of Lifting Social Responsibility of SOEs

Xiagang (lay-offs) may be described as the Chinese way of reducing labour redundancy thereby alleviating SOE's social burdens during their transitional period. It is a process whereby redundant workers are gradually exposed to market conditions rather than abruptly becoming openly unemployed. This helps to maintain social stability in the course of SOE reform. The problem of *Xiagang* in China first surfaced in 1993 when China's SOEs attempted to reduce the number of redundant workers and to reassign these workers to other jobs within the society. The number of lay-off workers in 1995 is only 5.6 million but the figure rose to 16 million in 1998.

The concept of *Xiagang* workers is in fact very ambiguous. Usually it means that the worker has left his post and is not working for the enterprise anymore, but is still related to it and is paid allowances by it. However, these workers are free to look for other jobs in the market. Usually the central government lays down mandates for local governments to deal with the problems of *Xiagang* workers. In the event of social unrest, the central government would blame and even sack local officials in order to placate the *Xiagang* workers. Hence, the social consequences of a sharp increase in *Xiagang*

[659] *The Economist*, June 10, 1995, p 26.

workers have been regionally contained as their grievances are directed only at their employers and local governments, not at the central government which is sometimes even viewed as a savior.

Usually lowly educated and middle-aged workers and apprentices are the largest group of *Xiagang* workers. Female workers are also more likely to be laid off. The situation then becomes that if SOEs reform quickly, the cut of labour force is inevitable thus more workers will join the ranks of *Xiagang*. However if SOEs do not reform themselves quickly, they are likely to be bankrupt. Should that happens; even more workers will be laid off, thus creating a vicious cycle of endless massive unemployment.

The *Xiagang* not only reflects the government's dilemma in apportioning the lifted social responsibilities from SOEs, but also touches upon the core of China's SOE reform, i.e. the government cannot stop propping up the SOEs because of its reliance on the role of the SOEs as employers and treasuries, but as long as it keeps propping them up the SOEs have little incentive to change. Despite the achievements of China in extending exports, attracting foreign investment, and promoting domestic consumption, these measures rarely address the root of SOE problem. The government has formerly relied too much on SOEs in performing social functions and it comes the difficult time for the government to address these historical social burdens.

As a general principle, the government bears principal responsibility to provide public welfare which highlights the address of unemployment. In this regard the government is

relying on a vibrant growing private sector to share such responsibility. This emphasizes the role of the private sector in job creation and absorbing the labour from SOEs. In 1999 the Central Committee of the CCP promulgated the *Major Issues Concerning the Reform and Development of State-Owned Enterprises.*[660] This guideline instructed the governments at different levels to take measures in facilitating the re-employment of lay-off workers at other forms of enterprises. In practice, the government plays an important role in providing training to lay-off workers to equip them with skills for re-employment. Besides, the government apportions the lay-off workers to non-public sectors by providing incentives to private businesses such as easier incorporation and registration, tax holidays, easier access to bank loans, etc. A vibrant private sector is able to create more job opportunities and attract more lay-off workers to start their businesses thus become self-employed.

To summarize, *Xiagang* as a supply-side response can only provide temporary relief to the Chinese government in relation to the apportioning of social responsibilities. While it attempted to reinvigorate ailing SOEs by reducing their social burden, it did not solve the fundamental weakness and problems of SOEs, which had made SOEs uncompetitive in the first place. So far all solutions seemed to be stressing on the importance of maintaining China's GDP growth at a satisfactory level. Only at this level can the SOEs continue to shoulder excessive social responsibilities, and only at this level can the society, especially the private sectors, continue to digest the redundant labour gradually released from SOEs.

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[660] 中共中央关于国有企业改革和发展若干重大问题的决定 [Central Committee of the Communist Party Major Issues Concerning the Reform and Development of State-Owned Enterprises] (effective Sept 22, 1999) (PRC).

