

USING FOREIGN DIRECT INVESTMENT TO IMPROVE URBAN ENVIRONMENTAL INFRASTRUCTURE AND SERVICES - THE CASE OF HANOI, VIETNAM

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Summary

The rapid pace of urbanization and the lack of resources to provide Urban Environmental Infrastructure and Services (UEI&S) are leading to severe urban environmental problems in developing countries. At the same time, the cities of developing countries are experiencing rapid increases in Foreign Direct Investment (FDI). This combination of factors raises the obvious question; how can resource-poor cities of developing countries improve their urban environments by using FDI in the provision of infrastructure and services, an essential component of the Urban Environmental Management (UEM)? Although both FDI and UEM are well-researched

fields of study, the nature of the link between the two has not been adequately addressed. This paper presents a conceptual framework for this link by using a case study of Hanoi, Vietnam.

The central questions that have emerged from this work revolve around how to involve foreign/ private investors in the provision of UEI&S, especially in the water supply and sanitation sector in Hanoi. Specifically the paper addresses why it is difficult to attract FDI in the water and sanitation sector in Hanoi, Vietnam and what the Vietnamese and Hanoi governments should do to involve foreign investors in the provision of this infrastructure. This research also touches upon the related issues of the recent involvement of an increasing number of actors in the urban scene: city governments (through devolution of central government authority), international organizations and multinational infrastructure companies.

1. Introduction

In recent years, flows of Foreign Direct Investment (FDI) to the developing countries have been rapidly growing. FDI is now an important contributor to the national economy as well as to the urban growth in several developing countries. As the world moves towards free trade and privatization and as Official Development Assistance (ODA) to the poor countries is steadily declining, FDI is likely to assume an even greater role in the future as a source of capital. In addition to capital, FDI provides jobs and brings new technologies and skills and know-how to the developing countries.

Urbanization in developing countries is significantly different from that experienced in the developed world, both in terms of the absolute number of people migrating to cities and in the timeframe within which it is occurring (the intensity). Rapid urbanization in Asian countries is leading to many problems in cities. Existing urban infrastructure and municipal services have been unable to cope with the increased population and rapid economic growth. The environment in these cities has, therefore, deteriorated. In these cities, local authorities are trying to improve Urban Environmental Management (UEM), which strives to protect the urban environment and improve the quality of life of urban residents through better management of available resources.

It would be valuable to know how city governments can use FDI for improving their urban environments. Although both FDI and UEM are well-researched fields of study, the nature of the link between the two has not been adequately addressed. This paper presents a conceptual framework for this link by using a case study of Hanoi, Vietnam.

Hanoi, the capital of Vietnam, is a good subject for the above-mentioned research, as it is typical of many other cities in the Asian developing world. Hanoi's population is increasing rapidly and is likely to increase even faster in the future due to the widening income gap between urban and rural areas. At the same time, pollution problems are increasing in this city and the gap between UEI&S provided by the government and the city's demand/requirement is widening. Hanoi is also a good case study area because it has already received large amounts of FDI and this trend is also likely to continue. So apart from the general lessons that this study provides, it also gives insight into practical application in Hanoi, as it provides insight into how FDI can be utilized to improve the

urban environment by providing jobs, by introducing better environmental technologies and by enhancing investment in Urban Environmental Infrastructure and Services (UEI&S). It can also help the city government in shaping a better policy framework for promoting sustainable development.

1.1. The FDI–UEM Link for Hanoi

Figure 1 provides a conceptual framework for the linkage between FDI and UEM in Hanoi, Vietnam. Four powerful phenomena forced the Vietnamese government in the mid eighties to carry out economic reforms: the deteriorating economic situation, the collapse of communism in the former Soviet Union and other socialist countries, the initial success of economic reforms in China and the global trend of structural reform and privatization. The cluster of events outside the shaded bubble shows the circumstances in which FDI started to take place in Vietnam while the inside of the shaded bubble depicts a number of main linkages between FDI and the urban environment.

