

## KEELUNG PORT'S STRATEGIES IN COPING WITH TAIPEI PORT'S COMPETITION IN CONTAINER TERMINAL OPERATION

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**Abstract:** Keelung Port will face keen competition from Taipei Port, of which 7 container wharves will be completed and commence operation as from 2008. This article estimates that about 150,000 TEU containers will be shifted from Keelung Port to Taipei Port in 2008, and gradually increase to 600,000 TEU in 2014 when the 7 container wharves are wholly completed. Based on the interviews with the top executives of three main Taiwan shipping lines and two major freight forwarders, this article provides suggestions to Keelung Port, including development of free trade zones, marketing measures, improvement of infrastructures, reform of organization and operation systems, and reduction of costs. These measures aim to upgrade Keelung Port competitiveness and meet its customers' demand of providing value-added services

**Key Words:** *Keelung Port, Taipei Port, Port management, Container transport*

### 1. INTRODUCTION

Keelung Port's main functions are to handle those import and export cargoes in northern Taiwan area. However, since Taipei Port container terminal will commence operation as from 2008, Keelung Port will face keen competition because the two ports are only 50 kilometers away, and their hinterlands are overlapped.

Taipei Port is built for handling general and break bulk cargoes shipped to northern Taiwan, as well as developing deep-water container wharves, which can accommodate post-Panamax container ships. It aims to reduce inland traffic flow resulted from the vast quantity of containers and bulk cargoes carried within northern Taiwan area. Taipei Port will have 7

container wharves and one logistics park in the future. The operation of Taipei Port container terminal will certainly result in significant impact on the other container ports in Taiwan, especially Keelung Port.

In order to analyze possible impact on Keelung Port, this article considers surrounding environments, including those competition situation among neighboring ports, and the market share of three shipping companies, namely Evergreen, Wan Hai and Yang Ming Lines, which jointly invest and run container terminal in Taipei Port. These three liners form Taipei Port Container Terminal Corporation (hereunder cited as TPCTC) and entered into a BOT (Build, Operate, and Transfer) contract with government. This article also provides strategies for Keelung Port while considering responding measures and strategies in order to cope with the competition of Taipei Port container terminal.

## 2. IMPACT ON KEELUNG PORT'S CONTAINER THROUGHPUT

### 2.1 Recent Throughput of Taiwan's Three Container Ports

As shown by Table 1, Taiwan's three container ports faced slow growth in container handling volume in recent years. Such a phenomenon is partly resulted from the decrease of macro economic growth, and change of industrial structure. The prohibition of direct shipping across the Taiwan Straits also prevents Taiwan port from soliciting more container cargoes (Chang, et al, 2006).

Table 1 Recent container throughput of Taiwan's container ports

		Unit: TEU			
Year		Kaohsiung	Keelung	Taichung	Total
2000	Import	1,607,875	997,254	425,091	6,171,054
	Export	1,852,342	862,418	426,074	
	Transshipment	3,965,615	94,902	279,192	4,339,709
	<b>Total</b>	<b>7,425,832</b>	<b>1,954,574</b>	<b>1,130,357</b>	<b>10,510,763</b>
2001	Import	1,616,895	884,307	398,315	5,912,706
	Export	1,803,009	808,692	401,488	
	Transshipment	4,120,621	122,855	269,551	4,513,027
	<b>Total</b>	<b>7,540,525</b>	<b>1,815,854</b>	<b>1,069,354</b>	<b>10,425,733</b>
2002	Import	1,979,844	924,762	430,680	6,655,525
	Export	1,994,489	889,385	436,365	
	Transshipment	4,518,719	104,451	326,612	4,949,782
	<b>Total</b>	<b>8,493,052</b>	<b>1,918,598</b>	<b>1,193,657</b>	<b>11,605,307</b>
2003	Import	2,194,445	980,352	434,594	7,020,922
	Export	2,052,397	903,891	455,243	