6.4.2.5.4 Prescription on the CEC of Chinese SOE

Chinese SOEs are a group which is deeply influenced by the central planned system and bureaucracy. As a result, the CEC of Chinese SOEs is to a large extent determined by two factors. One is the extent of willingness of SOE management (who are often government officials) to make environmental improvements, the other is the availability of resources allowed to make such improvements. In the author's opinion, Chinese SOEs, even if they have been transformed from the former government economic arm into a separate legal entity under Chinese law, the government's influence as both the owner and upper-level authority may not easily fade away. Under such influences, SOEs will continue immingling the social responsibilities that attributed to the government and those attributed to the corporations.[661] As discussed previously, one of the key difference between the Chinese and western concept of CSR is that CSR in China lacks the element of multi-stakeholder dialogue, which is commonly recognized as the core element of CSR in Western countries. Following this logic, it can be expected that only after SOEs become truly independent from the government will they be able to initiate meaningful stakeholder dialogue and perform their pertinent social responsibilities.

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[661] Peter Hills and C.S. Man has used the term "too many mothers in law" to express the problem of trying to meet conflicting demands from numerous superiors in a situation where there are no clear priorities about which demands should be met first. Sinkule (1993) also pointed out that this problem is quite common in the environmental field where, for example, many enterprises not only have meet production quotas set by their controlling ministry, but must also comply with the local EPB's environmental standards. See Peter Hills and C.S. Man, supra note 18, at 60 and Sinkule, B, "Implementation of industrial water pollution control policies in the Pearl River Delta Region of China" (Ph.D. Dissertation, Stanford University 1993).

6.5 Concluding Remarks on the CSR and CEC in China

This chapter is based on the assumption that government and market failure to protect the environment might be ameliorated by the self-regulation of enterprises through corporate social responsibility, especially the corporate environmental citizenship. In business, CSR / CEC is a potentially useful framework for developing and guiding a better corporate response to the questions raised by environmental justice, one that reflects and respects the competing material claims for all stakeholder groups. As has been shown in this Chapter, there exist natural synergies between the principle of environmental justice, sustainable development and other existing principles and standards in the area of corporate social responsibility.

The author's fieldwork in China reveals a generally low level of CEC among Chinese corporations, although there is evidence of improvement. It was found that different companies have different incentives and difficulties to engage in environment activities. As a result, MNCs, foreign invested SMEs, domestic SMEs, and SOEs have demonstrated different levels of corporate environmental citizenship. Despite this, this study also identified some distinguished companies in China that were able to integrate the environment protection into their production and further gain a competitive advantage via improved energy efficiency, reduced waste, increased recycling, better environmental credentials, greater customer satisfaction, new business opportunities, and gaining local community support. These companies will make excellent case examples for future research in this area.

The Chapter also discusses possible measures to promote the environmental citizenship among Chinese corporations. Generally given the low level of stakeholder activism in China, most corporations do not feel as much environmental pressure as in developed countries. As a result, few enterprises have the incentive to go beyond the law in environmental activities. In this regard, the author suggests a "bottom-up" approach which emphasizes on multi-stakeholder dialogue as well as sector-specific initiatives.

In environmental sensitive industries, there is a need for binding sectoral regulation to supplement generic guidelines for good corporate environmental management.[662] These detailed regulatory guidelines would go well beyond procedural issues and set minimum sectoral standards for products and processes. MNCs, leading companies in the industry and industrial associations in this regard play an important role. They are the ones who have the power to shape and negotiate the industrial best practice in the context of a changing market. They are also able to influence the environmental practices of SMEs through green purchase and education. Once these standards and practices become the prevailing industry standard practice, they are reaching the maturity of being adopted as sectoral regulations.

In the long run, in order to effect the change there is need for public-private partnership (PPP). Over the last decade, the international community has begun to recognize that

[662] The author's opinion is shared by Bantekas, supra note 501, at 343-346 (suggesting that "voluntary compliance is not the preferred solution for every industry, in certain industries where the companies do not sell directly to consumer markets, they have little concern about brand image marketing,", citing the case of a Canadian gold-mining MNE in Tanzania whose environment and human rights violations was covered up by the MIGA's Ombudsman in 2002).

