

# An Evaluation of Free Trade Port Zone in Taiwan

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## Abstract

This study focused on the development of FTPZs in Taiwan and examined factors influencing business activities in FTPZs and their degree of importance for improving the operational environment in FTPZs. A performance assessment of companies since operating their businesses in FTPZs was also undertaken. Data for the study were obtained from a questionnaire survey distributed to MNCs operating in FTPZs in Taiwan. The importance-performance analysis (IPA) technique was employed to analyse the survey results. Five factors were found to have a high degree of importance for business operations in FTPZs: government administration efficiency, cheap rates and charges, simplified customs procedures, clear regulations, and free tax incentives. Further, results indicated that firms in FTPZ had increased their performance in terms of reputation, investment, customer satisfaction, and revenue. The study provides insight into the evaluation and policy suggestions of FTPZ for government in Taiwan.

**Key words :** Free Trade Port Zone (FTPZ), Importance-Performance Analysis (IPA).

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## **I. Introduction**

A free trade zone (FTPZ) is one or more special areas of a country where normal trade tariffs and quotas are eliminated and bureaucratic requirements are lowered in the hope of attracting new business and foreign investment. Basically, scholars considered the establishment of an FTZ can be feasible only by the removal of tariff on the imported intermediate material used in the manufacture of the FTZ commodity.<sup>1)</sup> FTZs can also be defined as labour intensive manufacturing centers that involve the import of materials or components and the export of factory products. Most FTZs are located in developing countries.<sup>2)</sup> Bureaucracy is minimal as governments normally outsource the FTZ operations to private operators. MNCs which operate in the zones are also awarded tax breaks, or additional incentives to encourage them to move into the FTZs. Usually, such zones are set up in the developing parts of the host country, the rationale being that they will attract employers and thus reduce poverty and unemployment and stimulate the local economy. MNCs often set up their factories in FTZs to reduce the costs of producing such items. Governments that believe the establishment of FTZ can help boost their economic development are keen to promote them in order to enhance foreign exchange earnings; develop export-oriented industries, and generate employment opportunities. It is confirmed the welfare effect in duty free zones and indicated there are Pareto gains from duty free zones for a small country.<sup>3)</sup> There are also researches indicated that free economic zones include free ports, freetradezones, foreign-trade zones and export processing zones with relaxation of laws or regulations can attract investment and create employment.<sup>4)</sup> He concluded the future need for free zones, especially those associated with ports will be continued.

However, the creation of FTZs is criticised for encouraging businesses to set up operations under the influence of often corrupt governments. Such governments give foreign corporations more economic liberty than their domestic ones which face large and sometimes insurmountable “regulatory” hurdles in developing countries. Nevertheless, many countries allow local

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1) Young and Miyagiwa (1987).

2) Papadopoulos (1987).

3) Facchini & Willmann (1999).

4) McCalla (1999).

entrepreneurs to locate inside FTZs in order to access export-based incentives. Bidding wars have also been known to erupt between governments competing for MNCs to move into their FTZs since MNCs are able to choose between a wide range of underdeveloped or depressed nations in setting up overseas factories.<sup>5)</sup> The widespread use of the FTZs by companies such as Nike is having many negative effects, one of which is “no job”.<sup>6)</sup> Manufacturing jobs in developed countries are being moved from local factories to FTZs or EPZs in developing countries. Within these zones, working conditions are dire, and labour laws are almost non-existent. In North America, for example, the lack of manufacturing jobs has led to an influx of work in the service sector, where most jobs pay a minimum wage and offer no benefits.

Recently, a study has identified several other drawbacks of the FTZ.<sup>7)</sup> Often the government of the host country pays part of the initial cost of factory setup, loosens environmental protection regulations without considering the unfair treatment of workers, and promises not to ask for payment of taxes for the next few years. When the taxation-free years are over, the corporation which set up the factory without fully assuming its costs is often able to set up operations elsewhere for less expense than the taxes to be paid, giving it leverage to take the host government to the bargaining table with further demands in order to continue operations in the country. Moreover, if human rights, labour or environmental abuses are challenged, subcontracted local entities may face consequences, but parent companies abroad are rarely held accountable. The formation of a FTZ also has a negative impact on a domestic urban area of the FTZ. A Japanese scholar compared urban and rural areas where an appropriate location can be used for a free-trade zone within a developing country, and indicated domestic capital is mobile between the two regions, then the urban area are suffered from urban unemployment.<sup>8)</sup>

Taiwan was one of the first nations to establish FTZs in order to promote its economic competitiveness in the 1960s. There are different types of FTZs: WA (Wide Area), SA (Small Area), IS (Industry Specific), and PS (Performance Specific) FTZs. According to the World Economic Processing Zone Association, after the IS type FTZ was developed, governments started

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5) ILO (1998).