	Transshipment	4,596,524	116,463	356,191	5,069,178
	<b>Total</b>	<b>8,843,365</b>	<b>2,000,706</b>	<b>1,246,028</b>	<b>12,090,099</b>
2004	Import	2,399,480	1,029,400	441,949	7,573,273
	Export	2,279,956	946,441	476,047	
	Transshipment	5,034,680	94,351	327,190	5,456,221
	<b>Total</b>	<b>9,714,115</b>	<b>2,070,192</b>	<b>1,245,186</b>	<b>13,029,493</b>
2005	Import	2,375,211	1,026,361	448,180	7,547,355
	Export	2,278,807	954,235	464,561	
	Transshipment	4,817,038	110,861	316,174	5,244,073
	<b>Total</b>	<b>9,471,056</b>	<b>2,091,458</b>	<b>1,228,915</b>	<b>12,791,429</b>
2006	Import	<b>2,314,087</b>	<b>1,014,758</b>	<b>458,006</b>	7,529,741
	Export	<b>2,304,544</b>	<b>964,488</b>	<b>473,858</b>	
	Transshipment	<b>5,156,040</b>	<b>149,569</b>	<b>266,666</b>	5,572,275
	<b>Total</b>	<b>9,774,671</b>	<b>2,128,815</b>	<b>1,198,530</b>	<b>13,102,016</b>

Source: Keelung Harbor Bureau Statistical Abstract (2007)

## 2.2 Basis for Estimating Container Throughput

Keelung Port mainly relies on import/export container cargoes in northern Taiwan area. Transshipment containers only constitute about 5 percent of its total container throughput. The development of other neighboring Asian ports may not significantly affect Keelung Port under such a circumstance. This article will focus on the competition among three Taiwan container ports for estimating the impact on Keelung Port after 2008.

Based on government's policy and Taipei Port's location, equipment, facilities, and landlord port operation model, Taipei Port is capable of developing itself as a hub port to serve intercontinental container shipping lines. In addition, TPCTC can also make use of its surplus capacity to serve regional container shipping routes. This would lead to competition between Keelung Port and Taipei Port in the following markets:

### 2.2.1 Intercontinental Shipping Market

In the past, shipping companies used to assign mother ships to call at Kaohsiung Port, instead of Keelung Port. The latter lacks deepwater wharves and large quayside container terminals. Since Taipei Port container terminal is capable of accommodating mother ships and feeder ships all together, the TPCTC may solicit more intercontinental shipping businesses. This would therefore affect container throughput of Kaohsiung, as well as Taichung and Keelung Ports.

### 2.2.2 Transshipment Market.

Transshipment cargoes of a hub port are mainly derived from the carriers' deployment of trunk shipping routes. Taipei Port, based on its location, might successfully attract

transshipment cargoes mainly from East-Asia and Southeast China regions. Since Keelung Port is restricted by its backyard space and port condition, only a few large-sized container ships call at Keelung Port. At present, Keelung Port only handles 70 thousand to 120 thousand TEU of transshipment cargoes annually. The operation of Taipei Port might not result in significant impact on the transshipment businesses of Keelung Port.

### 2.2.3 Regional Container Chipping Market.

Container cargoes handled through Keelung Port are mainly comprised of regional shipping lines. For the past decade, Keelung Port's container business performance is mainly influenced either by the economic development status as well as by Taichung Port's competition. At present, Taichung Port was the nearest container port to Keelung Port. The hinterland and market of the two ports are overlapped. Both ports compete in regional container shipping market. With the forthcoming operation of Taipei Port container terminal, it is predicted that some regional container shipping routes will be shifted to Taipei Port. And the container throughput of Taichung and Keelung Ports will be decreased.

### 2.3 Taipei Port's Estimated Container Throughput

To estimate the expected container handling volume of Taipei Port, it needs to consider the future business plan of TPCTC. The container handling volumes of three TPCTC member lines in three Taiwan container ports are shown as Table 2.

Table 2 Market share of container volume of TPCTC in 2005

Unit: thousand TEU

Company	Container handling volume				Domestic market share
	Keelung Port	Taichung Port	Kaohsiung Port	Total	
Evergreen Group	95	360	2590	3,045	23.8%
Wan Hai Line	545	480	840	1,865	14.6%
Yang Ming Line	224	149	1,100	1,473	12.7%
Total handling volume	864	989	4,530	6,383	49.95%
Container volume handled by each port in 2005	2,090	1,220	9,470	12,780	100%

Source: Key Customer Manager Office, Keelung Harbor Bureau, 2006

According to the BOT contract, the annual guaranteed volume for each container wharf of Taipei Port is 250 thousand TEU. Also, the target market of Taipei Port container terminal would lie in those imported or exported container in northern Taiwan area, as well as those containers, which are traditionally hauled between northern Taiwan and southern Taiwan. However, with Taipei Port container wharves to be completed one after another, the pressure for TPCTC to achieve its target will arise. The above three shipping lines may shift some of their container routes and containers, which originally use other three Taiwan ports, to Taipei Port. It is estimated that, by the year of 2008, Taipei Port's handling capacity will reach 445,000 TEU. The throughput would reach 2.35 million TEU in 2014, including 1.4 million TEU of import/export cargoes and 950 thousand TEU of transshipment cargoes (shown as Table 4).

