

Chapter 5 Competitiveness of Industrial Zones in Hanoi

Vu Thanh Huong

Vietnam Development Forum and
National Economics University

Fifteen years after the birth of Tan Thuan Export Processing Zone, the first industrial zone in the country, Vietnam has about 130 industrial zones (IZs) by the end of 2005. These IZs have attracted 2,202 foreign projects with a total registered capital of USD17.5 billion, accounting for 36 percent of FDI capital in the whole country, and 2,314 domestic investment projects with a total registered capital of VND137,000 billion (Tran Ngoc Hung, 2006). These figures do not include USD1.059 billion and VND31,300 billion invested in the infrastructure of IZs. The industrial value of IZs has increased rapidly, with an annual average growth of 33.2 percent from 1995 to 2000 and 32 percent from 2001 to 2005, which was higher than the growth of gross industrial output of the country. In 2005, industrial value of IZs gained USD14 billion accounting for 28 percent of the nation's industrial value with USD6 billion of export value accounting for 18.6 percent of the nation, and employ 740,000 people (Le Xuan Trinh, 2006). With these achievements, IZs have significantly contributed to the industrialization and modernization of Vietnam and facilitated the country's integration into regional and global economies. Currently, virtually all cities and provinces of Vietnam promote the creation and development of IZs.

Hanoi has six IZs with a total area of 974.64 hectares (ha). Three IZs have completed infrastructure and are under operation. By the end of 2005, these IZs have attracted 105 projects with a total registered capital of USD1.254

billion plus VND120 billion, and leased out over 400 ha of industrial land. Additionally, there are 18 industrial clusters (ICs), which are small-sized IZs under local administration, in the city, of which nine are in operation with a total area of nearly 90 ha. However, after ten years of development, Hanoi's IZs have also encountered limitations in investment environment, planning and development, location and dimension of IZs, management models of IZs, and the shortage of land for expansion.

The next section reviews the situation of Hanoi's IZs and ICs. Section 2 evaluates Hanoi's IZs in comparison with other locations in Vietnam. Finally, Section 3 presents some policy suggestions. All information and data are as of end 2005 unless otherwise noted.

1. Industrial zones and industrial clusters in Hanoi

Industrial zones

There are six IZs in Hanoi licensed under the regulation of IZs, export processing zones and high-tech parks attached to Decree No 36/CP of the central government on April 24th 1997. They are Sai Dong B, Noi Bai, Thang Long, Ha Noi-Dai Tu, Sai Dong A (Daewoo-Hanel), and the South Thang Long, which will be described briefly below.

a. Sai Dong B

Sai Dong B IZ was built by domestic capital. Hanel Electricity Company was the infrastructure developer. It is located in Long Bien District, 10 km from the city center on Highway No. 5. The total area is 97 ha, of which 79 ha is available for building the industrial zone. At present, 24 projects operate in the IZ with the registered capital of USD398 million plus VND121 billion.

Occupancy is 100 percent. Currently, the IZ is preparing necessary conditions for opening the remaining area (second phase), which is about 18 ha.

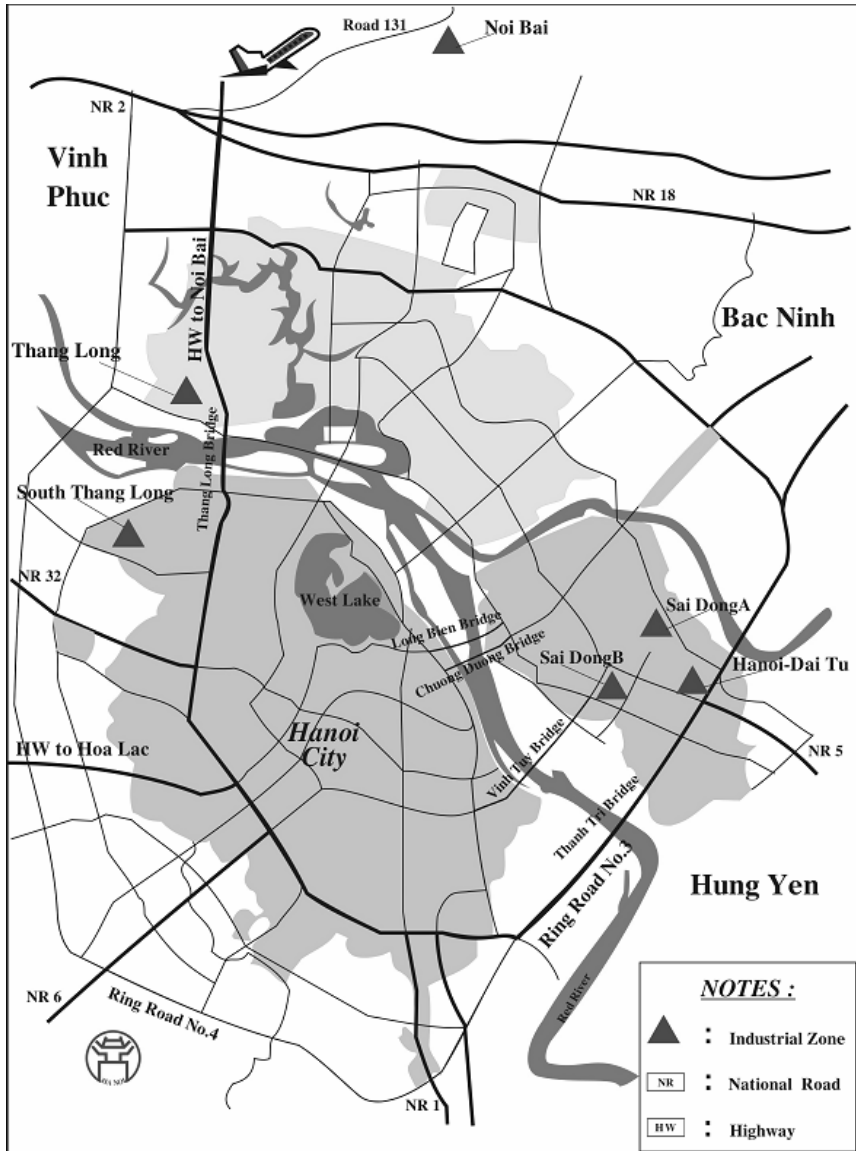
b. Noi Bai

Noi Bai IZ has a total area of 100 ha in the suburb district of Soc Son, 30 km away from the city center. The infrastructure building company for this IZ is a joint venture between Renong Co., Ltd. (Malaysia) and Vietnam Industrial Construction Company. At the end of 1999, the Hanoi People's Committee completed Road No.131 connecting Highway No. 2 with the IZ (see map 1). This improved access to the IZ by cutting 15-20 minutes compared with the old road. The IZ is located in the priority area for the reduction or exemption of income tax based on Decree 24/2000/ND-CP of the government on detailed regulations on Foreign Direct Investment Law in Vietnam. At the end of 2005, the IZ had 23 investment projects with a total registered capital of USD122 million. Land for the first phase (50 ha) is all rented out. Currently, the IZ is implementing procedures for the second phase (50 ha).

c. Thang Long

This IZ is a joint venture between Sumitomo Corporation (Japan) and state-owned Dong Anh Mechanical Company with a total area of 121 ha. The IZ is situated in Dong Anh district on the highway to Noi Bai International Airport, 15 km away from the city center. As of December 31st 2005, the IZ had 51 investment projects with a registered capital of USD728.4 million. Its first phase is fully occupied, and 80 percent of the second phase is also rented out. At present, the IZ is implementing the third phase and asking for permission to establish another IZ in Hanoi.