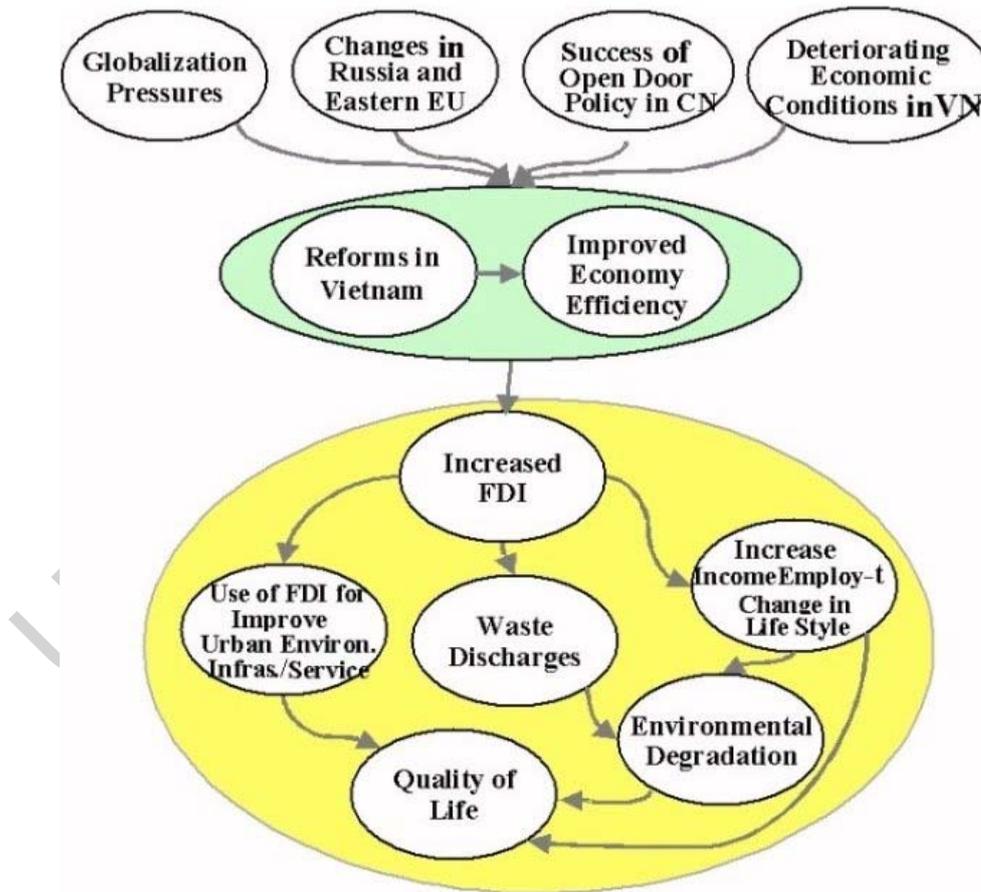


Figure 1. Linkages between FDI and UEM in Hanoi

As the links inside the shaded bubble of figure 1 indicate, FDI has the potential to contribute to three urban environmental themes: 1) it has the potential to provide employment, increase income and thus induce change in life styles that may lead to

more consumption and waste; 2) it has the potential to add to the waste discharges in the city and thus increase pollution; 3) it is a potential source of provision of urban environmental infrastructure and services.

A deeper look into the linkages in the shaded bubble demonstrates that the use of FDI for the provision of both employment and UEI&S can lead to improved quality of life in the city. FDI-induced change in lifestyle, however, may be a mixed blessing; it can lead to improvement in quality of life as well as environmental degradation due to increased consumption. The remaining part of this working paper is an investigation into the third theme that has emerged from Figure 1. While links between FDI and income and employment and FDI and environmental pollution are important, the connection between the provision of UEI&S and FDI is the area of most significant impact for UEM.

The study is based upon information collected from general literature on related topics, secondary data from government organizations and primary data from a questionnaire survey, field observations, and discussions and interviews conducted in Hanoi City. The author conducted her primary survey during the period from May 1999 to January 2000. Out of a total 237 functional FDI enterprises located in Hanoi, 36 were selected for the survey. The stakeholders related to FDI enterprises were identified in five groups: FDI employees, foreign managers of FDI enterprises, self-employed dealing with FDI goods and services, people living in the vicinity of FDI enterprises, and the governmental officials concerned with FDI and UEM affairs. A total of 355 respondents were asked to fill out the questionnaires or were interviewed. The findings from this survey have been used as supporting arguments at various points in paper.