## 2.4 Impact on Keelung Port's Throughput

The container throughput of Keelung Port reached the peak of 2.17million TEU in 1995. After that, the throughput decreased year by year to 1.67 million TEU in 1999. During the period of 2000 to 2006, Keelung Port recovered its container businesses steadily up to 2.1 million TEU (shown as Table 1). The impact on Keelung Port's container throughput resulted from the operation of Taipei Port container terminal would appear as below (Institute of Transportation, the MOTC, 2004):

### 2.4.1 Import and Export Container Cargo Allocation.

The potential import/export container volume in northern Taiwan accounts to 34% of total container handling volume in Taiwan. Since Keelung Port is restricted by its handling capacity, higher operational cost, fewer intercontinental shipping routes, limited space for expansion, etc., it can only have 26.2% of market share. The rest are shipped via Kaohsiung Port through inland haulage(Institute of Transportation, the MOTC, 2006). According to Keelung Port, the container cargoes import into or export from northern Taiwan area are 2.57 million TEU in 2005. When 7 container wharves will fully operate by 2014, it is predicted that 850 thousand TEU of the container cargoes, which were originally hauled from northern Taiwan to Kaohsiung Port will be shifted to Taipei Port(Institute of Transportation, the MOTC, 2006).

### 2.4.2 Transshipment Allocation

It is predicted that Taipei Port would focus its businesses mainly on import/export market rather than transshipment market (Institute of Transportation, the MOTC, 2006). Therefore, the proportion of transshipment cargoes in Taipei Port would reach a similar level with Taichung Port, while Keelung Port's market share in transshipment might remain in the same volume as it was in recent years. The prediction of market share is shown as Table 3.

Table 3 Prediction on container allocation between Keelung and Taipei Ports  
Unit: thousand TEU

		2007	2011	2016	2021	2026
Northern Taiwan	Import/export	2,220	2,870	3,070	3,650	4,120
	Transshipment	170	1,250	1,360	1,720	1,930
	<b>Total</b>	<b>2,390</b>	<b>4,120</b>	<b>4,430</b>	<b>5,370</b>	<b>6,060</b>
Taipei Port	Import/export	0	1,550	1,680	2,140	2,400
	Transshipment	0	1,160	1,260	1,610	1,800
	<b>Total</b>	<b>0</b>	<b>2,710</b>	<b>2,940</b>	<b>3,750</b>	<b>4,200</b>
Keelung Port	Import/export	2,220	1,320	1,390	1,510	1,720
	Transshipment	170	90	100	110	130
	<b>Total</b>	<b>2,390</b>	<b>1,410</b>	<b>1,490</b>	<b>1,620</b>	<b>1,850</b>

Source: Institute of Transportation, 'A Study on Overall Development of Ports in Taiwan (2006-2011)

Based on the above prediction, the throughput of Taipei Port would mainly come from those container cargoes, which are currently hauled from Keelung Port to Kaohsiung, as well as

increased regional container cargoes, as a result from economic growth. Keelung Port might not suffer severe impact on container business at the early stage when Taipei Port container terminal commences operation, provided that the total container throughput in Taiwan ports would increase steadily.

Nevertheless, it was predicted by TPCTC that, after the year of 2009, the total container handling capacity provided by Keelung Port and Taipei Port would exceed the total import/export container volume in northern Taiwan area. Therefore, to fully utilize its surplus capacity, TPCTC might solicit more container cargoes to Taipei Port, either from Keelung and Taichung Ports, or even from Kaohsiung Port. The exact volume, which might be shifted to Taipei Port in the future, would depend on the marketing strategies adopted by TPCTC. It would pessimistically estimate that surplus capacity of Taipei Port will be entirely fed by the existing cargoes. Keelung Port might severely suffer the decrease of container throughput after 2009 (shown as Table 4).