making a grand promise is easy but is of little value when not followed by effective performance. As a result, there is an emergence of large numbers of “partnerships” at the Johannesburg Summit as a means to fill the growing “implementation gap” between governmental commitments and action.[663] According to Scherr and Gregg (2006), the “partnership” approach has real promise in providing the often missing “transmission belt” between standards and institutions at the international level and political and economic decision-making at the national, provincial, state, and local levels. It recognizes that governments cannot make change without active engagement with civil society in all of its diverse forms. It has been suggested that traditional approaches to funding sustainable development were becoming increasingly intermingled with new approaches and that the public sector should be a facilitator in incorporating and strengthening local capacity, increasing transparency, and encouraging private sector participation.[664]

In the case of China, the partnership framework can take the form of the government (and in many cases the EPB) negotiating pollution reduction plans and agreements with corporations. This process requires the government to first be open for dialogue and seek common interest with private sectors. The dialogue helps the government to

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[663] A total of 266 partnerships were recognized at the Johannesburg Summit. See Secretary-General, Report of the Secretary-General on Partnerships for Sustainable Development, at 3, delivered to the Econ. & Soc. Council, U.N. Doc. E/CN.17/2004/16 It was suggested that “Partnership” was a major theme of the Johannesburg Summit. The Johannesburg Plan of Implementation at the outset calls for partnerships between governments in developed and developing countries as well as between governments and nongovernmental institutions and organizations--so-called “major groups.” The plan notes that “such partnerships are key to pursuing sustainable development in a globalizing world.” (See World Summit on Sustainable Development, Aug. 26-Sept. 4, 2002, Plan of Implementation of the World Summit on Sustainable Development, Annex, at 7, U.N. Doc. A/CONF.199/20, <http://www.unctad.org/en/docs//aconf199d20&c1_en.pdf> Accessed Jan 2, 2006.

[664] Scherr and Gregg, “Johannesburg and Beyond: The 2002 World Summit on Sustainable Development and the Rise of Partnerships” (2006) 18 *Geo. Int’l Envtl. L. Rev.* 425, at 444-445.

identify environmental opportunities, set practical environmental objectives, and fill the implementation gaps. In facilitating more corporations to adopt the reduction plans, the government shall support technical innovation and promote information sharing. Once such agreements are made, the government should send clear signals to industry suppliers, policy makers and consumers so that corporations that made environmental improvements will receive the understanding and support from the society. Finally, the government shall perform its due diligence in monitoring the progress and reward achievements through administrative measures. Through the partnership approach the author believes the concept of corporate environmental citizenship will be better understood and accommodated by the Chinese society.

CHAPTER VII CONCLUSION

This thesis has value in at least three important aspects. First, it is the first systematic and interdisciplinary study on the DIM that focuses on the People's Republic of China. The selection of China as the major case for study therefore has not only law and policy implications for the country itself, but also for other developing countries that wish to emulate China's development strategies.

Second, this thesis is the first work of this kind that clearly makes the distinction between active DIM through foreign investment and passive DIM through international trade, and studies their aggregate environmental impact on China. It synthesizes the academic theories derived from the debates over trade and environment, investment and environment, environment and competitiveness for the construction of a conceptual framework to evaluate the environmental impact of DIM on a specific country. It broadens the perspective of previous research which generally regard that DIM involves only plant relocation of dirty industries from one country to the other.

Third, despite the fact that the academic debate over DIM started as early as 1970s, this thesis is the first work of this kind that goes beyond the mere testing of DIM hypothesis and further to depict a multi-stakeholder, international and domestic regulatory framework on DIM. It not only highlights the necessity for DIM regulation through the use of law, but also examines the actual effectiveness of relevant laws, policies and

other institutions through the author's fieldwork in China. The findings and insights of this work are therefore of value to policymakers who wish to moderate the adverse environmental effects of DIM without sacrificing the state's continued economic growth and international competitiveness.

In the introduction of this thesis the author has listed four major questions that shall be addressed by the work. (1) Have dirty industries migrated to China, if yes, which industries? (2) Did they migrate because of lax environmental standard in China? (3) If the existence of DIM is confirmed, why it requires regulation? (4) How to regulate DIM?