6) Klein (2002).

7) Millen and Timothy (2007).

8) Miyagiwa (1993).

to establish the SA type of FTZ in major seaports and airports which are coined as Free Trade Port Zone (FTPZ).<sup>9)</sup> This study focuses on the free trade port zones in the major seaports and airports of Taiwan. It begins with a brief definition of the FTPZ and then describes the development of the Free Port Plan in Taiwan. The contents of the questionnaire designed to elicit managers'/senior executives' opinions on the performance of companies operating their businesses in FTPZs in Taiwan are described. Data obtained from the questionnaire are subsequently analysed and conclusions drawn from the findings are finally presented.

## **II. Development of the Free Port Plan in Taiwan**

### **1. Economic Development Projects in the 21st Century**

The governments of many developing countries have after proposed economic development plans to keep their economies continuously growing. Through well-planned economic development projects, Taiwan has received world-wide recognition for its remarkable transformation from a low-income agricultural backwater in the 1970s to a high-income newly industrialized country since the 1980s. In order to create another stage of high economic growth from the 1990s onwards, the government of Taiwan has promoted several economic development projects. In 1991, the Taiwanese government launched a large-scale economic development project – the six-year National Development Plan. The major purposes of the project are to promote local and foreign companies to use Taiwan as a base for conducting their Asia-Pacific business activities; to establish Taiwan as a specialized regional centre for manufacturing, sea transport, air transport, financial services, communication networks and media enterprises; and to liberalise its economic regime.<sup>10)</sup> The government also launched and formulated a set of strategic designs and organizational changes, namely, the Asia-Pacific Regional Operations Centre (APROC) in 1995 and the Offshore Transshipment Centre in Kaohsiung in 1997, and initiated port reform and maritime institutional adjustments from

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9) World Economic Processing Zones Association (WEPZA) (2011).

10) Chiu (2008) and Want China Times (2010).

1998 onwards.

To take advantage of Taiwan's excellent location, high-quality human resources, and comparatively advanced electronic manufacturers, its government authorities launched a global logistics development plan and free port plan in 2000 and 2003, respectively.<sup>11)</sup> The momentum driving the introduction of the global logistics development plan was the importance of logistics management or supply chain management for multinational enterprises, and the policy aims of building Taiwan into a vital link in the international supply chain, developing Taiwan's high value-added entrepot services based on her manufacturing superiority, and strengthening global logistics-related e-commerce, flow of goods, and infrastructure environment.

## **2. Initiation of the Free Port Plan**

In order to make Taiwan one of the most convenient countries in the world for global trade logistics and to attract multinational enterprises to establish their Asia-Pacific operational headquarters within its free port zones, Taiwan government launched the "free port plan" beginning from July 2003. Its objectives are as the following: (1) to extend the existing results of the Global Logistics Plan and to continually promote liberalisation and internationalisation; (2) to face the challenges from other neighboring countries' free ports; (3) to enhance the operating efficiency of harbours and airports and to bolster the development of high value-added trade activities; and (4) to facilitate the movement of foreign business personnel in and out of free ports and to reshape Taiwan's environment as the operations centres for international enterprises. It has been emphasized that one of the most important factors to promote the free port programme is the elimination of the customs clearance barrier.<sup>12)</sup> Therefore, to develop the free trade zone project, Taiwan's government authorities have integrated sea/air transport services, created an obstacle-free customs clearance system, and implemented e-logistics.<sup>13)</sup>

In Taiwan, the free port area is defined as a special zone within national territory, but outside the customs territory. Apart from eliminating the customs clearance barrier, the government has introduced many incentive schemes to

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11) Lin(2003).

12) Chiu and Chiang (2006).

13) Ho (2002).

encourage enterprises to operate their businesses in Taiwan’s free trade zones. Those incentives include allowing in-depth value-added processing; relaxing the hiring ratio for foreign workers; duty & tax exemptions; facilitating business activities; ease of financial operations; and free port areas located within national territory, but outside the customs territory<sup>14)</sup> (see Table 1 below).

<Table 1> Incentives to attract businesses in Free Port Areas in Taiwan

Incentives	Implementation Items
Allowing in-depth value-added processing	Operators are allowed to operate assembling, packaging, and manufacturing activities, etc.
Relaxing the hiring ratio for foreign workers	Access permit issued by the Free Port management agency to FTPZ business employees. Visa-free for 21 countries. Landing visa for 24 countries. 40% of total workforce allowed to be foreigners.
Duty & tax exemptions	Operators are exempted from customs duties, commodity tax, sales tax, tobacco & wine excise tax.
Facilitating business activities	Streamlined procedures for granting entry and issuing landing visas to business personnel. Providing exhibition and other facilities and services.
Ease of financial operations	Permitting the setup of holding companies for offshore investment. Allowing Offshore Banking Unit (OBUs) to handle foreign-currency transactions.
Free port areas within national territory, but outside the customs territory	Autonomous management of customs affairs. Exempt from customs checking & inspecting, and cargo tracking and escorting.