Table 4 Estimate of cargo allocation of Taipei Port container terminal

			Unit: thousand TEU							
			2007	2008	2009	2010	2011	2012	2013	2014
Estimated Volume	Taipei Port	Import/export	0	276	451	619	700	900	1150	1400
		Transshipment	0	169	279	368	500	700	850	950
		<b>Total</b>	<b>0</b>	<b>445</b>	<b>730</b>	<b>987</b>	<b>1,200</b>	<b>1,600</b>	<b>2,000</b>	<b>2,350</b>
	Keelung Port	Import/export	2,040	1,920	1,930	1,840	1,820	1,800	1,730	1,650
		Transshipment	110	100	110	120	110	110	90	100
		<b>Total</b>	<b>2,150</b>	<b>2,020</b>	<b>2,040</b>	<b>1,960</b>	<b>1,930</b>	<b>1,910</b>	<b>1,820</b>	<b>1,750</b>
Estimated Market Allocation	Import/ export	Volume from Kaohsiung to Taipei	0	136	300	379	400	550	700	850
		<b>Volume shifted from Keelung to Taipei</b>	<b>0</b>	<b>140</b>	<b>150</b>	<b>240</b>	<b>300</b>	<b>350</b>	<b>450</b>	<b>550</b>
		Trans-shipment	0	130	240	320	420	600	700	800
		<b>Volume shifted from Keelung to Taipei</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>30</b>	<b>30</b>	<b>50</b>	<b>50</b>
		Extra volume for TPCTC to lure from new market	0	29	30	38	50	70	100	100

Source: (1) TPCTC's Operation Plan;  
 (2) Institute of Transportation, 'A Study on Overall Development of Ports in Taiwan (2006-2011)'

## 2.5 Keelung Port's Estimated Decrease in Revenue

Keelung Port's revenue would be worsening year after year responding to the construction

progress of Taipei Port container terminal. If the surplus capacity of Taipei Port is satisfied totally from the traditional cargo sources of Keelung Port, it would affect Keelung Port's revenue by NT\$ 224 million in 2008 to NT\$ 880 million in 2014. Nevertheless, Keelung Port will receive the concession fees of NT\$120 million to NT\$420 million annually as from 2009 to 2014. Therefore, the operation of Taipei Port would result in a revenue drop of NT\$ 104 million to Keelung Port in 2008. In 2014, the decreased revenue would approach to NT\$ 460 million per year.

Table 5 Impact on Keelung Port based on different stages of construction Taipei Port container terminal  
Unit: thousand TEU, thousand NT\$

Year	Estimated container throughput shifted from Keelung Port to Taipei Port	Estimated revenue decrease caused by decrease of throughput	Annual concession fees from TPCTC	Estimated revenue decrease
2008	150	-224,000	120,000	-104,000
2009	160	-240,000	180,000	-60,000
2010	250	-384,000	240,000	-144,000
2011	330	-480,000	240,000	-240,000
2012	380	-560,000	300,000	-260,000
2013	500	-720,000	360,000	-360,000
2014	600	-880,000	420,000	-460,000

Source: Institute of Transportation, 'A Study on Overall Development of Ports in Taiwan (2006-2011)'

### 3. SUGGESTED STRATEGIES FOR KEELUNG PORT

By virtue of interviewing the top executives from three major Taiwan shipping lines and two major freight forwarders, this article provides the following strategies and measures, which can be adopted by Keelung Port:

#### 3.1 Development of Free Trade Zones

Although Keelung Port has potential to develop free trade zone businesses, Taiwan government still needs to adopt measures to overcome the following challenges:

##### 3.1.1 Prohibition of Direct Shipping Links Across the Taiwan Straits

It would be difficult to attract more transshipment cargoes to be processed and re-exported via Keelung Port if the shipping link across the Taiwan Straits is still prohibited. Whether or not such a ban can be lifted would depend on political situations and negotiation by the governments from both sides of the Taiwan Straits. If cross-Strait cargoes are allowed to be shipped across the Strait directly, Keelung Port could accommodate those manufacturers, which intends to make use of Taiwan ports as their intermediate production bases.

### 3.1.2 Restriction of Governing Laws and Regulations

Taiwan needs more favorable laws and regulations to attract foreign investments. These laws and regulations include those governing customs duties and procedures, investment, labor, taxation, port operation and administration, etc. Also, it is necessary to negotiate with other countries for more taxation agreements, such as avoidance of double taxation agreements, investment guarantee agreements, free trade zone agreements, in order to provide favorable and friendly business environments.