The first question is a question of fact. Chapter III empirically tests the DIM hypothesis in the context of China. Based on the data analysis covering a 12-year period from 1995 to 2006, the author finds that a general trend of DIM from other countries to China has not occurred. However, there is strong evidence of both active and passive DIM in specific industries, notably the paper manufacturing and fabricated metal products manufacturing industries.

The second question in fact contains two sub-questions. Namely, (i) whether China's environmental standards are "lax" compared with that of the home countries of migrated industries, (ii) whether China's environmental laxity is the foreign industries' primary incentive to migrate to China. In chapter five the author examines the domestic trade, investment and environmental laws of China. It is found that the "environmental gap" between China and other developed countries does exist. However, such gap is not

as much reflected in the legislative discrepancies, but in the large institutions which fail to effectively monitor violations, enforce the existing laws and regulations, and protect the people and environment against damages. All these factors constitute and affect the actual environmental compliance cost of foreign enterprises operating in China. With regard to the second sub-question, chapter III empirically tests the correlation between the active & passive DIM respectively with the stringency in environmental regulation in China. The results indicate that certain industries are particularly sensitive to the changes in the stringency of environmental regulation. Although the primary incentives for these industries' migraton decision may differ, the empirical result nevertheless shows that the environmental stringency is an important influencing factors on their migration.

The third question highlights the significance of DIM regulation globally and in China. To argue this point the author synthesizes the principle of sustainable development, environmental justice, as well as corporate social responsibility. To summarize, it is not an ethical manner to achieve one country's sustainable development through displacing the burdens of environmental pollution to other countries. MNCs, being the principal carriers of DIM around the world, bear social responsibilities and environmental citizenship in the host state and the community in which they operate.

The final question is a complex one. In chapter four the author focuses on the international laws and institutions that bear implication on the regulation of DIM. Chapter five focuses on the national law of China and conducts a "green" examination

on its existing laws and institutions which might provide incentive for DIM. Chapter six shifts the perspective from the public to the private sector and studies the regulations by multi-stakeholders, in particular the self-regulation by corporations. To summarize, it is found that under globalization no single power is capable of effectively regulating DIM. What presented here are a multiple sources of power and institutions with regulatory authority competing with each other. Furthermore, it is found that in the national context of China, different industries, or even different types of enterprises within the same industry have demonstrated divergent responses to environmental regulatory initiatives. Accordingly, customized solutions to these industries and corporations are required. The idea regulatory model of DIM, according to the author, lies in the public-private partnership. Chapter six has begun to evaluate several of such initiatives

Finally, this work gives rise to some directions of future research in the area of DIM. For example, although this thesis focuses on the DIM between countries, there is also compelling evidence to show that DIM occurs not only at the inter-state, but also at the intra-state level. A representative case is China's "go west" policy which drives substantial PIIs to relocate from the east coastal China to the rural and interior China. Such a trend deserves intensive study. Furthermore, with China's growing global purchasing power and outward foreign direct investment, there emerges reasonable concern whether there is DIM from China to countries with even less stringent environmental standards. If yes, how the global regulation of DIM would accommodate such new changes. These are all exciting topics of DIM in the future law and policy research.

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固体废物污染环境防治法[Law of People's Republic of China on Preventing and Controlling Environmental Pollution Caused by Solid Waste] (effective April 1, 1996) (PRC)

广东省违法收费行为处罚规定[Guangdong Province Regulations for the Punishment of Illegal] (effective May 1, 1996)

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国务院工伤保险条例 [State Council，Procedures for Industrial Injury Insurance] (effective Apr 1, 2003) (PRC)

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中华人民共和国工会法 [Trade Union Law] (effective Oct 27, 2001) (PRC)

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中华人民共和国中小企业促进法 [Law on the Promotion of Small and Medium-sized Enterprises] (effective Jan 1, 2003) (PRC)

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最高人民法院关于适用民事诉讼法若干问题的意见 [Supreme People's Court's Opinion on Certain Issues on the Application of Civil Procedure Law] (effective July 14, 1992) (PRC)

APPENDICES

Appendix 1 Framework of Laws on the Environmental Responsibility of Corporation in China