Source : Taiwan’s Council for Economic Planning and Development (2010)

### **3. Regulations for Establishing and Operating FTPZs in Taiwan**

On 23 July 2003, the government of Taiwan promulgated the “Act for the Establishment and Management of Free Trade Port Zones”, which is the fundamental ruling for establishing and operating businesses in free trade zones. In Article 3, the Act defines an FTPZ as “an area which is situated within a controlled district of an international airport or an international seaport under the approval of the prime minister, or an adjacent area

14) Council for Economic Planning and Development (CEPD, 2003).

demarcated as a controlled area, which may be an industrial park, export processing zone, science-based industrial park, or area approved by the prime minister for the purpose of conducting domestic and foreign business activities where the comprehensive goods tracking system can be connected with the controlled district of an international airport or seaport by means of technological facilities.” Free trade port zones can therefore be established in three locations: the controlled area of a seaport and airport, and an “adjacent area” demarcated as a controlled area. The adjacent area may be: (i) a piece of land whose joining width with the land of a controlled district in an international airport or an international seaport is 30 meters or more; (ii) a piece of land which is separated from a controlled district in an international airport or an international seaport by a road or a water-way in between, but is still suitable for the formation of a controlled area; or (iii) a piece of land which may be connected with a controlled district in an international airport or an international seaport by a dedicated road having a length of less than one kilometer.

The same article further classifies two kinds of businesses allowed to operate within FTPZs: “FTPZ enterprises” and “Non-FTPZ enterprises”. FTPZ enterprises are “enterprises which have been approved to engage in trading, warehousing, logistics, collecting and distributing of the cargo of containers, transiting, transshipment, forwarding, customs clearance, assembling, sorting, packaging, repairing and fabricating, processing, manufacturing, export or technological services within a FTPZ”. Non-FTPZ enterprises refer to “any enterprises providing financial, stevedoring, catering, hotel, business conference, and cargo transshipment services, and other enterprises which are not a free port enterprise but has been approved to operate within a FTPZ”.

### **III. Responses from FTPZ Enterprises**

#### **1. The Existing FTZs as of 2009**

The most suitable location for a free trade zone is within the vicinity of an international seaport or airport. As a consequence, the government of Taiwan planned to establish FTPZs in the vicinities of the four seaports of Taipei, Keelung, Taichung, and Kaohsiung in western Taiwan. Locations near two international airports were also assessed as being suitable for setting up FTPZs, namely: Taoyuan air cargo park (adjacent to Taoyuan International Airport) in northern Taiwan and Kaohsiung air cargo park (within Kaohsiung International Airport) in southern Taiwan.

Through the government's promotion, as shown in Table 2, five FTPZs have been established and all have been in operation since March 2010. Four are located within the vicinities of seaports and one within the vicinity of an airport. Currently, three of the four sea port FTPZs (Keelung, Kaohsiung and Taichung) are operated by public agencies, while Taipei port FTPZ and Taoyuan airport FTPZ (or the Far Glory FTPZ) are Build-Operation-Transfer (BOT) projects and operated by private enterprises. Keelung port took the lead in establishing and operating FTPZ business in September 2004, followed by Kaohsiung, Taipei and Taichung ports in January, September and October, 2005, respectively. The privately-owned Far Glory FTPZ received operational approval from the governmental authorities early 2006 given the business potential and intense competition from domestic and foreign FTPZs, Mai Liao industrial sea port is the next planned location for a FTPZ.

<Table 2> FTPZs in Taiwan as of March 2010

Date of FTPZ establishment	FTPZ Title	Location	Number of FTPZ Operators in the Port1
30 September 2004	Keelung Port FTPZ	Keelung City	10
01 January 2005	Kaohsiung Port FTPZ	Kaohsiung City	20
20 September 2005	Taipei Port FTPZ	Taipei County	2
31 October 2005	Taichung Port FTPZ	Taichung County	25
01 January 2006	Far Glory FTPZ	Taoyuan County	43

Source: Website information for each FTPZ to be found as follows: Keelung([www.klhb.gov.tw](http://www.klhb.gov.tw)), Kaohsiung([www.khb.gov.tw](http://www.khb.gov.tw)), Taichung([www.tchb.gov.tw](http://www.tchb.gov.tw)), Taipei([www.klhb.gov.tw](http://www.klhb.gov.tw)), Far Glory([www.ftz.com.tw](http://www.ftz.com.tw)).