Map 1 Industrial zones in Hanoi



Source: The author

d. Hanoi-Dai Tu

Hanoi-Dai Tu IZ was established by the State Committee of Cooperation and Investment (now part of MPI) under License No.1385/GP dated August 13, 1995. The infrastructure developer was a 100 percent Taiwan-owned enterprise. It is in Long Bien District, 10 km away from Hanoi center with a registered investment of USD 12 million and the area of 40 ha. The original objective of Hanoi-Dai Tu IZ was to attract investors from Taiwan. At present, only four Taiwanese enterprises have committed to invest in the IZ. None of them is in operation. The Hanoi People's Committee and MPI have proposed a number of times to the prime minister to cancel the investment license. However, the IZ's investor now has signed a contract with Nam Duc Co., Ltd, a local company, to promote investment and implement projects. According to the IZ's report, it is now completing legal procedure and preparing to market the IZ to investors.

e. South Thang Long

This IZ has 119.53 ha, and is located at a favorable site near the city center. At present, the developer is in the process of completing infrastructure. The IZ currently has four investment projects, which are under construction, with an area of 3 ha which accounts for about 10 percent of the first phase. However, there have been different opinions among the local and central authorities regarding the objective of this IZ.

f. Sai Dong A

The Sai Dong A Industrial-Urban Zone project was granted Investment License No.1595/GP on June 17th 1996. It is a joint venture between Daewoo Corporation (Korea) and Hanoi Electricity Company (Hanel). The total area is 407 ha, which is divided into three functional areas: industrial zone (197 ha), residential area (100 ha), and public park and garden (110 ha). After nine years, the only thing that the investor had done was to erect a sign, and farm land was left in fallow. Finally, the Ministry of Planning and Investment (MPI) issued the Decision No 608/QD-BKH dated June 20th 2006 to terminate the operation of the joint venture

in Sai Dong A IZ project. It is possible that the site remained will be changed into an urban area.

We can see that, among six IZs established by the prime minister, only the first three are in operation, with land fully or almost occupied and considering expansion. The next two are in preparation and the last is likely to be converted into another purpose.

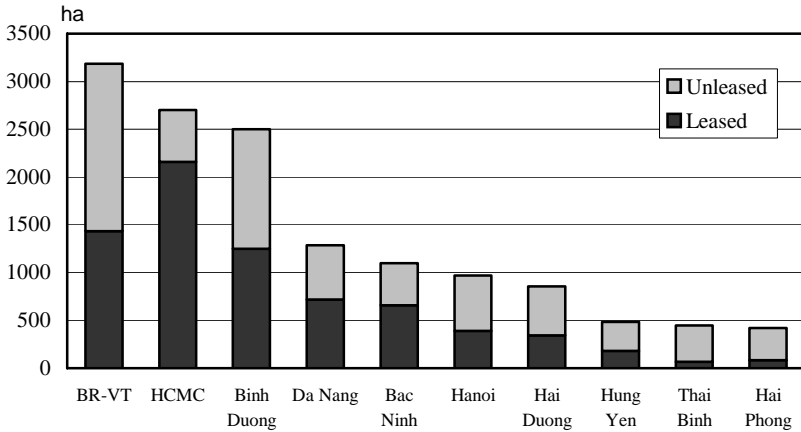
Table 1 Hanoi's Industrial Zones

	Industrial zone	Area (ha)	No. of projects	Investment capital	Occupancy
1	Sai Dong B	97.11	24	USD 397.5 million VND 120.5 billion	100% (1 st phase)
2	Noi Bai	100.00	23	USD 122.0 million	100% (1 st phase)
3	Thang Long	198.00	51	USD 728.4 million	100% (1 st phase) 80% (2 nd phase)
4	Hanoi-Dai Tu	40.00	4	USD 6.2 million	---
5	South Thang Long	119.53	4	VND 135.0 billion	---
6	Sai Dong A	420.00	0	0	---
	Total	974.64	105	USD 1,254 million VND 255.5 billion	---

Source: Hanoi IZ and EPZ Management Board (2006)

As Figure 1 shows, by end 2005, the percentage of leased land in Hanoi's IZs (40 percent) is lower than many other locations in Vietnam, such as HCMC (80 percent), Bac Ninh (60 percent), Da Nang (56 percent), Binh Duong (50 percent), and BR-VT (45 percent). This is because three IZs are not in operation, as noted above. The occupancy ratios of Hanoi's IZs already in operation with completed infrastructure are very high. However, Hanoi's IZs are often smaller than those in other cities and provinces, especially in the South.

Figure 1 Land for IZs in selected provinces in Vietnam



Source: VDF survey, 2005

With 105 projects and USD1.254 billion invested, the IZs in Hanoi account for about 40 percent of projects and about 60 percent of registered capital of FDI in the Northern Key Economic Zone (Hanoi, Hai Phong, Quang Ninh, Hung Yen, Hai Duong, Vinh Phuc, Bac Ninh and Ha Tay). The ratio of implemented capital to registered capital is over 50 percent in Hanoi. In 2005, enterprises in Hanoi's three operating IZs created a revenue of USD1,203 million, of which export turnover was USD834 million. Their contribution to the state budget was USD5.5 million, with more than 27,000 jobs created. While Hanoi's IZs account for only 14.8 percent of project number and 13.5 percent of registered capital in the FDI sector of Hanoi, they produce 43 percent of turnover, 88 percent of export revenue, and 35 percent of jobs (Hanoi IZ and EPZ Management Board, 2005). The export revenue growth of enterprises in Hanoi's IZs was 64 percent in the period 2001-2005, higher than the growth rate of Hanoi in general. The average investment capital of enterprises in Hanoi's IZs was USD 9.7 million, again much higher than the average of the country. These numbers show the importance of enterprises operating in Hanoi's IZs.

Many foreign manufacturing firms have invested in Hanoi's IZs in large scale with high technology. Two of eleven enterprises granted the certificate

of a high-tech enterprise by the Ministry of Science and Technology are in Hanoi's IZs. They are Orion Hanel (Sai Dong B IZ) and Canon Vietnam (Thang Long IZ). Total investment capital of the two enterprises is nearly USD400 million.

Industrial clusters

While IZs are licensed by the prime minister ICs are licensed by the People's Committees at the provincial or district level, or even to be set up spontaneously. Their operation and management are not under Decree 36/CP or any common regulatory or legal framework. Some provinces have master plans for ICs while others do not. IZs are generally larger, with an average area of 187 ha, and marked clearly by surrounding walls. ICs are smaller at 100 ha or less and surrounding walls are optional. IZs are managed by the provincial IZ and EPZ Management Board and operated by infrastructure developers, which are either independent companies or administrative unit, and are equipped with full infrastructure including roads, electricity, water supply, greenery, and a waste treatment system. ICs are managed by either provincial IZ and EPZ Management Board or Department of Planning and Investment or Department of Industry or district's People Committee and operated by either infrastructure developers or no one, and have no particular requirement on infrastructure.

The prime minister, on October 15th 1998, agreed to let Hanoi establish two pilot ICs, Phu Thi and Vinh Tuy, in order to move manufacturing factories out of the urban area to the suburbs, and permitted the Hanoi People's Committee to approve investment projects. By the end of 2005, eighteen ICs had been established in Hanoi, of which nine are in operation (including the second phase of Phu Thi) with a total constructed area of 176 ha and a total leased area of 90 ha. All of the eighteen ICs are expected to be in operation by 2008. By 2005, 177 enterprises invested in Hanoi's ICs with a total registered capital of VND3,256 billion. According to Hanoi's IZ Management Board, main sectors of enterprises entering ICs are electronics and electrical machines, informatics, textile and garment, leather and footwear, and mechanics, with an average investment capital of VND5 to 6 billion per project. Enterprises in ICs employed 5,400 workers. In 2005, the

turnover of enterprises in Hanoi's ICs was about VND1,202 billion. They contributed VND52 billion to the state budget (Hanoi IZ and EPZ Management Board, 2006).

Table 2 Hanoi's ICs in operation with completed infrastructure, as of Dec. 31, 2005

No.	Industrial clusters	Constructed area (ha)	No. of projects	Rented area (ha)	Registered capital (VND billion)	Occupancy
1	Vinh Tuy	12.12	18	8.26	114.65	100%
2	Phu Thi	14.80	19	10.42	142.60	100%
3	Tu Liem	21.13	32	13.25	401.46	100%
4	Cau Giay	8.29	22	4.02	948.42	100%
5	Dong Anh (1 st phase)	18.00	9	11.03	238.80	100%
6	Hai Ba Trung	9.03	33	4.00	260.00	100%
7	Ngoc Hoi (1 st phase)	56.00	28	29.28	987.78	100%
8	Hapro Foodstuff	31.18	5	5.56	57.10	29%
9	Phu Thi (2 nd phase)	5.40	11	4.14	105.27	100%
Total		175.95	177	89.98	3,256.08	--

Source: Hanoi IZ and EPZs Management Board (2006)

Each of Hanoi's ICs has a constructed area of approximately 5 to 50 ha. The Chairman of the Hanoi People's Committee has the authority to establish ICs, which are managed by Hanoi's Department of Planning and Investment (DPI), Hanoi IZ and EPZs Management Board, and other related departments. The operation of ICs is also under the control of related district's IC Management Boards. In this way, enterprises in ICs are supervised by many departments at both city and district levels. This is quite opposite to the spirit of the "one door" mechanism of state administration over enterprises in IZs under Decree No 36/CP.