Category	Laws and Regulations
Clean Production	➢ Law of the People's Republic of China on Promoting Clean Production (2002) Art. 18,19 ➢ Environmental Protection Law (1989) Art. 25 ➢ Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste (1995) Art. 17, 30 Management Measures on Certification of Comprehensive Utilization (1998) Art. 4
Energy Saving	➢ Law of the People's Republic of China on Conserving Energy (1997) Art. 11, 22,37 ➢ Law of the People's Republic of China on Promoting Clean Production (2002) Art. 20 ➢ Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution (2000) Art. 19
Pollution Control (General)	➢ Environmental Protection Law (1989) Art. 13, 26 ➢ Law of the People's Republic of China on Appraising of Environment Impacts (2002) Art. 16, 24, 26 ➢ Regulation Decree on Chemical Hazardous Products (1987) Art. 8 ➢ Regulation on the Report and Registration of Pollutants Discharge (1992) Art. 4,5,6,11,12 ➢ Notice of the State Environmental Protection Administration of China on Promulgating the Regulation Measures of the Environmental Standards (1999) Art. 17 ➢ Notice of the State Environmental Protection Administration of China on Promulgating the Measures for monitoring the Source of Pollution (1999) Art. 19 ➢ Measures for the Completion and Verification of Environmental Protection Facilities of Construction Projects (1994) Art. 9
Water Pollution Control	➢ Law of the People's Republic of China on Prevention and Control of Water Pollution (1996) Art. 13,14,23,29,30,31,32,33,34,35,41 ➢ Provisional Measures on the Management of License on the Discharge of Water Pollutants (1988) Art. 12, 13, 18 ➢ Management Measures on the Environmental Protection and Supervision of Waste Water Disposal Facilities (1988) Art. 4,5 ➢ Marine Environment Protection Law of the People's Republic of China (2000) Art. 32,33,34,35,36,37,38.
Atmosphere Pollution	➢ Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution (2000) Art. 12, 20, 30, 31, 36, 37, 39 ➢ Management Measures on the City Soot Control Zones (1987) Art.

Category	Laws and Regulations
Control	8,10,11,12 ➢ Decree on the Classification an Monitoring of Dust Harm (1991) Art. 10
Solid Waste Pollution Control	➢ Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste (1995) Art. 16,20,21, 32,33,
Noise Pollution Control	➢ Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise (1996) Art. 14,15,16,24
Fees for Pollutants Discharge	➢ Measures for the Administration of the Charging Rates for Pollutant Discharge Fees (2003) Art. 2-20, 26 ➢ Circular of the State Environmental Protection Administration on the Relevant Issues concerning the Verification on the Collection of Sewage Charges (2003)
Legal Liability	➢ Environmental Protection Law (1989) Art. 35,36,37,38,39 ➢ Decree on the Environmental Protection of Construction Projects (1998) Art. 24,25,26,27,28 ➢ Measures for the Completion and Check of Environmental Protection Facilities of Construction Projects (1994) Art. 13 ➢ Amendment to the Measures for the Administrative Penalties for Environmental Protection (2003) Art. 2,6,12,41,42,43 ➢ Management Measures on the Report and Registration of Pollutant Discharge (1992) Art. 12 ➢ Measures on the Movement of Hazardous Wastes (1999) Art. 13 ➢ Management Measures on the Environmental Protection and Supervision of Waste Water Disposal Facilities (1988) Art. 9 ➢ Measures for the Administration of the Charging Rates for Pollutant Discharge Fees (2003) Art. 21-25 ➢ Measures for the Completion and Verification of Environmental Protection Facilities of Construction Projects (1994) Art. 14 ➢ Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution (2000) Art. 46-63 ➢ Provisional Regulations on Environmental Protection In Cases of Wastes Importation (1996) Art.27-30 ➢ Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste (1995) Art. 59-72 ➢ Law of the People's Republic of China on Prevention and Control of Water Pollution (1996) Art.37-43 ➢ Law of the People's Republic of China on Conserving Energy (1997) Art. 42-48 ➢ Implementation Rules on Law of the People's Republic of China on Prevention and Control of Water Pollution (2000) Art. 38-48

Source: the author's law review, Institution of Environment and Development, Corporate Social Responsibility in China, (2004) Economics and Science Press, at 170-195

