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Chapter 1

INTRODUCTION

The central aim of this paper is to trace and explain the relationship between foreign direct investment and local natural environment changes in the Pearl River Delta (PRD). The purpose is threefold: to make a connection between the environmental problems and global economic forces; develop a model to identify if foreign direct investment (FDI) is one of the major cause of the environmental changes in the PRD; and identify how FDI interacts with the local environmental policy-making process.

The pace of foreign trade reform in the Guangdong Province, where the PRD is located, is faster than the rest of China. Guangdong's flexible foreign trade and investment structure is the direct result of the central government's decision to bestow upon it the authority to adopt special policies and flexible measures. Supported by these government policies and comprehensive plans, Guangdong's urbanization rate is as impressive as its industrialization process. The PRD has been the biggest target center for immigration from inland China. However, this rapid growth has also caused serious environmental damage and widening income gap between immigrants and citizens, as well as among the citizens themselves.

I was born in the PRD just two years before the economic reform transformed Guangdong into one of China's richest provinces. I grew up in the provincial capital of Guangdong, Guangzhou, in the heart of the PRD. My father worked on natural environment quality improvement in Guangdong under the provincial Environmental Protection Agency, with a primary focus on industrial pollution problems. He used to swim in the PRD which flows through the city of Guangzhou when he started working in the environmental protection field in the 1970s. Over thirty years later, it is difficult to find large schools of fish in the same region of the river. Through my growth and my father's practice, I witnessed the dramatic dichotomy of changes as the economy boomed and the natural environment deteriorated, as foreign investments from Hong Kong, Taiwan, the United States and Europe kept increasing rapidly in the PRD.

Foreign direct investment represents a significant influence on development of China's local economies, dating back to the time when China first opened its doors to world trade in 1978 (Perry and Seldon, 2000, p.2-3). Eager to attract foreign investors, the central government relaxed its control of local municipal governments, providing special policies beneficial for foreign investors in selected regions such as the PRD. Local authorities were allowed relative freedom to make their own decisions in reacting to global economic forces. As a result, the choices of foreign investors in regard to industrial location and type of industry were a major factor in shaping both urban and rural environments in the region (Lin, 1997, p.72). Unfortunately, regional environmental quality has suffered accordingly.

Since 1978 when China first embarked on a strategy of economic reform and a further integration into the world economy, its economic growth has impressed the world. According to the World Bank, between 1978 and 1995 the value of Chinese exports and imports as a share of the GDP tripled. The Chinese government decided to focus its efforts not on politics but on economics and the modernizations of four sectors - agriculture, industry, national defense, and science and technology. This policy reduced the dominance of central state planning by permitting a more market-oriented economy. An “open-door policy” opened up China to world markets and foreign investment while promoting economic and technical co-operation with other countries. Concurrently, China became the world’s second largest recipient of FDI, after the United States. Following thirty years of accelerated economic development, maintaining that growth in the face of mounting environmental problems represents one of the major challenges in moving towards sustainable development equilibrium in China. Moreover, global environmental implications associated with China’s large population and robust economic growth stands as a shared challenge for China and the larger international community.

Colonial Hong Kong (HK) played an important role in this dramatic change. Although HK is now called a *Special Administrative Region*, because of its return to Mainland China by Great Britain in 1997, it is still viewed as a primary source of “foreign direct investment” as in the past. Investment from HK originally moved traditional manufacturing factories (mostly food processing, electronics and textile production) from HK to the PRD (Lin, 1997, p.170-185). That source of investment has now been partly replaced by investments from U.S. and European

companies. Many scholars feel it is inappropriate to separate HK from the rest of the Pearl River Delta because it has a very strong economic and geographic connection with the mainland (Lin, 1997, p. 80). Others argue that since the political structure and market policies are different, HK should continue to be treated as a separate entity. In this research project, HK is understood to act as an outside force, consistent with that is on Chinese official economic data. This ensures continuity in concept since the time series data I examined range from pre-1997 through post-1997 period, crossing the line of Hong Kong's return.