## 2. Types of Businesses Conducted by Commercial Entities Operating within FTPZs

Once a FTPZ is developed, one of the most important tasks for FTPZ managers is to solicit enterprises to operate their businesses within it. An early research indicated various types of free zones and indicated free zones should have at least including two areas: convenient production locations or duty-free areas for short-term warehousing; and an area used as an integral part of international business base.<sup>15)</sup> As indicated in Table 3, trading, warehousing, logistics forwarding, technological services, repairing and fabricating, processing, and assembling were the major operations in the five FTPZs.

<Table 3> Types of businesses operated by enterprises in Free Trade Port Zones in Taiwan as of March 2010

Type of Business	Keelung Port	Taipei Port	Taichung Port	Kaohsiung Port	Farglory (in Taoyuan Airport)
Trading	√	√	√	√	√
Warehousing	√	√	√	√	√
Logistics	√	√	√	√	√
Collecting and distributing the cargo of containers	√		√	√	
Transiting	√	√	√	√	
Transshipment	√	√	√	√	
Forwarding	√	√	√	√	√
Customs clearance		√	√	√	√
Sorting		√	√	√	
Packaging	√	√	√	√	
Exhibition	√	√	√	√	
Technological service	√	√	√	√	√
Repairing and fabricating	√	√	√	√	√
Processing	√	√	√	√	√
Assembling	√	√	√	√	√
Manufacturing		√	√		√

Source: Website information in the respective FTZ: Keelung([www.klhb.gov.tw](http://www.klhb.gov.tw)), Kaohsiung([www.khb.gov.tw](http://www.khb.gov.tw)), Taichung([www.tchb.gov.tw](http://www.tchb.gov.tw)), Taipei([www.klhb.gov.tw](http://www.klhb.gov.tw)), Far Glory([www.ftz.com.tw](http://www.ftz.com.tw)).

15) Papadopoulos (1987)

<Table 4> Total cargo values handled by Free Trade Zones in Taiwan

Unit: (thousand) New Taiwan Dollars

Year	Type of Business	Keelung Port	Taipei Port	Taichung Port	Kaohsiung Port	Far Glory
2006	Import	50,195	3,052,689	4,464,397	715,307	68,646
2006	Export	18,993	1,378,341	3,008,376	407,887	991,581
2006	<i>Total</i>	<i>69,188</i>	<i>4,431,030</i>	<i>7,472,773</i>	<i>1,123,194</i>	<i>1,060,227</i>
2007	Import	713,186	1,918,893	7,992,256	1,778,762	20,492,782
2007	Export	1,104,368	2,857,834	4,722,480	1,334,914	16,709,715
2007	<i>Total</i>	<i>1,817,554</i>	<i>4,776,727</i>	<i>12,714,736</i>	<i>3,113,676</i>	<i>37,202,497</i>
2008	Import	1,948,869	2,442,419	24,296,958	4,769,947	30,452,754
2008	Export	2,239,184	4,468,713	19,169,921	2,549,216	26,541,505
2008	<i>Total</i>	<i>4,188,053</i>	<i>6,911,132</i>	<i>43,466,879</i>	<i>7,319,163</i>	<i>56,994,259</i>
Increase between 2006 and 2008		6053 %	155.9 %	581.7 %	651.6 %	5375.7 %

Source: Directorate General of Customs (2009), Internal Statistics, Taiwan, R.O.C.

Due to FTPZs' recent history in Taiwan, enterprises conducting their businesses in them are in the initial development stage and endeavouring to increase their business performance. Table 4 shows that Taichung port FTPZ achieved the highest operational performance in terms of total import and export of cargo values of the four FTPZ sea ports between 2006 and 2008. However, all sea port FTZs experienced a huge increase in business volume during this period. The business volume of enterprises operating in Far Glory, the airport FTZ, increased 53 fold between 2006 and 2008. Noticeably, the total revenue of companies operating in Far Glory FTZ in Taoyuan International Airport was much higher than that of the four sea port FTZs in 2008. Air cargo has a relatively higher product value than seaborne cargo and thus air cargo shippers can afford higher logistics costs than seaborne cargo shippers.

## **IV. Empirical Assessment of FTZ –Business Performances**

To assess the performance of businesses operating in FTZs, this study elicited the opinions of their managers/senior executives using a questionnaire survey. Before designing the questionnaire, the authors interviewed several experts to understand commercial entity requirements. As shown in Table 5, 43 managers (see table 6) of the 62 commercial FTPZ organizations surveyed (see Table 2) provided many suggestions as to how government agencies could improve existing regulations pertaining to and management practice in FTZs. Main suggestions included the following: increase the land area of FTZs, introduce further operational deregulation, procedural simplification, more tax reductions, less customs control, relax employee recruitment control, and enhance the e-document system. Managers' opinions were used to help the authors identify possible factors for improving the overall performance of companies operating their businesses in FTPZs in Taiwan.