### 3.1.3 Lack of Port Industry Clusters

Keelung Port needs to establish an entity designated to coordinate different government agencies and undertake marketing measures as a whole to attract investment from manufacturing, shipping and logistics industries. It might be necessary to consider a land reclamation policy to accommodate these industries in Keelung Port's free trade zones. In addition, Taiwan must revise its 'Statute for Establishment and Administration of Free Trade Port Zones 2003' to provide favorable incentives for foreign investment, and encourage more investments in the free trade zones. Also, the average corporation tax in Taiwan is around 30 percent. Taiwan needs to provide favorable incentives to those free trade zone enterprises, such as tax exempt, friendly customs clearance procedures, lower land costs, and employment of foreign workers.

## 3.2 Marketing Measures

It is suggested that Keelung Port shall adopt the following marketing measures to secure container businesses:

### 3.2.1 To Set Port Tariff Based on Commercial Consideration

Taiwan shall revise its Commercial Harbor Act in order to allow each port to set its port tariff according to particular strategies and financial situation. For building a tight partner relationship, Keelung Port needs to provide preferential rate to its key customers. This would allow Keelung Port to solicit support from mega-carriers and secure more cargoes either from transshipment or domestic markets.

### 3.2.2 To Upgrade Port Service and Meet Carriers' Demand of Productivity

In order to provide an integrated service and upgrade its service quality, Keelung Port may use acquisition and merger strategy to serve carriers and cargo owners. Furthermore, Keelung Port needs constant improvement measures either in its marketing or organization system. It is suggested to establish an environment to encourage all staff to initiate innovative measures for improving port's productivity and value-added services. Keelung Port shall coordinate related operators and provide those ships calling at the Port with smooth and integrated services. This would enhance Keelung Port's value in supply chain.

## 3.3 Improvement of Infrastructures

The following measures are suggested for improving Keelung Port's infrastructures:

### 3.3.1 Integration of Port Container Terminals

Currently, Keelung Port is improving the existing port facilities including enlargement of backyard space, integration of container terminal operation, dredging program of main channel/inner channel/berth depth, enlargement of turning basin, etc. However, it needs to further integrate its North Container Terminal and South Container Terminal into an integral Container Center to accommodate larger container ships, with the capacity more than 6,000

TEU.

### 3.3.2 Improvement of Connecting Roads

Although Keelung Port still relies on inland container depots for storage and customs clearance, Keelung Harbor Bureau needs to coordinate with Keelung City for the improvement projects: (1) construction of connecting road for East Bank; (2) widening another connecting road to substitute aged West Bank Viaduct. The improvement of connecting road will be helpful for utilizing those neighboring inland container freight stations and industrial parks in northern Taiwan.

### 3.3.3 Better Use of Information and Communication Technology

Keelung Port needs to integrate its container operations with automation facility, hi-technology and information processing. The project shall include loading, unloading, handling and storing of containers, gateway control, operation control, customs clearance procedure, security check, warehousing arrangement, and delivery of goods, etc. Keelung Port has currently conducted the planning work and detailed design of the Automatic System of Container Terminal Project, aiming to integrate all working sheets, flow chart, and information transmission in a uniform, connected and integrated way. Meanwhile, for solving container heap-up problem, the project shall provide certain functions which can boost the performance and turnover rates of container backyards, eliminate the operation bottlenecks, and upgrade the service quality.

## **3.4 Reform of Port Organization and Operation Systems**

Keelung Port is currently run and administrated by government agencies. Nevertheless, Keelung Port needs to adopt following reform strategies:

### 3.4.1 Innovation on Port Management and Administration System

Under prevailing laws, Taiwan's port authorities must undertake three functions: (1) shipping administration tasks; (2) harbor administration tasks; (3) wharf and port terminal businesses. These three roles involve the exercise of public power and dealing of commercial matters, which often conflict with each other, and prevent the port authorities from dealing with commercial issues efficiently. It is suggested to revise relevant laws and regulations and allow Taiwan ports to run their ports by greater reliance on the marketplace. However, such a policy still faces protest from labor union because some government employees prefer to remain in government bureaucratic employment system.

### 3.4.2 Organization Reform to Cope with Market Mechanism

Human resources and financial support are crucial for Keelung Port to develop innovative business strategies. However, under present organization structure, Keelung Port's personnel and accounting systems are governed by strict rules in accordance with Taiwan's laws. Also, the present salary system can neither motivate those employees with higher performance, nor encourage innovation or better contribution. Keelung Port needs to overcome such difficulties either by restructuring its human resources or by adopting 'corporatization model' to run the Port. This would allow Keelung Ports to run its port operation more efficiently and flexibly, without interference with by administrative matters, and give the Port a better chance to compete with Taipei Port, which is totally run by private sectors, namely TPCTC. Currently, Taiwan government tends to urge Taiwan port authority to become corporate person status. However, such a policy faces protest from labor union and many government employees.