Owners of infrastructure investment in Hanoi's ICs are diverse and can be classified into four types.

- ICs under the control of the *IC Management Board of the district*, established by the Hanoi People's Committee, where the IC is located.
- ICs invested by the *district's Project Management Unit* (PMU) that builds physical structure both inside and outside ICs. The Board also manages the operation of the IC.
- The Hanoi People's Committee assigning land to the district's Project Management Unit. This Unit bears responsibility for completing infrastructure outside the IC; infrastructure in the IC is built by *infrastructure development enterprises*.
- If a *state-owned enterprise* is permitted to transfer the purpose of land use right to industrial use, that enterprise can be granted the right to mobilize capital from companies that rent the land and the state's budget to build infrastructure for the IC.

However, the first and second types have encountered the problem of not being able to provide services for enterprises and workers because the owners are administrative units. Besides this, cooperation between the administrative owners of ICs and customers (enterprises) is generally poor.

Some problems in IZs and ICs in Hanoi

Development of IZs and ICs in Hanoi has also brought some negative consequences.

First, free migration into the city is stimulated, which affects security and social control. Currently, there are more than 32,000 workers in Hanoi's IZs and ICs. Most of them come from surrounding provinces such as Hai Duong, Thai Binh and Nam Dinh, as well as provinces in the Central region. They come to Hanoi by themselves or through private employment agencies which are established spontaneously. They lease houses from the local people. Most

workers have low education levels and some even commit crimes. Mass immigration also leads to unexpected overloading of social services such as schools, hospitals and traffic systems, especially in the localities where workers and their families live and work.

Second, rapid development of IZs and ICs may also create environmental pollution. Due to the shortage of investment capital and the cutback on investing in pollution control, investors often cause serious environmental damage. Some infrastructure developers of IZs and ICs ignore environmental requirements. Among Hanoi's IZs, only Thang Long has its own sewage treatment system. Among ICs, the situation is worse, and sewage disposal and waste treatment remain unimplemented. Many ICs are located in crowded residential areas, causing serious effects on surroundings.

Besides these issues, the management and operation of IZs and ICs also show other weaknesses. For example:

- Master plans for IZs in Hanoi are poorly linked with those in surrounding provinces. This causes excessive and unnecessary competition in attracting investment.
- Land clearance is very slow.
- Infrastructure for IZs is often incomplete, and infrastructure for ICs is very poor.
- Shortages in industrial land are foreseeable, which may curb further development of IZs. IZs and ICs in operation are already full. Demand for industrial land is very high while natural land is limited.
- Construction of IZs is very slow due to the limited capacity of project management boards. Cooperation with the local authority is inadequate. Supporting mechanisms and policies of the city are not concrete enough.
- Approval, supervision and implementation of investment projects in IZs are slow and inadequate.

- Control over the construction process of ICs is also inappropriate, with some enterprises constructing factories using designs totally different from those approved.

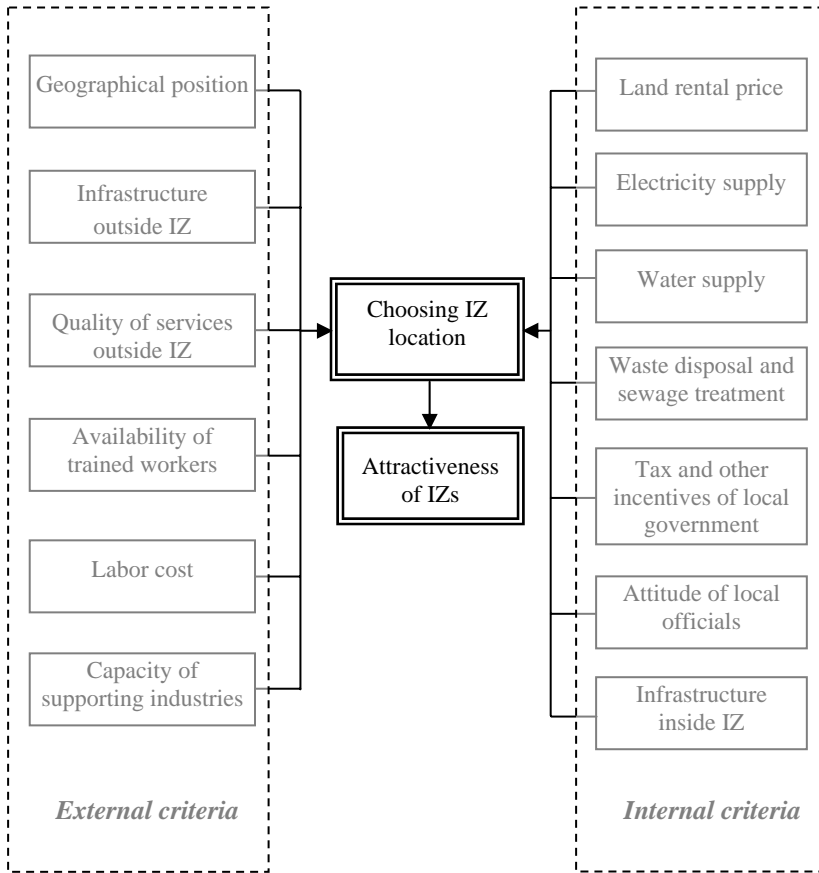
2. Attractiveness of Hanoi's industrial zones in comparison with other locations

This section assesses the attractiveness of Hanoi's IZs from the viewpoint of investors choosing IZs in which to invest. Evaluation criteria, summarized in Figure 2, are in line with those in the "Regional Investment Attractiveness Report" of Indonesia funded by USAID and the Asia Foundation in 2005²⁹. VDF conducted a small-scale survey from August to December 2005 in eleven cities and provinces³⁰. Leaders of IZ Management Boards at the provincial level, IZ developing companies, and companies operating in IZs were interviewed. They included general directors, deputy directors, and heads of departments of respective organizations. Questionnaires were sent out to companies operating in IZs, with questions focusing on the level of satisfaction and the condition of infrastructure. Answers were indicated by numbers ranging from 1 (very bad) to 5 (very good). The questionnaire also included questions on land rent and financial and time costs to access an international airport and a seaport. The questionnaire was followed up with in-depth interviews with almost all organizations and companies. The key results are reported below.

²⁹ The project has conducted annual rating of investment attractiveness among 228 regions and cities of Indonesia since 2001. The survey also mostly based on business perception.

³⁰ Surveyed cities and provinces are as follows, with numbers in brackets indicating the numbers of visited IZ management board, IZ developing companies, and companies operating in IZs, respectively: Hanoi (1,2,8), Hai Phong (1,0,0), Hai Duong (1,2,3), Bac Ninh (1,0,3), Hung Yen (1,1,3), Thai Binh (1,0,0), Da Nang (1,1,1), BR-VT (1,1,2), HCMC (1,0,1), Dong Nai (0,0,3), Binh Duong (1,0,3). The total number of visits was 44.

Figure 2 Determining Factors of Attractiveness of IZs



Land renting

For many enterprises, land rent is one of the most important criteria in choosing investment location, especially with labor-intensive production processes which always require large space. Land rent in IZs depends on location, infrastructure services, management and terms of payment. Land rent levels in Hanoi’s IZs are shown in Table 3.