<Table 5> Enterprise managers' suggestions for improved regulations and management practices in FTZs

Suggestion	Detailed Description
Facility improvement	<ul style="list-style-type: none"> <li>· The land area of most FTPZs is too small</li> </ul>
Further operational deregulation	<ul style="list-style-type: none"> <li>· Enlarge the FTPZ area to include export processing zones, industrial parks, software industrial parks, scientific industrial parks, etc.</li> <li>· Allow FTPZ-enterprises to operate various types of business</li> <li>· Allow the FTPZ administration unit to establish flexible tariffs instead of using uniform tariffs</li> </ul>
Procedural simplification	<ul style="list-style-type: none"> <li>· Procedure for cargo transshipment between FTPZs and non-FTPZs is too complicated</li> <li>· Too much documentation involved in cargo relocation or movement within FTPZs</li> <li>· Use a database system to report/track cargo relocation</li> </ul>
More tax reductions	<ul style="list-style-type: none"> <li>· Business tax rate should be reduced from 25% to 15%</li> <li>· Allow the consolidation of non-FTPZ and FTPZ cargoes</li> </ul>
Less customs control	<ul style="list-style-type: none"> <li>· Remove customs control of cargo movement and relocation within FTPZ areas</li> <li>· Monthly report of FTPZ transactions is required instead of case by case immediate report</li> <li>· The customs procedure relating to cargo movement is too complicated</li> </ul>
Relax employee recruitment control	<ul style="list-style-type: none"> <li>· Remove aborigine employee regulations</li> <li>· Lower the aborigine employee ratio from 5% to 1%</li> </ul>
Enhance e-document system	<ul style="list-style-type: none"> <li>· Improve electronic documentation transfer between the Customs agency and enterprises to facilitate operational activities and reduce costs</li> </ul>

Source: this research.

This study designed a questionnaire to elicit managers'/senior executives' opinions on the performance of companies operating in FTZs in Taiwan. The questionnaire consisted of four parts: (1) part I comprised a short cover letter; (2) part II elicited data relating to respondents and their firms; (3) the third part presented 28 items considered to influence companies' operational performance in FTZs. Respondents were asked to assess their degree of importance for improving the operational environment in FTZs and their level of satisfaction with them in existing FTZs. Respondents were requested to assess their importance and indicate their level of satisfaction with them using a 5-point Likert scale, where "5" signified very important or very satisfied and "1" indicated extremely unimportant or extremely dissatisfied; (4) the last part of the questionnaire invited respondents to assess their business performance in the FTPZ. After initial telephone contact, 62 of the 100 companies in the five FTPZs agree to answer the questionnaire survey. Thus sixty-two questionnaires (with a return envelope and stamp) were mailed to managers/executives of companies operating businesses in FTZs within the sea ports of Taipei, Keelung, Taichung, Kaohsiung, and Far Glory in July 2009. Two weeks later a follow-up questionnaire was sent to those companies which had not responded to the first mailing. In total, forty-three completed questionnaires were returned, a response rate of 69.4%. No respondent in the Far Glory airport FTPZ is found.

### **1. Basic Information Relating to Respondents and Their Companies**

Table 6 presents basic information relating to respondents and their companies. As Taipei port is a subsidiary port of Keelung port and there was only one respondent from Taipei port FTPZ, data obtained from that respondent was combined with that obtained from respondents from Keelung port FTPZ. Data revealed that more than 73% of enterprises located in Keelung, Taichung and Kaohsiung port FTPZs were owned by local Taiwanese people. Further, more than 82% of respondents (88.1%) had had long working experience in FTPZ businesses. In addition, more than half (61%) of respondents were senior managers, it can be concluded that the data collected was credible and could confidently be used to provide insight into how the performance of companies operating in FTZs in Taiwan might be improved.

<Table 6> Basic information relating to respondents and their companies

Respondents' and their companies' demographic data	Data category	No. of Respondents	Percentage (%)
Total number of employees in Taiwan	1-100 persons	24	55.8
	101-250 persons	11	25.6
	251 persons or more	8	18.6
Ownership of the operator	100% Taiwanese	31	72.1
	100% Foreign	7	16.2
	Joint venture	5	11.6
Location of the operator	Keelung port (including Taipei port)	13	30.2
	Taichung port	14	32.6
	Kaohsiung port	16	37.2
Age of the company	Less than 5 years	13	30.2
	6-10 years	10	23.3
	11-15 years	5	11.6
	16-20 years	2	4.7
	21 years or more	13	30.2
Seniority in the company	Less than 5 years	20	46.5
	6-10 years	5	11.6
	11-15 years	8	18.6
	16-20 years	2	4.7
	21 years or more	8	18.6
Length of time	Less than 1 year	6	14.0
	Between 1-4 years	19	44.1
	Over 4 years	18	41.9
Job title	Vice president and above	8	18.6
	Manager/Senior manager	17	39.5
	Section chief /Junior manager	13	30.2
	Other	5	11.6

Source: this research.