1.2. FDI for the Provision of UEI&S in Hanoi

The cities in developing countries are rapidly growing. The economies of many of these cities, especially those in the Asia-Pacific region, have also been growing quickly. The combination of population pressure and economic growth has led to exponential increases in demand for UEI&S in cities throughout the region. Hanoi in Vietnam is a good example of such a city. The UEI&S crunch is even greater in Hanoi than in other cities in the Asia-Pacific region, due to Vietnam's history. Decades of wars with the French, Americans and others, left the Vietnamese government with few resources and scant opportunities to provide new urban infrastructure or to improve the existing facilities. As a result, most of the urban environmental infrastructure in Hanoi is the same as that laid out by the French during the earlier part of the twentieth century.

Since the inception of economic reforms in Vietnam in 1986, the amount of inflowing FDI has been increasing. A substantial proportion of this FDI is directed at Hanoi. Nearly all the FDI arriving in Hanoi has been in services, industry or construction. The government is increasingly pondering whether there is any way to attract FDI into the provision of UEI&S. Unfortunately, there is little in the existing literature to answer this question, particularly for Hanoi. The available literature focuses on the private provision of UEI&S and on FDI's relationship with the economy and the environment of the developing countries. The current debate over the private provision of UEI&S itself is not in line with the realities experienced in countries as poor as Vietnam. Furthermore, in

any discussion of private provision of UEI&S in Vietnam, especially utilizing FDI, the particular circumstances of the country and city must be taken into consideration. A long history of wars with outside aggressors has left a mark on the psyche of the Vietnamese populace. Despite the recent opening up of the country, the Vietnamese are very cautious of foreigners. Total foreign control of strategic services, such as water supply, in the capital Hanoi may not be palatable for the Vietnamese.

1.3. Some Important Considerations

In recent years the UEM scene in Asian countries' cities has become complex. The drive for decentralization has transferred responsibilities for provision of UEI&Ss from central line agencies to local governments. In many cases, however, the decentralization has not been accompanied by financial empowerment. This situation has forced cash-starved local governments to look for other partners, such as those in the private sector, for the provision of UEI&S. Recently, international development organizations have also become more active in the urban scene. They are relentlessly pushing the agenda of privatization of UEI&S. Another player, or aspiring player, in the new, increasingly complex urban scene is the international utility companies. They are emerging as important sources of technology, offering their services for provision of potable water and other UEI&S. In short, there are powerful new forces at play in developing world cities and there is a strong drive for private provision of UEI&S.

Privatization in itself is no panacea for the urban ills of Asia Pacific cities. Privatization does not mean less work for governments; it requires careful planning, the implementation of new procedures and mechanisms of cooperation and of monitoring and many new roles for government. Further, there is concern that the prices for utilities charged by private concessions may be beyond the urban poor's financial capacity. For smaller cities it may make better sense for the local governments to provide services themselves or follow the Chinese model where local governments create utility companies that function like the private sector. Even for larger cities, the nature of the problem will determine if privatization is warranted at all.

1.4. Scope of the Research

This paper is limited to the discussion of water supply, sanitation and solid waste management. Water supply and sanitation are areas within UEI&S that have the highest potential of benefiting from FDI. Most of the discussion in the latter part of this paper therefore tends to focus on this sector.

There are significant differences between water supply and sanitation and solid waste management in terms of capital investment and technology levels. In most developing countries, municipal solid waste service involves labor-intensive street sweeping and waste collection. Solid waste collection, sweeping, transfer and disposal systems are less capital-intensive than the water supply systems. Also solid waste services require less advanced technology than water treatment. Water supply and sanitation infrastructure is expensive and involves high levels of technological expertise. As solid waste management is more suitable for domestic private sector involvement, the current study focuses more on the use of FDI for the provision of the water supply and

sanitation infrastructure.