In the search for new sources of investment, the Chinese government currently faces the pressure of the negative effects of 20 years of poorly regulated development, a deteriorated environment, and a serious income gap problem. Its lack of attention to these prior effects and its continuing overheated desire to develop local markets have caused some local governments in the PRD to ignore signs of dangerous economic disequilibrium, environmental deterioration, and declining social equity in the region. (Smil, 1993)

This research project was prompted by these problems in the development process. It is anticipated that by examining two case study cities in the PRD, including time series data denoting water and air quality in these cities, foreign direct investment can be shown to be both a very strong economic force and to cause important environmental impacts. A model will be designed to show the relationships, by linking the changes in the environmental indicators in the PRD with FDI changes in the local economy. FDI's influences on the local economy,

environment, and society will give insights on dealing with the dilemma of sustainable development and globalization.

Interviews with Chinese experts from environmental science, urban planning, and economics, conducted in the summer of 2001 in Guangzhou, provide evidence that supports my argument on regional development and environment. Secondary data sources were primarily found in the library, supplemented by the Internet, providing review of pertinent literature, methodological considerations, and research techniques applicable to the research. From a sustainable development perspective, economic activities are considered as interrelated with environmental and social issues. I investigated selected aspects of development theories and case studies based on the anticipated close relationship between foreign investment, urbanization and population growth. My annotated bibliography is partitioned according to China's economy, environment, urbanization, globalization, methodology, sustainability, and other government information. The contents of the references are summarized in the annotations.

My exploration of FDI in the PRD region will provide a better understanding of China's unique attempt to accomplish two major economic and societal transitions concurrently: from a centrally planned to a market economy, and from a rural to an increasingly urban society. Examining globalization and environmental interaction in the PRD will reveal the impact of external forces in the sustainable development process.

The links between trade, FDI, and China's high savings rates have been a key factor in its rapid growth. These links will continue to be essential for future development. This research is more narrowly focused than the paper in "Hyper-Urbanization of the Pearl River Delta, Southern China" (Dyck and Huang, 2001). By tracking foreign investors by their location and industry type, and by utilizing water and air quality indicators as a general measure of environmental quality, this research will provide the basis for an information system useful for government development policy and investor decision-making. Critical analysis of how foreign investors can collaborate with local governments in achieving economic growth while maintaining a sustainable environment will lead to better understanding on how to improve the planning process and regulate development. The first step of building this collaboration is to recognize the nature of the relationship between FDI and the local natural environment.

Organization of Paper

This paper will be organized according to the chapter summaries that follow:

Chapter 1, INTRODUCTION, presents my research objectives and their justification, and the rationale for choice of the Pearl River Delta (PRD) case study.

Chapter 2, REGIONAL CONTEXT, provides a general description of the PRD, foreign direct investment (FDI), and environmental problems in China, specifically in the PRD. Chapter 3 and Chapter 4 are LITERATURE REVIEW & THEORETICAL FRAMEWORK. Chapter 3

discusses literature on FDI and environmental quality specific to China and the PRD as well as more spatially general literature on the globalization-environment linkage. It presents literature on China's economy and foreign investment development background, China's environmental problems and its environmental policies, and discussion of the relationships, in which I would trace the connection between FDI and local environment changes. Chapter 4 examines three theoretical models that I found in related literature that would benefit my analysis.

Chapter 5, ANALYSIS, utilizes models derived from the literature review to be used in the environment indicators comparison, together with relationship extraction techniques taken from the literature. The chapter then conducts the analysis within limits of the data available, and details how I have operationalized the analysis of the relationships between FDI and the environment. Materials about Guangdong Province and two cities in the PRD, Guangzhou and Dongguan, will be developed to provide initial assessment of FDI impacts on environmental quality.

Chapter 6, FINDINGS AND RECOMMENDATIONS, provides a summary of the findings based on my literature review, personal interview data, and analysis. It also provides initial recommendations for development policy and planning in the PRD and suggestions for continuation and further elaboration of the research.