Appendix 2 List of Interviewees

Category	Name	Affiliation	Title	Contact Info.	Location
Academia	Liu Baocheng	Sino-French School of International Management, University of International Business and Economics	Professor and Dean.	8610-64492036 simdean@uibe.edu.cn	Beijing
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Academia	Wang Xianlin	Shanghai Jiaotong University School of Law	Professor	8621-34291269 wangxianlin@sjtu.edu.cn	Shanghai
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Academia	Zhang Lu	Environmental Law Center, East China University of Politics and Law	Dr. and Dean	8621-62071835 zhanglu7450@sina.com	Shanghai
Academia	Wang Yunxiang	Guangdong University of Foreign Studies, School of Int'l Legal Studies	Dr. and Professor	8620-36209267 Yxwang@mail.gdufs.edu.cn	Guangzhou, Guangdong Province
Academia	Weng Guoming	Zhejiang University School of Law	Professor	wgm6@zju.edu.cn	Hangzhou, Zhejiang Province

Category	Name	Affiliation	Title	Contact Info.	Location
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Academia	Gao Shuchao	School of Law, Hong Kong University	Assistant Professor	852-28592446 henrygao@hku.hk	Hong Kong
Academia	David Zeng	Division of Social Science, Hong Kong University of Science & Technology	Chair Professor	852-23587832 sozweig@ust.hk	Hong Kong
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Academia	Bruce A. Blonigen	Department of Economics	Knight Professor of Social Science	541-3464680 bruceb@uoregon.edu	U.S.
Academia	Alison W. Corner	William S. Richardson School of Law, University of Hawai'I at Manoa	Professor	808-9566552 aconner@hawaii.edu	U.S.
Academia	S. Prakash Sethi	International Center for Corporate Accountability, Baruch College, CUNY	Professor and President	646-3122230 Prakash_sethi@baruch.cuny.edu	U.S.
Academia	Alex C. Michalos	Institute for Social Research and Evaluation, University of Northern British Columbia	Professor Emeritus	250-9606697 michalos@unbc.ca	Canada

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International Organization	Shen Xiaofang	Business Enabling Environment, IFC	Program Manager	8628-86766622 xshen@ifc.org	Chengdu, Sichuan Province
International	Mona A.	United Nations High	Senior	4122-9179429	

Category	Name	Affiliation	Title	Contact Info.	Location
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International Organization	Chen Rong	IFC China Project Development Facility	Officer	8628-86766622 rchen@ifc.org	Chengdu, Sichuan Province
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CSR consultant	Bernard Schneider	Shandao Consulting Corp.	President	646-2073685 Sbs5508@yahoo.c om	U.S.
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Category	Name	Affiliation	Title	Contact Info.	Location
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SME	Liu Fukun	Shunde Fuxin Cooling Equipment Co. Ltd.	CEO	86765-8804721	Shunde, Guangdong Province
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Professionals	Zhang Jianmin	Guangzhou Wanlong Kangzheng CPA Ltd.	Accountant	8620-84036046 klcpanet@pub.guangzhou.gd.cn	Guangzhou
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Media	Jeff Han	World Journal (Newspaper)	Reporter	(718)7468889 jeffhan@wjnews.com	U.S.
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Total 98					