## **2. Relative Importance of Factors Affecting Business Operations in FTPZs**

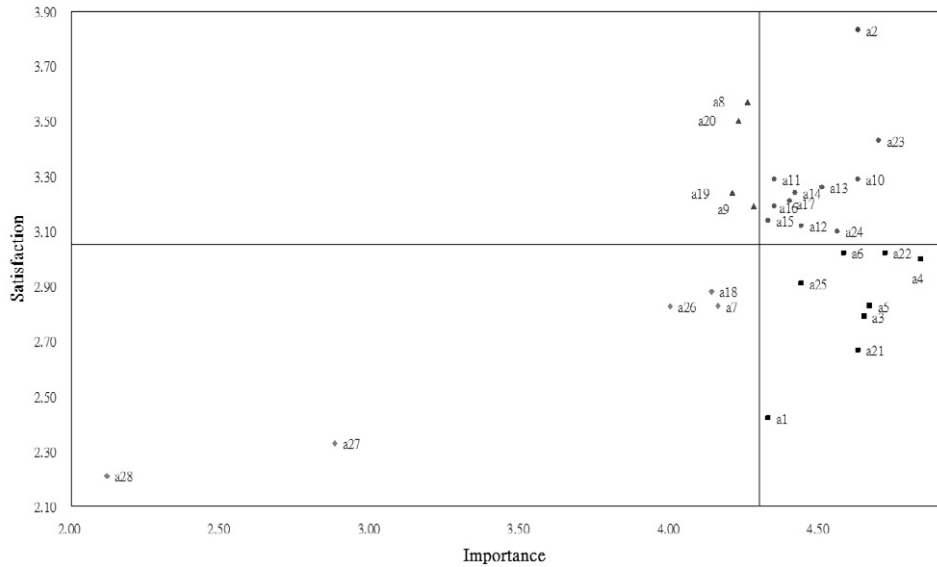
The descriptive statistics technique was used to analyze the degree of importance accorded by respondents to factors thought to influence the operational environment in FTPZs and their level of satisfaction with them in the existing FTPZs of Keelung, Taichung and Kaohsiung sea ports using a 5-point Likert scale. The mean value of 3.05 satisfaction level suggested that

respondents had a low level of satisfaction with the operating environment in FTPZs and thought many improvements needed to be made.

The five factors respondents viewed as most important to improve the operational environment in FTPZs in Taiwan were (in order of importance): (1) simple customs procedures; (2) free tax incentives; (3) operators' autonomous management; (4) clear regulation; and (5) port operation efficiency. The five items with which respondents were most satisfied with were: (1) location of FTPZ; (2) good public security; (3) harmonious relationship between employers and employees; (4) operators' autonomous management; and (5) port operation efficiency. The five factors which respondents were most dissatisfied with were: (1) requirement of employ 5% aborigines; (2) restriction of 40% employment of foreign labour; (3) economic growth rate in Taiwan; (4) cheap tariff rates & low service charges; and (5) government administration efficiency. The factors considered most important by respondents suggest that their companies focus less on customs and government control and more on tax incentives to establish business units in FTPZs.

Figure 1 and Table 7 indicate that ten of the twenty-eight factors urgently needed to be improved as respondents attached a higher degree of importance to them and expressed a lower level of satisfaction with them. When the difference between the importance ranking and satisfaction ranking of these ten factors was examined, the largest perception gaps are listed in descending order as follows: (1) government administration efficiency, (2) cheap FTPZ tariff rates and low service charges, (3) simple customs procedures, (4) clear regulation, (5) free tax incentives, (6) economic growth rate in Taiwan, (7) stable cross-strait political relationship, (8) allowing in-depth manufacturing, (9) single-window service in FTPZs, and (10) completeness of port facilities.

<Figure 1> Matrix of importance-performance analysis



One-way ANOVA analysis results also revealed importance ranking differences between respondents from companies operating their businesses in Keelung, Taichung and Kaohsiung port FTPZs. As indicated in Table 7, respondents from companies operating in Keelung port FTPZ viewed the following four factors as having a higher degree of importance than their counterparts in Kaohsiung port FTPZ: cheap tariff rates and low service charges, operators’ autonomous management, port operation efficiency, and safety facilities in the port area. Respondents from companies operating their business in Taichung port FTPZ viewed only one factor as having a higher degree of importance than their counterparts in Kaohsiung port FTPZ, namely the difference in the ranking of factors’ importance by respondents from companies operating in different port FTPZs was probably due to the different managerial models in the three ports. The port of Keelung provides cargo services mainly through public terminals and companies operating their business in Keelung port FTPZ therefore have less control over port services. In contrast, the port of Kaohsiung provides cargo services mainly through a dedicated terminal operational model and companies operating within Kaohsiung port FTPZ therefore have a higher or more complete control over port services. Respondents from companies operating in Keelung port FTPZ were therefore, unsurprisingly, more concerned about “cheap rates and

charges”, “operators’ autonomous management”, “port operation efficiency” and “safety facilities in the port area”. In Kaohsiung port, these factors are under businesses’ control due to the dedicated terminal operational model.