Table 3 Land Rent in Hanoi's IZs

1. Sai Dong B (40 years remaining)			
Lot size	Annual payment (USD/m ² /year)	Payment in every 5 years (USD/m ² /year)	Pay full in advance (USD/m ²)
1. Under 5,000 m ²	2.6	2.4	55 (1.15 USD/m ²)
2. 5,000 to 10,000 m ²	2.55	2.2	52 (1.08 USD/m ²)
3. More than 10,000 m ²	2.2	2.15	48 (1.03 USD/m ²)
2. Noi Bai (39 years remaining)			
Pay in two installments (1 st and 15 th year)		USD 50 for 30 years = 1.66 USD/m ² /year	
Pay once for 45 years		1.33 USD/m ² / year	
Management fee		1.26 USD/m ² / year	
Total		2.92 or 2.59 USD/m²/ year	
3. Thang Long (41 years remaining)			
Pay full in advance for 47 years		USD 75 for 47 years = 1.60 USD/m ² /year	
Management fee		1.26 USD/m ² / year	
Total		2.86 USD/m²/ year	
4. Dai Tu (39 years remaining)			
Pay full in advance for 39 years		USD 78 for 39 years = 2.0 USD/m ² /year	
5. South Thang Long			
Not available			

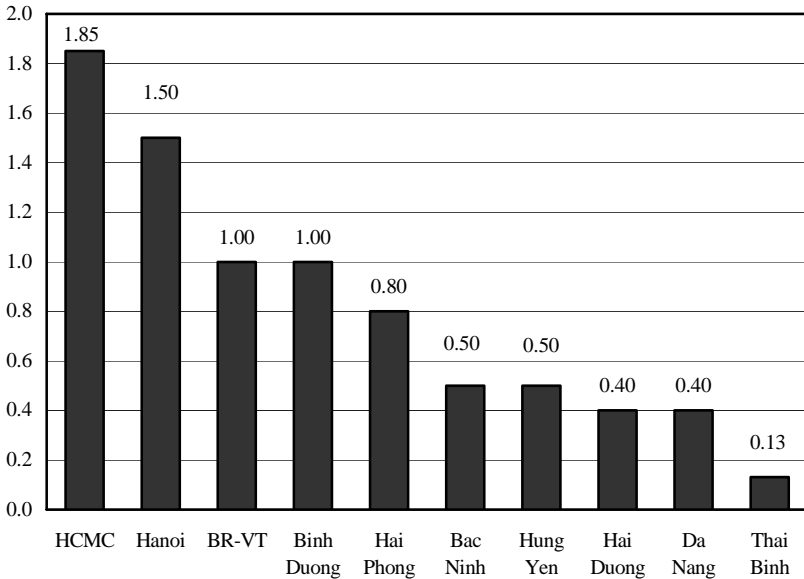
Sources: Hanoi IZ and EPZ Management Board (2003), and VDF survey for Dai Tu

While the average land rent in Hanoi is 1.5 USD/m²/year, there are differences in rent levels (excluding management fees) among IZs. In comparison with other cities and provinces, average rent in Hanoi's IZs is relatively high (Figure 3). It is ranked second in Vietnam after HCMC (USD 1.85/m²/year), and higher than in all other cities and provinces, especially northern provinces such as Thai Binh where land rent in IZs is only USD 0.13/m²/year. Incidentally, some IZs offer rent discount for investors renting

large space. This practice may be suitable for marketing purposes, but there is a risk of encouraging enterprises to rent unnecessarily large plots to get a lower price, which remain unused.

**Figure 3 Average Land Rent in Operating IZs
in Selected Cities and Provinces**

Unit: USD/m²/year



Source: VDF survey, 2005

Location

It takes 10 minutes to transport goods from Noi Bai IZ to the airport, while the corresponding figures for Thang Long IZ and Sai Dong B IZ are 20 minutes and 50 minutes, respectively. These are the answers of companies operating in IZs. In the North, Noi Bai International Airport plays the key role in air transportation, and many investors who need this service choose to invest in and around Hanoi to save time. A surprisingly large number of FDI and domestic firms in IZs use air transportation for exports and imports, either regularly or occasionally, including those in electronics, informatics,

textile and garment, and footwear. The general director of Thang Long IZ remarked that that airway was the most popular mode of transportation among companies operating in this IZ. As for another example, the leader of a garment company, 100 percent-invested by Chinese capital, producing suits and other clothes in Hai Duong province for the US and EU markets, said that all products were exported by air through Noi Bai International Airport. It is clear that easy access to an international airport is a great advantage of Hanoi, HCMC and, to a lesser extent, Da Nang.

From Hanoi, average time for a 20-foot container truck to reach Dinh Vu Seaport in Hai Phong City (120 km away) is 150 minutes (see map 2). It takes 270 minutes to reach Cai Lan Seaport in Quang Ninh Province (170 km away). Obviously, time and distance depend on the exact location of the factory, time of the day, and road condition. In our survey, investors operating in IZs reported the following average time and distance to Hai Phong Seaport: Sai Dong B - 120 minutes/100 km; Thang Long - 150 minutes/120 km; and Noi Bai - 180 minutes/130 km. Regarding access to the seaport, Hanoi has no particular advantage in comparison with other provinces along Highway 5 or Highway 18 in the North, or economically active cities and provinces in the South.

Map 2 IZs in Hanoi and the Road to Dinh Vu seaport



Source: The author

Infrastructure services

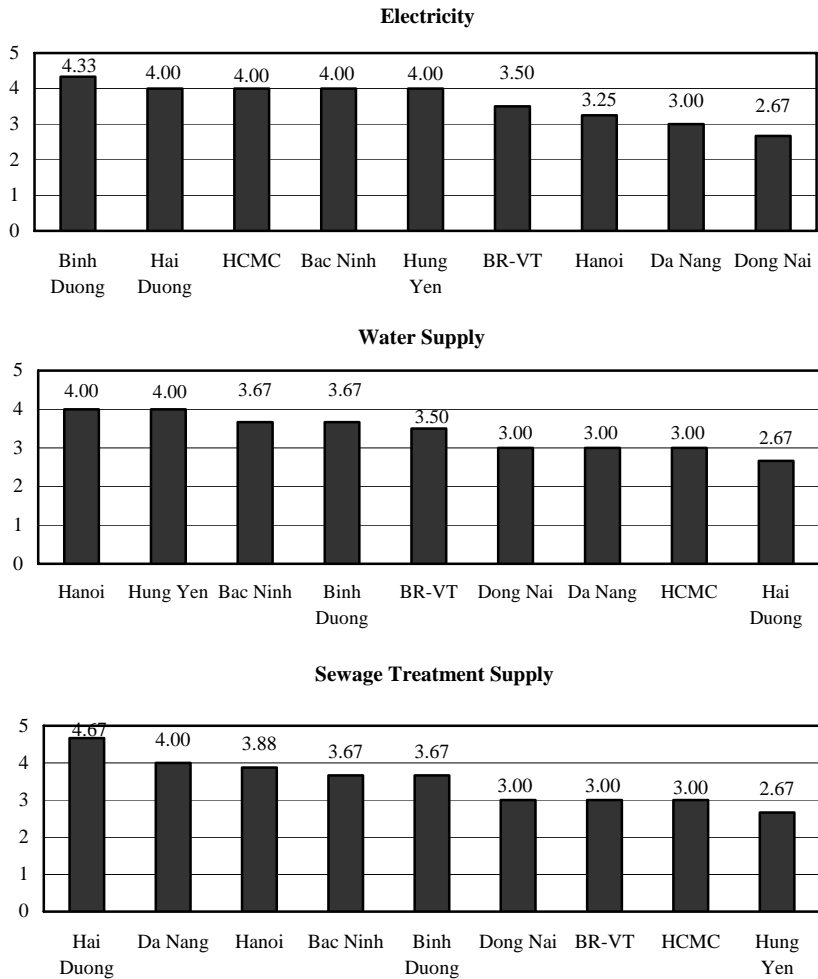
The VDF survey asked the satisfaction level of investors operating in IZs in Hanoi and other cities and provinces with regard to production conditions and services on a scale as follows: 1 (very bad), 2 (bad), 3 (normal), 4 (good) and 5 (very good). The results are reported in Table 4. In particular, infrastructure conditions in Hanoi in comparison with other cities and provinces are highlighted in Figure 4.

**Table 4 Production Conditions and Infrastructure Services:
Assessment by Enterprises in IZs**

		Regions				National average
		Hanoi	Northern (exclude Hanoi)	Central	Southern	
1	Electricity supply	3.25	4.00	3.00	3.56	3.59
2	Water supply	4.00	3.44	3.00	3.33	3.56
3	Waste disposal and sewage treatment	3.88	3.67	4.00	3.22	3.59
4	Infrastructure inside IZ	4.38	3.78	4.00	3.33	3.81
5	Infrastructure outside IZ	3.38	3.44	4.00	2.78	3.22
6	Availability of trained workers	3.13	3.33	4.00	2.67	3.07
7	Labor cost	3.63	3.67	5.00	3.22	3.56
8	Capacity of supporting industries	2.50	3.00	3.00	2.78	2.78
9	Tax and other incentives of local government	3.25	4.11	5.00	3.44	3.67
10	Attitude of local officials	3.25	3.78	4.00	3.67	3.59

Source: VDF survey, 2005

**Figure 4 Electricity, Water and Sewage Treatment:
Investors' Assessment**



Source: VDF survey, 2005

From this, investors' assessment of infrastructure services can be summarized as follows.