This paper attempts to link Urban Environmental Management (UEM) and UEI&S provision with FDI in the Vietnamese context. It begins with an elaborate account of the FDI and UEM situations in Hanoi. It then presents an argument that some form of privatization of UEI&S is a precondition for utilization of FDI in this area. The paper then focuses on different possible modes and mechanisms of private provision of UEI&S and examines the privatization initiatives of the recent past, especially those taken in the developing country cities. Finally, it examines the modes and mechanisms suitable for the Vietnamese case, keeping in mind the requirement for involving FDI in UEI&S development.

2. Case Study Area Profile

Hanoi, the capital and the second largest city of Vietnam, celebrated its 990-year anniversary in 1999. Hanoi has a population of 2.71 million, covers an area of 918.46 km² and is divided into seven urban and five sub-urban districts. Hanoi ranks first in Vietnam in population density with 33 800 persons per square kilometer in some of the inner districts. Two main rivers, Red and Nhue, and four small rivers pass through Hanoi. The city also has many lakes and ponds covering a total area of about 600 ha.

Hanoi's economy is the second largest in Vietnam following that of Ho Chi Minh City. During the 1995–1999 period, the central government-owned sector played a dominant role in the city's economy accounting for nearly 60% of total GDP. Since 1993 foreign investment has become increasingly important in Hanoi's economy rising from 2.7% in 1993 to 11% of economic output in 1999. Vietnam's economy started to grow rapidly in the early 1990s and so has that of Hanoi, but the economic growth of the city has tended to be higher than the national average.

2.1. Reviewing the Existing Situation of FDI and UEM in Hanoi

Since the inception of the Law on Foreign Investment in Vietnam in 1987, a series of policies have been promulgated to encourage open market economy development. The government rightly envisages that foreign investment will play an important role in bringing investment and technology into Vietnam. During the past decade, Vietnam benefited disproportionately from direct investment inflows, which were on average equivalent to 5.5% of GDP (compared to an average of 0.9% for all developing countries and 1.1% for China).

Forty-two countries and hundreds of foreign groups and companies have entered Hanoi to look for investment and business opportunities. By the end of 1999, 421 projects had been licensed in Hanoi with a total investment capital of US\$8 638 million accounting for approximately 24% of total FDI inflows into the whole country. Out of these 421 projects, 297 were Joint Venture projects, 86 were 100% Foreign Investment projects and 38 were Business Cooperation Contract projects.

In recent years FDI has contributed significantly to the structural transformation of Hanoi's economy. After years of almost no change, Hanoi's economic structure has

started to move in the direction of industrialization. The share of agriculture, forestry and aquaculture decreased from around 9% in 1990 to about 3.9% of the GDP in 1999, while that of industry and construction increased from 25% to 40% of GDP over the same period.

FDI in the service sector accounts for more than half of the total FDI capital that has been invested in this city. Investment in services is followed by investment in construction that accounts for some 33.5% while 14.7% of all FDI has been invested in the industries. About one third of the approved FDI have been for development of new industrial estates, which includes infrastructure provision. While the overall implementation rate of all FDI in Hanoi is about 40% of the total approved FDI capital, that of industrial estates/infrastructure has been only 3%. This clearly points to the need to make policy changes to facilitate FDI participation in infrastructure provision. Another interesting aspect of FDI is its country of origin. Most of the FDI inflowing to Hanoi is from Japan and the four Asian Tigers, i.e., Singapore, South Korea, Hong Kong and Taiwan. Investments from these countries account for more than two thirds of total Hanoi FDI capital.

In order to better understand the situation of FDI, especially that in the industrial sector, it is worthwhile having a brief look at the industrial areas in Hanoi. There are 14 industrial areas—nine old industrial areas and five new Industrial Zones (IZs) in the city. Out of the nine old industrial areas five are located in the inner districts while the remaining four are located in the outer districts. The nine old industrial areas have a mix of industrial, commercial and residential activities. They are located in crowded areas with severe shortages of urban environmental infrastructure. Nearly 90% of all the FDI projects are located in these areas.