### **3. Assessment of the Performance of Companies Operating Their Business in FTPZs**

In order to understand the situation of companies operating businesses within FTPZs in sea port areas, fifteen questions were included in the questionnaire to collect opinions on this. Such questions focused on business performance after companies had begun their operations in the FTPZ. The low mean values in Table 8 (all below 4) indicated that respondents did not think their companies’ business performance had greatly improved after they had begun their operations in the FTPZ. The five performance indicators with which respondents most agreed as a result of their companies operating their businesses in FTPZs were: (1) it has been beneficial for the company to operate its business in the FTPZ; (2) the company’s reputation has increased; (3) the company’s investment has increased; (4) the company’s customer satisfaction has increased; and (5) the company’s revenue has increased. The five performance indicators with which respondents least agreed were: (1) the company has employed more aborigine workers; (2) the company’s foreign customers have increased; (3) the company’s costs have decreased; (4) the company’s EBIT has increased; and (5) the company has recruited more employees.

One-way ANOVA used to analyze the differences in respondents’ evaluation of their companies’ operating performance in the three port FTPZs revealed no significant differences, probably because of the short (four years only) history of business operations in FTPZs.



<Table 7 > Factors affecting business operations in FTPZs

	Importance (IM)			Satisfaction (SA)			Difference in ranking between IM an SA	Comparison of importance ranking among 3 FTPZs
	Mean	SD	Rank (A)	Mean	SD	Rank (B)		
Factors and Scale Items+								
A3. Government administration efficiency	4.65	0.53	5	2.79	0.9	24	-19	Keelung(1); Taichung(2); Kaohsiung(3)
A21. Cheap rates & charges	4.63	0.58	8	2.67	0.95	25	-17	8.50 (1)>(3); (2)>(3)
A4. Simple customs procedures	4.84	0.37	1	3.00	0.91	18	-17	2.16
A5. Clear regulation	4.67	0.57	4	2.83	0.85	21	-17	0.76
A22. Free tax incentives	4.72	0.55	2	3.02	1.00	17	-15	1.46
A1. Economic growth rate in Taiwan	4.33	0.81	18	2.42	0.89	26	-8	0.41
A6. Stable cross-strait political relationship	4.58	0.73	9	3.02	0.92	16	-8	0.68
A25. Allowing in-depth manufacturing	4.44	0.88	13	2.91	0.93	19	-6	2.07
A24. Single-window service in FTPZ	4.56	0.63	10	3.10	0.96	15	-5	2.23
A12. Completeness of port facilities	4.44	0.59	12	3.12	0.80	14	-2	3.18
A23. Operators' autonomous management	4.70	0.47	3	3.43	0.74	4	-1	3.32* (1)>(3)
A27. Restriction of 40% employment of foreign labour	2.88	1.38	27	2.33	0.95	27	0	1.70
A28. Requirement of employing 5% aborigines	2.12	1.3	28	2.21	1.02	28	0	0.60
A10. Port operation efficiency	4.63	0.49	7	3.29	0.83	5	2	4.24* (1)>(3)

<Table 7 > Factors affecting business operations in FTPZs (continued)

A7. Local market scale	4.16	0.84	24	2.83	0.82	22	2	0.16
A26. Simple in/out procedures for foreign businessmen	4.00	0.87	26	2.83	0.76	23	3	1.17
A13. Completeness of logistics warehousing facilities	4.51	0.59	11	3.26	0.91	7	4	2.40
A16. Integrated port information system	4.35	0.67	17	3.19	0.74	12	5	0.25
A17. Good quality workers	4.40	0.66	15	3.21	0.78	10	5	0.86
A18. Cheap labour costs	4.14	0.94	25	2.88	0.80	20	5	0.00
A2. Location of FTPZ	4.63	0.66	6	3.83	0.73	1	5	0.99
A14. Safe facilities in port area	4.42	0.54	14	3.24	0.76	8	6	5.03*(1)>(3)
A15. Convenient inland transportation system	4.33	0.75	19	3.14	0.87	13	6	0.36
A9. Convenient financial services	4.28	0.85	20	3.19	0.86	11	9	0.86
A11. Frequency of sailings	4.35	0.57	16	3.29	0.89	6	10	2.52
A19. Abundance of human resources	4.21	0.74	23	3.24	0.88	9	14	0.21
A20. Harmonious relationship between employers and employees	4.23	0.87	22	3.5	0.80	3	19	0.19
A8. Good public security	4.26	0.76	21	3.57	0.83	2	19	0.82
Average	4.30			3.05				

Note: + All developed using 5-point Likert scale, where 5=very important/very satisfied; 1=not very important/very dissatisfied.