As for power supply, enterprises operating in Hanoi's IZs consider this as relatively poor, at 3.25, much lower than Northern average of 4.00, the Southern average of 3.56, or even the national average of 3.59. Hanoi is ranked above Dong Nai and Da Nang but below all other locations in this survey. This is partly due to the fact that, when this survey was carried out in August 2005, the North faced serious power shortages due to the low water level of Hoa Binh Power Plant. Even as we interviewed the general director of a Japanese company in Noi Bai IZ, electricity was suddenly and unexpectedly cut off, which made him immediately complain that power supply in the IZ was terrible. Under the current power balance in the country, the South fares better than the North in securing stable power supply. Unless the weather cooperates, the situation of 2005 may be repeated in the future.

In contrast, regarding water supply, Hanoi is ranked very highly, at 4.00, together with Hung Yen, which has the highest mark among all regions. The scores of the North excluding Hanoi, the South, and the whole country are 3.44, 3.33 and 3.48, respectively.

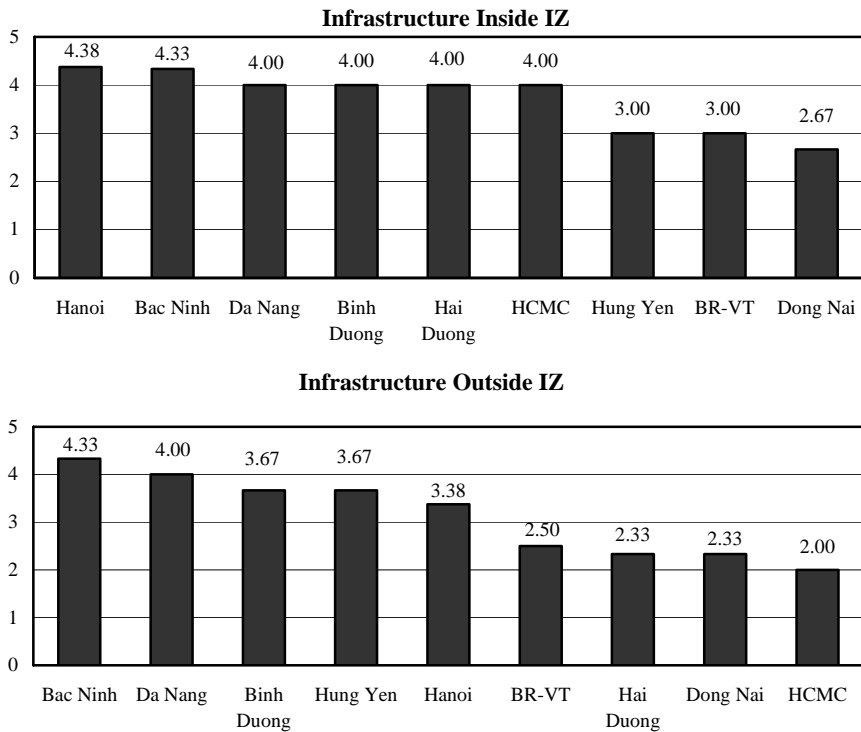
Waste disposal and sewage treatment in Hanoi's IZs are considered good in the eyes of enterprises operating in IZs with the average score of 3.88, while the North and the whole country score only 3.67 and 3.59, respectively. These services in Northern IZs are generally considered to be better than in the South but poorer than Hai Duong or Da Nang.

Infrastructure inside operating IZs in Hanoi is considered very good, at 4.38, highest in the nation, while the average of other provinces in the North is only 3.78, and that of the South is 3.33. In the North, some provinces such as Bac Ninh (4.33) and Hai Duong (4.00) have high scores but other provinces with low scores depress the average.

By contrast, infrastructure outside IZs in Hanoi is considered to be not good, at 3.38, lower than the average of other provinces in the North (3.44), but higher than that of the South (2.78) or the whole country (3.22). Infrastructure outside IZs in Hanoi fails to meet the expectations of

enterprises; in particular, traffic jams that occur during the rush hours outside Sai Dong B and Thang Long IZs seem to lower the score.

Figure 5 Infrastructure Inside and Outside IZs: Investors' Assessment



Source: VDF survey, 2005

Survey answers on the quality of infrastructure may be subjective. For example, if an investor had initially high expectation, he would rate actual infrastructure services as poor, even though another investor with lower expectation might rate them as good. To partially ameliorate this problem, the author would like to offer supplementary comments and his own ratings across cities and provinces (table 5). Although this method may suffer from another kind of subjectivity, it is hoped that visits to a number of locations

with the same questions and concerns may give additional information on the relative position of each location.

In the author's evaluation, electricity supply in Hanoi is considered good, at 4.5, slightly lower than the rating of BR-VT or HCMC but on a par with or better than the situations in other locations, especially other IZs in the North. Although investors rated Hanoi's power supply poorly, this result was affected by the draught-caused blackouts in the summer of 2005, as mentioned above, which was not repeated in 2006. As the nation's capital, Hanoi is in a position to receive power supply on a priority basis. While there is a chance that power shortages in the North may recur due to unfavorable weather conditions, the pessimistic view in 2005 should not dominate our evaluation. Another reason for Hanoi's poor rating is that the expectation of investors in Hanoi's IZs regarding electricity is much higher than in other provinces. Surveyed investors are mostly large multinational corporations using advanced technology that requires high-quality power supply in terms of stability and continuity³¹. In other locations, the majority of investors use less advanced technology where the quality of power supply does not affect their operation or profits very much.

With regards to water supply, we rate Hanoi's IZs at 3, at the same level as Hai Duong, Bac Ninh and Da Nang, but lower than all other locations. In Hanoi, water supply is unstable and, in many cases, the water supply system does not meet the demand of companies operating in IZs. Water quality is not good enough also.

The disposal and sewage treatment in IZs in Hanoi is assessed at the relatively normal level of 3. This is the result of averaging the performance of

³¹ The general director of a molding company in one of Hanoi's IZs said: "Sometimes, electricity is cut off without any prior notice, and that causes damage to our machines and equipment and produces defects. For each such blackout, the company loses thousands of USD."

Thang Long IZ which has a sewage treatment system and those of other operating IZs in Hanoi which do not. Hai Duong, a northern province with much lower population density than Hanoi, is considered much better in this respect. For example, Dai An and Nam Sach IZs have sewage treatment systems and the quality of their treated sewage is certified to be “A” level by the Vietnamese standard. In the author’s view, Hanoi’s “normal” level on average is unacceptable. Without proper waste disposal treatment systems, the risk of serious pollution in residential areas near IZs is very high, and more attention of the Hanoi People’s Committee is required on this problem.

Infrastructure inside Hanoi’s IZs is considered very good by both investors and the current author. By contrast, infrastructure outside the IZs in Hanoi is not highly assessed by the investors with the score of 3.38 while the author’s evaluation gives it the score of 4.0. Infrastructure outside IZs in Hanoi still falls short of investors’ expectation and needs to be improved. One reason for the investors’ low assessment is the overloaded traffic system during rush hours. Another reason is that social services do not meet the requirements of workers and enterprises in IZs, especially foreign enterprises.

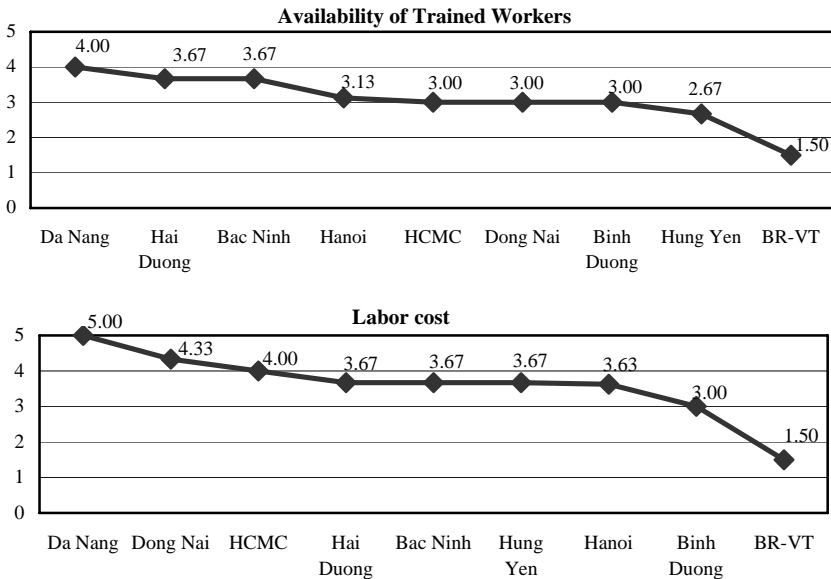
Table 5 Quality of Infrastructure Services: Author's Evaluation

		BR-VT	HCMC	Thai Binh	Hanoi	Binh Duong	Hai Duong	Hai Phong	Bac Ninh	Hung Yen	Da Nang	Mean
1	Electricity supply	5.0	5.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.3
2	Water supply	4.0	5.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	3.6
3	Waste disposal & sewage treatment	2.0	4.0	2.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0	3.1
4	Infrastructure inside IZs	5.0	4.0	4.0	5.0	4.0	4.0	4.0	3.0	3.0	4.0	4.0
5	Infrastructure outside IZs	5.0	4.0	3.0	4.0	4.0	3.0	5.0	4.0	4.0	4.0	4.0

Labor force

Figure 6 shows the assessment of investors in Hanoi’s IZs on the availability of trained labor. It is not easy to recruit trained workers in Hanoi and the score is quite low at 3.13 while this indicator is 3.67 in Hai Duong and Bac Ninh. The figure also reveals that, generally speaking, it is easier to recruit suitable workers in the North than in the South, which may reflect labor shortages in the South where large demand for such workers is outstripping supply. The score of Ba Ria–Vung Tau is especially low at only 1.50.