Appendix 3 List of Site-visited Factories

Company Name	Industry	Nature	Location	Company Infomation	Contact
China Nonferrous Metals Int'l Mining Co. Ltd.	Nonferrous Metal	SOE	Beijing	http://www.cnmin.com One of China's largest international non-ferrous mining company, engaged in all aspects of geological survey, design and research, engineering and construction for N/M minerals in targeting countries.	David Tang, Vice President
Changyuan Chemicals & Coking Co. Ltd	Coking	FIE	Huaibei, Anhui Province	The Company was originally a SOE and was acquired by a Hong Kong company in 2003. The Company's main business is to process coal extracted from the Huaibei Coal Mining area into coke. The Company's coke is exported to U.S., EU, and other states.	Zhang Fugen, Vice Director
Hubei Long Dan Pharmaceutical Co. Ltd.	Chemical and Pharmaceutical	Domestic SME	Wuhan	www.longren.com The Company engaged in the development, manufacturing, and sale of pharmaceutical and chemical products.	Zhang Zhilin, Director
Henan Anfei Electronic Glass Co. Ltd	ElectronicGlass	FIE	Zheng Zhou	The company is a joint venture between German MNC Philips, Korean MNC LG, and Chinese Ancai Group. The joint venture supplies LCD screens for major MNCs in electronics.	Yuan Zhanzhu, Deputy General Manager
Zhengzhou Top Rolling Technology Co. Ltd.	Iron and Steel	Domestic SME	Zheng Zhou	www.xgkrolling.com The Company applies its patented product—XGK roller to process raw steel into rolled products as per specification and need from domestic and foreign customers.	Zhao Linzhen, CEO
Zhenjiang Wanxin Optical Co.	Optical	Domestic	Zhen Jiang	www.wx-china.com The Company is the leading optical	Tang Longbao, CEO

Company Name	Industry	Nature	Location	Company Infomation	Contact
Ltd.		SME		manufacturer in China. The company supply optical to HK, U.S., EU and Japan.	
Jiangsu Yuantong Auto Parts Co. Ltd	Machinery (Auto parts)	Domestic SME	Dan Yang	www.auto-rose.com The Company manufactures wheels for motorcycles, ATVs and cars. The company is a key supplier to two major MNCs namely, Honda (the largest motorcycle manufacturer in the world) and Carlisle (the No.1 manufacturer of ATV wheels in the USA). Exports to MNCs account for 50% of the Company's revenue in 2004.	Guo Weidong, CEO
Shunde Baochang Electronics Co. Ltd.	Electronics	Domestic SME	Shunde, Guangdong Province	www.te-module.com The Company engages in the manufacture of thermoelectric cooling systems to tailor different cooling needs. The Company received private investment from an unknown Singapore investor in 2004	Liu Fulin, CEO
Yancheng Huaye Pharmaceutical & Chemical Co. Ltd.	Chemical and Pharmaceutical	Domestic SME	Yancheng, Jiangsu Province	www.huayepharm.com The Company is one of the largest producer of O-phenyl phenol (a chemical intermediate) and organic silicon in China. The Company is key supplier to more than 10 MNCs including German Bayer, Japanese Mitsubishi, and U.K. Glaxo.	Zhang Yinhua, CEO
Zhengzhou Wei Kemu Electronics Co. Ltd.	Telecommunications and Electronics	Domestic SME	Zhengzhou, Henan Province	www.zzvcom.com The Company specialized in producing Digital Video Network Displayer (DVnD) and other telecommunications solutions and products.	Gan Ling, CFO
				www.zhuoergroup.com The Company engages in	

Company Name	Industry	Nature	Location	Company Infomation	Contact
Wuhan Zhuoer Enterprise Group Co. Ltd.	Textile	Domestic SME	Wuhan, Hubei Province	cotton fabrics, textile dying, weaving, design and cloth-making. The Company's clothing products are exported to more than 20 countries through its distribution branch in Hong Kong.	Yan Zhi, CEO
China Haohua Chemical (Group) Corporation	Chemicals	SOE	Beijing	www.chinahaohua.com.cn The Company is a super-large chemical enterprise group founded in 1993 upon the approval of the State Council. It engages in a wide range of research, production, trading and investment in the chemical industry in China and globally.	Chen Baotong, Deputy Manager
BASF-YPC Company Limited	Petrochemi cal	MNC	Nanjing	http://www.basf-ypc.com.cn/ The Company is the joint venture between German MNC BASF and Chinese MNC Sinopec. Founded in 2000, the Company engages in a wide range of petrochemical products & services and is the key supplier to major world petrochemical MNCs.	Cheng Zhong, General Manager, Human Resources and Administrat ion Division
Mianzhu Hanwang Yellow Phosphate Co. Ltd.	Chemicals	Domestic SME	Deyang, Sichuan Province	The Company specializes in producing phosphate-related chemical products. Half of the Company's products is exported to countries including EU, Japan and Korea.	Li Xiang, the Company's environmen tal adviser