Since 1992, the Vietnamese and Hanoi governments have made five well-planned IZs, to reduce congestion and pollution in the inner city and improve environmental protection. These IZs are located in the outer districts and are equipped with good physical infrastructure. Foreign investors are encouraged to set up their enterprises in these zones through different incentive policies.

Over the past few years and in line with overall trends for the country, Hanoi has experienced rapid urbanization and industrialization. This development has caused considerable adverse affects on the environment as well as leading to shortages of environmental infrastructure and services. The existing infrastructure and municipal services in Hanoi have been unable to cope with the rapidly increasing demand.

The water supply system in Hanoi dates back to 1894, when the French colonists developed the first water supply system by using surface water from the Red River. Because of its abundant potential in supplying water to the city, groundwater has been utilized since the early twentieth century. Presently, Hanoi Water Business Company (HWBC) uses groundwater through fourteen major water treatment plants (WTPs) and a number of small water supply stations to provide 390 000 m³/day to the Hanoi population in urban districts. Only about 80% of existing capacity is utilized due to obsolete equipment. Physical water losses are substantial, and result mainly from old and faulty pipes and from an inadequate distribution system.

There is no functioning wastewater treatment plant in Hanoi. In Hanoi the combined storm and wastewater drainage network was constructed during the 1920s and it covers only 1/8th of the city area. Large segments of the population have no access to the sewerage system. The sewer system only serves about 30% of the urban area, is overloaded and is in poor state of repair. Wastewater is discharged into city lakes and rivers without treatment and the level of maintenance and cleaning of the sewage system is low. The annual discharge of untreated sewage and industrial wastewater is estimated at 120 million m³ for Hanoi. Considering the rates of industrial and commercial development in these cities, the volume of wastewater in the next 15 years is expected to be ten times higher.

Solid waste collection and disposal is a critical issue in Hanoi. Due to rapid economic and population growth, waste production per household is growing rapidly. According to a 1997 report of the Hanoi Urban Environment Company (HURENCO), approximately 1 848 tons or 3 312 m³ of solid waste per day is generated in the urban / inner districts of Hanoi. Only around 44% of this is formally collected; the rest is burned or dumped in vacant areas or in waterways. There are no properly prepared and managed sanitary landfill sites. The waste that is formally collected is disposed of in open dumping sites, which are polluting their surroundings.

3. Arguments for and against Private Provision of Water Supply and Sanitation Services (WSSS)

Privatization is a prerequisite for linking FDI with the provision of WSSS. In this section we will look into the characteristics of WSSS that are cited as arguments in favor of their provision by the public sector. We will also look into the problems faced by WSSS that form the rationale behind the privatization argument.

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Bibliography

Bennett E., Grohmann, P., and Gentry B. (2000) *Public-Private Cooperation in the Delivery of Urban Infrastructure Services: Options and Issues*. Working Paper No.1, Yale/UNDP Program on Public-Private Partnerships, New York [This publication elaborates on the new approaches to addressing the problem of governments being unable to meet the demand of urban environmental infrastructure and services. It presents different forms of public-private partnerships as one of the most promising solutions].

Cointreau-Levine, S. (1994) *Private Sector Participation in Municipal Solid Waste Services in Developing Countries*, Discussion Paper, Urban Management Program, The World Bank, Washington D.C. [This paper discusses the reduction of government activity through the participation of the private sector in service delivery. The paper poses the questions of whether and how to involve the formal private sector in the provision of municipal solid waste services].

Daniel P. C. (1988) *Private and public alternatives for providing water supply and sewerage services*. Report No. 31, Infrastructure and Urban Development Department, The World Bank, Washington D. C. [This discussion paper outlines the different alternatives available for both public and private delivery of water and sanitation services, paying particular attention to methods that facilitate greater use of the private sector. It examines the provision of services in France, the United Kingdom, and the United States].

Gomez-Echeverri, L. (Ed.) (1997) *Bridges to Sustainability: Business and Government Working Together for a Better Environment*, *Bulletin Series*, Miller, J.A. and Coppock, J. (Bulletin Series Editors), Number 101, Yale School of Forestry and Environmental Studies, Yale University, New Haven, Connecticut. [This edited volume contains essays by the most prominent researchers in the field of privatization of infrastructure. The articles included in the volume are on the themes of: how to encourage private sector to play a greater supporting role in sustainable development, what roles capital markets and financial institutions can play in encouraging the private sector and an account of success stories in public-private partnership in infrastructure for sustainable development.]