Figure 6 Labor: Investors’ Assessment



Source: VDF survey, 2005

Regarding labor cost, there is a large gap between the average wage of skilled and unskilled workers. In this survey, we looked at the wage level of unskilled labor. There is virtually no difference between Hanoi and other locations in the North, at around 3.6-3.7, if we only consider unskilled labor (in the bottom half of Figure 6, high marks mean satisfaction with low labor cost). The survey also shows that the situation is different in the South: labor

cost in Dong Nai and HCMC is much higher than that in BR-VT or Binh Duong.

As before, the author's evaluation is provided to supplement survey data, in Table 6. It is judged that the opportunity to recruit trained labor in Hanoi is equal to or better than other locations in the country except HCMC. Hanoi has a large number of vocational schools, universities and colleges. Hanoi also attracts many trained workers from other locations who try to find a suitable job. For this reason, the availability of trained labor in Hanoi is higher than in other locations, especially compared with surrounding provinces. The discrepancy in the evaluation of investors, which was more pessimistic, and the author's can be interpreted similarly to the situation of power supply. Because many investors in Hanoi operate in the capital-intensive sector and use advanced technology, they tend to require better trained workers than in other provinces where "trained" workers do not have to be high-level. Hanoi has a large supply of trained workers but it cannot fully meet investors' larger demand for such workers.

According to the author, the cost of unskilled labor in Hanoi is equal to or slightly higher than other locations in the country. This evaluation agrees with that of investors. On this point, a leader of HEPZA may be quoted: *"At first, people may argue that labor cost in big cities like Hanoi and HCMC must be higher than in surrounding provinces because of higher cost of living such as housing, foodstuff, and so on. However, many workers are willing to join the labor force in these cities if they can earn the same wage as in their home provinces. They believe that they can enjoy high-quality services that are available only in a big city. In fact, the cost of unskilled labor in Hanoi and HCMC is no higher than in other locations."*

Table 6 Other Indicators: Author's Evaluation

		BR-VT	HCM	Thai Binh	HN	Binh Duong	Hai Duong	Hai Phong	Bac Ninh	Hung Yen	Da Nang	Mean
1	Availability of trained workers	4.0	5.0	3.0	4.0	3.0	3.0	2.0	3.0	4.0	4.0	3.5
2	Labor cost	4.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	4.2
3	Capacity of supporting industries	3.0	4.0	1.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.8
4	Tax and other incentives of local government	4.0	3.0	4.0	2.0	5.0	5.0	3.0	4.0	4.0	5.0	3.9
5	Attitude of local officials	5.0	3.0	2.0	2.0	5.0	4.0	2.0	4.0	4.0	4.0	3.5

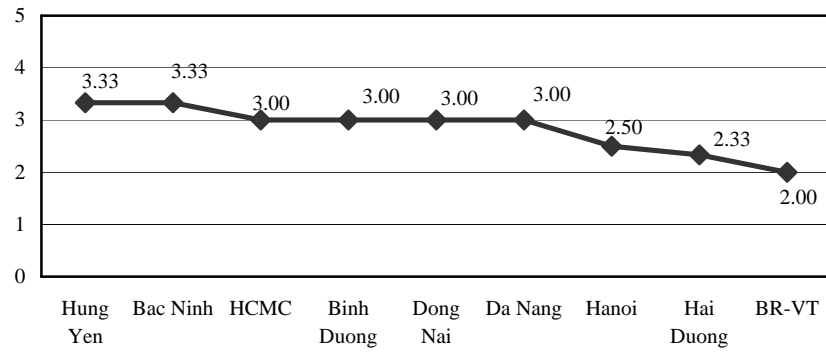
Supporting industries

Local supporting industries play a very important role in attracting investors, especially large manufacturing firms producing assembly-type products which are marketed globally. A leader of Da Nang IZ Management Board states that “one of the main reasons for low attractiveness of Danang City now is the weakness of its supporting industries.”

According to the assessment of enterprises operating in IZs, in Figure 7, the status of supporting industries in general is not good with the average score of only 2.78, below the midpoint of the scale. The indicator for Hanoi is very low at 2.5 while the average for surrounding provinces in the North is 3.0 and that for the South is 2.78. Assessment of the author on supporting industries is shown in Table 6, with the score of 3, slightly higher than the average of the country, but lower than that of HCMC. Also in supporting industries, the expectation of Hanoi’s investors is higher than of those in other locations.



Figure 7 Capacity of supporting industries: Investors's Assessment



Source: VDF survey, 2005



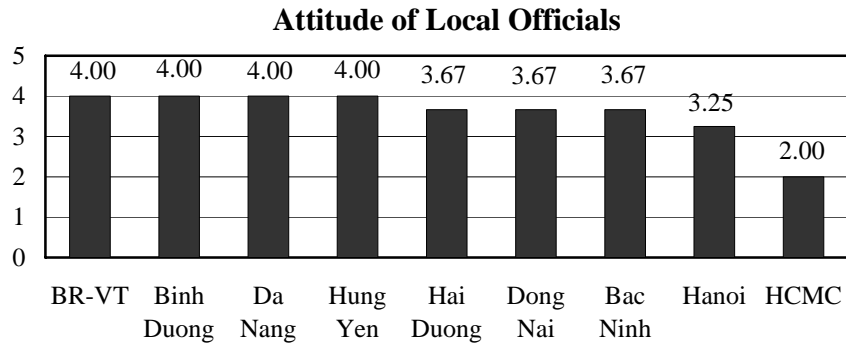
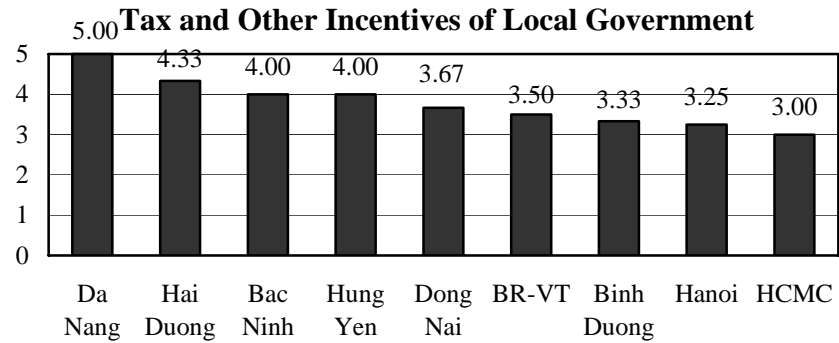
Tax and other incentives, and attitude of local officials

In the view of enterprises in IZs, Hanoi is considered very poor in the two policy-related indicators, namely tax and other incentives and the attitude of local government, with the score of 3.25 each. Regarding tax and other incentives, this score is not only lower than the average of the North, but also lower than any other cities or provinces in this survey except HCMC. Provinces that are evaluated highly in tax and other incentives are Da Nang, Hai Duong, Bac Ninh and Hung Yen. Provinces that are evaluated highly in the attitude of local officials are BR-VT, Binh Duong, Da Nang and Hung Yen.

Figure 8 Hanoi's Policies and Attitude of Local officials:



Source: The author



Investors' Assessment



The author's assessment on policy-related issues is qualitatively the same as the opinions of enterprises in IZs. However, it gives a much larger gap between the score of Hanoi on the one hand and those of other provinces and the entire country on the other. In Table 6, Hanoi receives only 2.0 each while the average scores of the entire country on the two questions are 3.9 and 3.5, respectively.