\*Represents a significance level at p<0.05.

\*\* Represents a significance level at p<0.01.

RELJABILITIESANALYSIS-SCALE (ALPHA)

Reliability Coefficients

N of Cases = 43.0 N of Items = 28 (questions A1-A28), Alpha = .9107

<Table 8 > Respondents' assessment of their company's performance as a result of operating its business in the FTPZ

Performance indicator*	Mean	SD	Comparison between the 3 ports (F value)**
B16. It has been beneficial for the company to operate its business in the FTPZ	3.88	0.93	2.08
B15. The company's reputation has increased in the FTPZ	3.42	1.07	1.18
B3. The company's investment has increased	3.37	1.05	1.41
B13. The company's customer satisfaction has increased	3.26	1.00	0.36
B8. The company's revenue has increased	3.26	1.09	0.30
B11. The company's sales have increased	3.19	0.88	0.47
B2. The company's export volume has increased	3.16	1.05	0.41
B14. The company's market share has increased	3.16	1.09	0.27
B10. The company's taxes (customs, excise tax) have decreased	3.09	1.19	0.26
B7. The company's foreign exchange has increased	3.07	1.14	0.43
B6. The company pays more taxes to the government	3.07	1.08	1.99
B1. The company has recruited more employees	2.98	1.04	0.02
B12. The company's EBIT has increased	2.90	0.92	0.19
B9. The company's operating costs have decreased	2.86	1.17	1.21
B4. The company's foreign customers have increased	2.70	1.04	0.15
B5. The company has employed more aborigine workers	2.26	1.03	0.78

\* All developed using a 5-point Likert scale; where 5=strongly agree; 1=strongly disagree.

\*\* Test of difference between mean response scores: significant at  $p < 0.05$ .

Reliability analysis - scale (alpha), Reliability Coefficients

N of Cases = 43.0 N of Items = 16 (questions B1-B16) Alpha = .9332

## V. Conclusions and Implications of the Study Findings

The commercial and political environment of ports is changing together with the institutional structure of port authorities. This study's insights and conclusions are based on a study of companies operating their businesses in FTPZs in Taiwan. Its major concern has been to better understand companies' performance in Taiwan's FTPZs. Two types of businesses are allowed to operate within FTPZs: FTPZ enterprises which engage in trading, warehousing, logistics, the collecting and distributing of the cargo of containers, transiting, transshipment, forwarding, customs clearance, assembling, sorting, packaging, repairing and fabricating, processing,

manufacturing, and export or technological services; and Non-FTPZ enterprises which provide financial, stevedoring, catering, hotel, business conference, and transshipment services. As of March 2010, five FTPZs had been established in Taiwan. Far Glory is the only privately owned FTPZ and is adjacent to an international airport area; the other four FTPZs are situated in sea port areas and are owned by public port authorities, namely, the harbour bureaus of Keelung, Taipei, Taichung and Kaohsiung.

The study findings indicated that the factors viewed as most important for successfully operating businesses in FTPZs were less customs and government control and more tax incentives. In addition, as a result of operating their businesses in FTPZs, respondents revealed that their company reputation, investment, customer satisfaction and revenue had all increased. However, respondents were dissatisfied with factors relating to cost and restrictions on employment. The five factors regarded by respondents as most affecting business operations in FTPZs were simplified customs procedures, free tax incentives, operators' autonomous management, clear regulation, and government administration efficiency. The five factors viewed as most satisfactory were: the location of the FTPZ, good security, harmonious relationship between employer and employees, operators' autonomous management, and port operation efficiency. The five factors respondents viewed as most dissatisfactory were: the requirement to employ 5% aborigines; restriction of 40% employment of foreign labour; low economic growth rate in Taiwan; cheap tariff rates and service charges; and government administration efficiency.

Moreover, the importance-performance matrix analysis showed that government administration efficiency and tariff rates and service charges need to be improved, customs procedures are required to be simplified, regulations should be made clearer and more free tax incentives need to be introduced. The findings point to the importance of politics in either promoting policy innovation or representing affected interest groups broadly through their direct involvement in the administration of government. The study findings suggest that FTZ operation and administration must be separated in the port, and that the administration plays a vital role. Finally, in the complex world of the global economy, this study provides new insight into the development

of Taiwan's FTPZs and the performance to-date of companies operating their business in them.\*

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