### 3.4.3 Reform of Port Tally and Pilot Employment System

Keelung Port needs to solve the problems arising from shortage of competent tally clerk and port pilot. The number of tally clerks and pilots shall be determined according the demand of shipping industry and shall not be controlled by certain private entity. However, the legislative reform faces protest from interest groups.

### 3.4.5 To Maximize Land Productivity in Port Area

It needs to lift those restrictions imposed on by the Land Act, the Construction Act, and the Fire Fighting Act, etc., in order to allow port authority to utilize port land more efficiently. The functions of port facilities are different from civil buildings, and shall be governed by the Commercial Harbor Act instead.

## 3.5 Cost Reduction Measures

Keelung Port has to adopt the following measures to reduce its operation costs:

### 3.5.1 Incentive Retirement Scheme

The average age of Keelung Port personnel in 2006 is 53. Every employee's retirement from Keelung Port will reduce the Port's personnel cost at least by NT\$ 450 thousand. To effectively reduce costs and promote performance of each labor, Keelung Port authority must continuously promote the incentive retirement scheme.

### 3.5.2 Outsourcing Low Profitable Businesses

Keelung Port may outsource those low profitable businesses, including floating crane and ship mooring, to private sectors, which might be able to run such businesses more efficiently.

### 3.5.3 Provision of Paperless Services

For reducing operation costs and simplifying administrative procedures and time, it is necessary for Keelung Port to establish a multi-function information platform, equipped with advanced IT system, to deal with those matters relating to ships' departure and arrival, fee collection and reimbursement, container and cargo control, etc.

## 4 CONCLUSIONS AND SUGGESTIONS

Since Keelung Port's main functions are to handle those import/export cargoes in northern Taiwan area, the development of other neighboring container ports may not have significant impact on Keelung Port. Keelung Port's decreased throughput and revenue in the future would be mainly caused by the competition of Taipei Port container terminal, as well as the change of Taiwan's industrial structure. Based on such an assumption, this article estimates that about 150,000 TEU containers will be shifted from Keelung Port in 2008. And the volume would increase gradually up to 600,000 TEU in 2014, when 7 container wharves of Taipei Port are completed and fully commerce operation. Also, Keelung Port will suffer decrease of revenue around NT\$104 million (about 3.15 million) in 2008, and gradually approaching NT\$460 million (about US\$14 million) in 2014.

Under the above circumstances, Keelung Port needs to adopt proper measures and strategies in order to maintain its prosperity. It is suggested to adopt the following measure or strategies to create more container cargoes: (1) development of free trade zones; (2) marketing measures; (3) improvement of infrastructures; (4) reform of port organization and operation systems;

and (5) cost reduction measures.

It is noteworthy that many of Taiwan's traditional industries have moved their production bases to mainland China. Keelung Port will face difficulties in attracting more container cargoes and inducing local enterprises to invest in its free trade zones. Keelung Port's marketing efforts shall aim at those high value-added manufacturers or service providers, including those foreign direct investments engaging in high value-added products or services, and those manufacturers which can make use of Keelung Port as their intermediate production bases. However, the prohibition of direct shipping link across the Taiwan Straits still exists. Also, Keelung Port is restricted by laws and regulations governing its operations and personnel, etc. The Port would face difficulties in soliciting support from shipping lines and manufacturers. Whether or not such difficulties can be solved will depend on political situations and negotiations by governments from both sides of the Straits.

Furthermore, some of the above difficulties may not be solved solely by Keelung Port, including the lift of direct shipping prohibition, the deregulation of prevailing governing laws and regulations. It appears that Keelung Port is obliged to communicate with the Ministry of Transportation and Communications, as well as the Ministry of Finance, in order to find certain solutions. It is suggested to organize a set of task forces, composed by four Taiwan ports, shipping lines, scholars, as well as other government agencies to explore the way of upgrading port competitiveness. The major tasks include allocation of resources and personnel, undertaking overall market survey, market analysis, choose suitable marketing measures, as well as the way of deregulating prevailing laws and regulations, which govern the budget, personnel, organization, procurement process, port administration, and Customs regulations for free trade zones, etc.

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