Tax and other incentives of Hanoi are not highly appreciated. In a sense, this is natural since Hanoi has many other advantages in comparison with other provinces so that the city does not feel it necessary to offer incentives. In addition, Hanoi does not think that providing incentives to attract a large number of labor-intensive enterprises is a good idea. It now focuses on attracting high-tech and capital-intensive industries which use less labor and are environment-friendly.

By contrast, rural provinces offer numerous incentives to attract investors to solve the unemployment problem. Incentives include: (i) exemption or reduction of corporate income tax for a longer period than stipulated by the central government; (ii) attractive land rent; and (iii) exemption or reduction in value-added tax (VAT). In order to curb excess competition in offering incentives, the Vietnamese government issued a policy to ensure equal investment environment among cities and provinces in 2005. Many provinces also recognize that the most important thing in attracting investors in long term is not monetary incentives but non-monetary conditions such as transparency of administrative procedures, attitude of local officials, and reduced time in granting land use right certificate, investment licenses, and the like.



On the other hand, difficulties in dealing with administrative procedures and problems that enterprises may face in doing business are regarded by enterprise managers as “low” or “not acceptable.” These are related to the problems of bureaucracy and corruption and have a great effect on investment decision and the evaluation of Hanoi and national investment environment.

Services outside IZs

Quality of services outside the IZ is not directly controllable by the IZ Management Board, but it strongly influences enterprises’ locational choice. This can be assessed by the quality of education, healthcare, entertainment, communication, and the like. Quality of services outside IZs in Hanoi is much better than other locations in the region. It is considered to be a major advantage of Hanoi in attracting domestic and foreign investors.

Summary

Although some subjective and objective limitations exist, the attractiveness of Hanoi’s IZs remains relatively high thanks to many advantages in services, market size and availability of skilled workers. The overall situations of Hanoi’s IZs and suggestions for further development are summarized in a SWOT matrix form in Table 7.



Table 7 SWOT Analysis on Industrial Zones of Hanoi

	<u>Opportunities</u>	<u>Threats</u>
	<ol style="list-style-type: none"> 1. Support from Hanoi local officers 2. FDI trends into IZs 3. Fast economic integration process 4. Improved regulations 	<ol style="list-style-type: none"> 1. Competition from IZs in other regional countries 2. Competition from other provinces in attracting FDI 3. Environmental pollution in IZs 4. Inconsistent policies 5. No cooperation with other provinces in IZ development
<u>Strengths</u>	<u>S/O</u>	<u>S/T</u>
<ol style="list-style-type: none"> 1. Having international airport 2. Good infrastructure in IZs 3. “One door” managing mechanism is run well 4. Effective IZs, contributing to the city’s development. 	<ul style="list-style-type: none"> - Develop and widen selected IZs - Good development orientation 	<ul style="list-style-type: none"> - Improve competitiveness - Improve environment management ability
<u>Weaknesses</u>	<u>W/O</u>	<u>W/T</u>
<ol style="list-style-type: none"> 1. Low quality plan for IZs 2. Land compensation process is low 3. Incomplete infrastructure development inside IZs (e.g., electricity), outside IZs 4. Land shortage for IZ expansion and development 5. High land rental price 6. Quality of trained labor 7. Weak supporting industries 8. Poor attitude of administrative officers 	<ul style="list-style-type: none"> - Improve the IZ development plan - Fasten the land compensation process - Identify the criteria for attracting investment - Improve quality of labor training 	<ul style="list-style-type: none"> - Enhance cooperation with other provinces in IZ development - Enhance supporting industry development - Transparency in administrative procedure





3. Suggestions

We have reviewed the current situation of IZs in Hanoi as well as their attractiveness in comparison with other locations in Vietnam. The following five suggestions are offered for further development of IZs in Hanoi.

Development orientation

Development of IZs is one of the key instruments for accelerating industrialization and modernization as well as transforming the economic structure of Hanoi in particular and Vietnam in general. Even with only 370 ha in operation, IZs already play a very important role in the development of Hanoi. In the near future, IZs will surely continue to contribute to Hanoi's economic growth, and further development of IZs should be encouraged in terms of both creation of new IZs and expansion of existing ones.

Urbanization is proceeding rapidly in Hanoi. In the 1960s, there was only one IZ in Hanoi, the "rubber-soap-tobacco" zone in Thanh Xuan District. At that time, this IZ was considered to be too far from the city center. However, it is now situated in the midst of the city and needs to be relocated. Vinh Tuy IC, proposed five to six years ago, is now already surrounded by built-up areas.

Within the current area of 921 km², Hanoi cannot fully meet the demand for land for expanding the existing IZs or creating new ones. In the development master plan of Hanoi currently being drafted by MPI by the order of the prime minister (which is a different master plan from that prepared by the Hanoi People's Committee), Hanoi's area will be expanded in both urban areas and surroundings. Industrial corridors of Hanoi should be built on the strategic plan of not only Hanoi but also of the entire Red River Delta. Hanoi's IZ development plan should not be confined to the current area with a population of 3 million, but incorporate the proposed future area of Hanoi, about 2,000 km² or 2.5 times larger than the current area. With such scope of space, Hanoi will absorb some existing IZs located at Hanoi's entering gates such as Tien Son (currently in Bac Ninh), Nhu Quynh, Pho Noi A (Hung Yen), Tien Phong, Quang Minh (Vinh Phuc) and Hoa Lac (Ha Tay). From this point of view, the

development plan of IZs should be a part of the socio-economic development master plan of Hanoi, as well as that of the North of the country.

There is a plan to build another National Highway No. 5, one to five kilometers south of current National Highway No.5, connecting Hai Phong and Ring Road No.3 via Thanh Tri Bridge. It is expected that Highways No.18 and No.5 will become the industrial corridors of Hanoi. Hanoi's IZ development should target especially the areas along Highway No.18, a strategic corridor that connects Yun Nan (China), Lao Cai, Road No.2, Highway No.18 and Cai Lan Port. According to the final draft of Hanoi's Socio-Economic Development Master Plan up to 2020 prepared by HAIDEP, Hanoi's new IZs will be located in the area south of Noi Bai International Airport, along Roads No.18 and No.2, which also connects with Vinh Phuc. This area will have easy access to Hai Phong and Cai Lan Ports. Land is physically available and the ground is solid. However, the size of the future IZ is not yet decided.

If Hanoi is not willing to attract too many factories or has little land for further industrialization (except existing ones and the proposed one along Roads No.18 and No.2), the most realistic way to supply industrial land is to let neighboring provinces that are eager to attract investment, such as Vinh Phuc, Bac Ninh, Hung Yen and Hai Duong, do so. With the completion of Thanh Tri Bridge and connecting roads in near future, access to Ha Tay will also be improved. The plan should also encourage cooperation in IZ development of Hanoi and neighboring provinces to avoid direct competition.

Improve the development plan of IZs

For this purpose, five actions are suggested.

First, the quality, efficiency and overall consistency of the IZs master plan must be improved. According to the experiences of China and Thailand, the Izs master plan must be integrated with the city's Socio- economic Development Master Plan, land use plans, and urban zoning plans.

Second, the scope of IZ development must be broadened. The initial purpose of establishing IZs was to take advantage of available labor force and natural conditions to attract manufacturing investors and fill the IZs. However, IZs now need to be operated according to a new model. IZs should not just be space for manufacturing industries but include trading, logistic and service support. Banking, postal service, forwarding, warehousing, high-tech telecommunication, and so on, should be integral parts of IZs.

Third, measures to assist transformation of industrial structure inside IZs must be introduced. Hanoi's industries must shift: (i) from labor- and resource-intensive industries to capital- and technology-intensive industries; (ii) from polluting industries to clean industries; (iii) from purely manufacturing industries to manufacturing industries integrated with research, high-technology and production services. While natural forces of crowded cities, land shortages and concentration of skilled labor and capital may achieve these goals to some extent, policy can further accelerate it. Hanoi should set up transparent standards to attract desired projects and move unsuitable industries out of the city.

Fourth, simultaneous achievement of socio-economic targets and clean environment in developing infrastructure must be ensured. Sustainable development must be guaranteed not only inside IZs but also in surrounding areas. In order to ensure this, the development of IZs must go hand-in-hand with other elements such as the environment protection system and social and technical infrastructure including roads, power and water supply, housing, telecommunication, healthcare, education, and so on. The development of IZs must be integrated with the master plans of townships, cities and urban areas.