Harinder, K., Mody, A. and Walton, M. (1997) *Choices for Efficient Private Provision of Infrastructure in East Asia*. World Bank, Washington, D. C. [This report draws on the experiences of East Asia to analyze the impediments to and prospects for private financing of infrastructure, and to show the strategies governments have followed].

Idelovitch, E. and Klas, R. (1995) *Private Sector Participation in Water Supply and Sanitation in Latin America*, The World Bank, Washington, D.C. [In this publication while discussing options for Private Sector Participation, the main problems of the public sector are analyzed, the rationale for private sector participation (PSP) is explained, and the array of options for PSP is reviewed. In addition the Buenos Aires water supply and sewerage services awarded by the government of Argentina to a private consortium of foreign operators and local investors is presented and analyzed].

Knight, F. H. (1921) *Risk, Uncertainty and profit*. The Riverside Press, Cambridge [This is a classical work in economic theory. The book presents the method of successive approximations and then using that method tackles several important problems in economics, especially the theoretical construct of "perfect competition".]

Laurence, C., Sander, F., and Holtedahl P. (1996) *Foreign Direct Investment in Central and Eastern European Infrastructure*. Occasional Paper 7, Foreign Investment Advisory Service, The World Bank, Washington, D.C. [This paper synthesizes the thoughts and ideas on the Business Environment for Foreign Direct Investment in Infrastructure in Central and Eastern Europe. Infrastructure services in Central and Eastern Europe are in a dismal state. Private involvement in the region's infrastructure sectors has lagged behind compared to other emerging economies in Latin America and East Asia. This paper provides insights into this phenomenon].

Outreville, F. J. (1998) *Theory and Practice of Insurance*. Kluwer Academic Publishers [Insurance is a major tool of risk management, and plays an important role in the economic, social, and political life of all countries. Theory and Practice of Insurance aims to describe the significance of insurance institutions, the reasons they exist and how they function. The author emphasizes fundamental principles in risk and insurance, using an international frame of reference].

Welfens, P. J.J. and Piotr, J. (1994) *Privatization and Foreign Direct Investment in Transforming Economics*. Dartmouth, Aldershot/USA [This book analyzes the problems of privatization in the post-socialist countries. The interaction of supply-side adjustment, macroeconomic change and policy regime shifts is emphasized in the theoretical discussion of privatization. The book also presents proposals, experiences, and policy options for engaging Foreign Direct Investment in economic development].

World Bank (1999) *Vietnam-Country Framework Report on Private Participation in Infrastructure*. The Final Report, The World Bank, Washington, D. C., USA [This report describes and assesses the current status and performance of key infrastructure sectors, and the policy, regulatory, and institutional environment for involving the private sector. It also presents recommendations to policymakers in framing future reform and development strategies and to assist potential private sector investors in assessing investment opportunities].

Biographical Sketch

Ms. Nguyen Thi Binh Minh, a Vietnamese national, is a doctoral candidate at the Asian Institute of Technology (AIT) in Bangkok, Thailand. Her doctoral research is an exploration of how Foreign Direct Investment (FDI) can be utilized for improving Urban Environmental Management (UEM) in Hanoi, Vietnam. Earlier on she received a Master's degree in regional planning jointly offered by the University of Dortmund (Germany) and the Asian Institute of Technology and a Diploma in Economics of Transportation Engineering from Moscow Transport University. Ms. Nguyen works as a Deputy Manager for the Ministry of Construction of Vietnam where she has been working since 1984. In the year 2000, Ms. Nguyen won a prestigious fellowship from the Institute of Advanced Studies of the United Nations University (UNU/IAS). She spent ten months at UNU/IAS as a PhD fellow in 2000/2001 furthering her doctoral research. Ms. Nguyen's research interests include; Urban Infrastructure Development, Urban Environmental Management and Socioeconomic and Environmental Impacts of the Foreign Direct Investment.