Fifth, plans should be anticipatory and pro-active, rather than reacting to problems that already occurred. For this purpose, lessons from other countries should be studied. Besides that, Hanoi should listen carefully to the opinions of foreign experts on the design and drafting procedure of the plan.

Increase attractiveness of IZs

In order to make IZs more attractive, Hanoi should improve its legal framework, simplify administrative procedures through the “one door” policy, offer a stable policy framework, and provide favorable conditions for investors to invest in IZs, in line with Hanoi’s strategic orientation and target of sustainable development. It must also improve infrastructure, including transportation, energy, clean water, telecommunication, and others, and maintain infrastructure services. Participation in infrastructure construction by all economic sectors, including foreign investors, should be encouraged. It is also necessary to provide conditions for reducing business costs, including a reduction in land compensation cost.

Marketing is also very important in improving the investment attractiveness of IZs. At present, IZ promotion is largely unprompted and unplanned. Hanoi should focus more on investment promotion in cooperation with foreign investment agencies. At the same time, participation in IZ and EPZ associations in the world should increase visibility of Vietnam’s IZs in general and Hanoi’s in particular.

Speed up land compensation

In Hanoi, only three out of six IZs are in operation, or 370 ha out of planned 970 ha. Moreover, the three operating IZs plan to expand their operation into the second and third phase. But all are facing the problem of land clearance, which constitutes one of the main reasons for slow development of IZs. The development of IZs is already constrained by very limited land for industrial use, and slow land clearance only worsens the situation. It normally takes years to get land cleared for constructing IZs. In the mean time, many additional costs emerge and frustrate investors. The second phase of Sai Dong B IZ is an example. After the first phase, Hanoi Electronic Company was allowed to open an additional 9 ha. After five years, no new land was opened for the company. More generally, many foreign investors registered to invest in IZs get tired of waiting and are forced to invest in other locations.

The largest obstacle in land clearance is the compensation problem. Planning, instructions, and propaganda activities for land clearance are insufficient, and government policies are not well understood by people. In some locations, rapid urbanization inflates land prices significantly above the compensation price offered by the authority. Naturally, residents do not want to move unless they are paid the higher market price.

To deal with this problem, Hanoi should take the following measures.

First, it should announce publicly and in advance the plan to punish those who provide wrong information or use insider information to engage in land speculation. All residents in proposed areas of land clearance should be informed of this.

Second, land collection and resettlement plans must be prepared well, and the local authority should provide all necessary information to the residents. Multiple options should be available for the residents to choose from, such as monetary compensation, land-for-land deal, or land-for-house deal. All options should be conveyed to the residents openly, correctly and in advance. If there is any feedback, it should be studied carefully for improving the scheme.

Thirdly, the city should secure conditions for the residents to live a stable life after moving. The local authority often pays little attention to the entire process of resettlement, which takes a long time. In some cases, resettled residents come back to reclaim their previous land and cause many troubles for investors. The local government should go one step further to ensure the quality of infrastructure and new housing in advance. Residents should be allowed to monitor the building process of new houses to make sure that what they will get is at least as good as what they lose.

If all these solutions turn out to be infeasible, the Hanoi authority may consider adopting a new model of compensation, in which farmers contribute their land to an infrastructure developing company in exchange for the company's stock and become its shareholders. This deal may be attractive

since they can get profit directly from their land through the development of IZ.

Managing environment

One of the problems in the development of Hanoi's IZs is increasingly environmental damage caused by the operation of IZs. Many IZs do not obey environmental regulations concerning sewage, air and noise control, with damage spilling over to areas adjacent to IZs. The following solutions are suggested.

First, Hanoi needs to work with the local authorities, IZs, and enterprises operating in IZs to find realistic solutions. It has to improve regulations and supporting organizations for curbing activities which cause pollution, especially air and water pollution.

Second, regulation on environmental protection in IZs is often inconsistent and unenforced, especially the requirement that each IZ be equipped with a sewage treatment plant, which leads to noncompliance. It is necessary to apply regulation strictly and fairly. All IZs must have sufficient infrastructure in waste treatment before receiving the license.

Third, IZ developing companies should be responsible for environmental protection. Hanoi may encourage the building of waste treatment facilities by exempting the land rental charge of that part of land used for such facilities of water and solexempt the land rental charge paid by developers. Hanoi should also support and create favorable conditions for enterprises operating in IZs to use environment-friendly technology.

Finally, establishing IZs specializing in one industry may be an efficient solution because this can save cost in cleaning environment. Sectoral concentration will help the IZ developing company to choose appropriate technology and improve efficiency in environmental protection, and actually reduce pollution in and around the IZ.

REFERENCES

In English

1. *Regional Investment Attractiveness Report of Indonesia* (2005) funded by USAID and the Asia Foundation

In Vietnamese

1. MPI (July, 2006), *15 năm phát triển các KCN và KCX ở Việt Nam*. National Conference, Long An.
2. MPI (2003), *Tài liệu tổng kết tình hình hoạt động các KCN, KCX 2002 và phương hướng phát triển thời gian tới*.
3. Hanoi IZ and EPZ Management Board (2006a), *Báo cáo tình hình năm 2005 và các nhiệm vụ cơ bản năm 2006*.
4. Hanoi IZ and EPZ Management Board (2006b), *Thực trạng hoạt động của các KCN và CCN năm 2005 và các định hướng cơ bản cho năm 2006*.
5. Hanoi IZ and EPZ Management Board (11/ 2005), *Kỷ yếu Hội thảo khoa học 10 năm xây dựng các KCN Hà Nội (1995 – 2005)*
6. Hanoi IZ and EPZ Management Board (2005), *Báo cáo tổng hợp về KCN tập trung và CNN vừa và nhỏ trên địa bàn Hà Nội*.
7. Hanoi IZ and EPZ Management Board (2005), *Báo cáo tổng hợp về KCN tập trung và CNN vừa và nhỏ trên địa bàn Hà Nội*.
8. Hanoi IZ and EPZ Management Board (11/ 2005), *Kỷ yếu Hội thảo khoa học 10 năm xây dựng các KCN Hà Nội (1995 – 2005)*
9. Hanoi IZ and EPZ Management Board (2002), *Nghiên cứu chính sách thu hút các doanh nghiệp vừa và nhỏ vào các KCN*.
10. Hanoi IZ and EPZ Management Board, 2001, *Đề xuất một số giải pháp về quản lý nhà nước để xây dựng và phát triển các KCN, KCX Hà Nội năm 2000- 2010*.
11. Government (1997): *Nghị định 36/CP ngày 24/4/1997 về qui chế KCN, khu chế xuất, khu công nghệ cao*.

12. Government (2001), *Nghị định số 79/2001/NĐ-CP ngày 1/11/2001 về sửa đổi, bổ sung một số điều của Nghị định số 17/1999/NĐ-CP.*
13. Government (1999), *Nghị định 17/1999/NĐ-CP ngày 29/3/1999 của Chính phủ về thủ tục chuyển đổi, chuyển nhượng, cho thuê, cho thuê lại, thừa kế quyền sử dụng đất và thế chấp, góp vốn bằng giá trị quyền sử dụng đất.*
14. Dinh Van An (2004), *Vai trò của KCN trong tiến trình công nghiệp hoá, hiện đại hoá.* Asia Pacific Institute, Social Science Publishing House, Hanoi.
15. Le Tuyen Cu (2002), *Phương hướng và một số giải pháp chủ yếu tiếp tục phát triển loại hình KCN ở Việt Nam.* Development Economics Review.
16. Le Tuyen Cu (2002), *Những giải pháp hoàn thiện công tác quản lý nhà nước đối với KCN ở Việt Nam.* Paper in Science Conference.
17. Le Xuan Trinh (2006), *Bài viết trong Hội thảo quốc gia: 15 năm phát triển các KCN và KCX ở Việt Nam.*
18. Nguyen Chon Trung and Truong Giang Long (2004), *Phát triển các KCN, KCX trong quá trình công nghiệp hoá, hiện đại hoá.* National Political Publishing House.
19. Tran Ngoc Hung (2006), *Đổi mới và tăng cường công tác xúc tiến đầu tư vào các KCN.* IZ Magazine, February.
20. Vo Thanh Thu, (2005), *Nghiên cứu những giải pháp phát triển các KCN ở Việt Nam trong điều kiện hiện nay.* Independent Research Project , national level, No. 2003/08.