



Free Trade Zone and Port Hinterland Development



United Nations
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Korea Maritime Institute

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

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ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

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Executive summary

Increasing international trade has wide reaching implications for the Asia-Pacific region.

Liberalization of trade in goods and services, new integrated transport networks and information communication technology (ICT) developments have created unprecedented business opportunities for the trade and transport industry. Increased levels of competition have also resulted in public sector and private sector organizations recognizing the need to move from national and regional business strategies to global business strategies.

Increasing international trade volumes, coupled with the adoption of standardised containers to move cargo have fundamentally changed the shipping industry.

Containerization and economies of scale in ship size have affected how shipping industry has evolved.

Standardised containerization has led to the design and introduction of ships of increasing size and capacity.

There are significant economies of scale for shippers in building larger and larger ships, but the looming introduction of mega-sized vessels will require new investment in infrastructure to support these ships.

In the last two decades, the hub and spoke system in liner service has developed as larger containerships have been adopted on major sea transport routes such as the Europe-Far East-American West Coast route.

The large ships on the east/west routes will call mainly at transshipment hubs where containers will be shifted to multi-layered feeder subsystems serving north/south, diagonal and regional routes.

..which has implications ports.

These events have important implications for both the viability of port owners and operators, and on how the network for shipping services will continue to evolve.

While different views exist between carriers and shippers on the merits of the hub and spoke network, its evolution will ultimately be determined by the balance of power between carriers and shippers. For carriers, economies of scale are critical, while for the shipper, total freight rates, time and service quality are more important.

The development of the hub and spoke network has increased competition between ports to offer hub services.

Increasing competition in port services means ports must look to reduce costs and offer value-added services to attract business.

As hub port competition intensifies, ports must increasingly focus on achieving cost reductions for shippers, and on providing value-added services around port facilities.

Dedicated logistics zones in the areas immediately surrounding ports (hinterland), which facilitate smooth intermodal movements of goods and ensure goods reach their final destinations quicker and more cheaply, are one way of value-adding to port facilities.

Ports have also been developing their physical infrastructures, especially container terminals and related facilities, and expanding their port hinterland.

Many ports have also been carrying out regulatory and procedural reforms, including port governance restructuring, transferring ownership to private operators and streamlining regulation.

Recently most ports have introduced incentives to promote transshipment, such as offering longer storage periods, lower handling charges and reductions in port tariffs for larger shipping lines.

Logistics services are becoming increasingly important.

Moreover, most shipping lines have been introducing vertical integration by transforming their role from shipping carriers to global logistics providers covering logistics supply management, distribution and global logistics and value-added services. The role of shipping lines is evolving to include offering total logistics services.

Free trade zones are one method of attracting business to port areas but trade obligations impose rules around competition for business.

In line with these trends, many Asian countries have established special value-adding zones (*free trade zones, or FTZs*) in port areas or in the wider hinterland with expectations that these zones might bring economic benefits.

FTZs are also used to attract investment into a port area in order to establish a 'critical mass' that will be self sustaining and attract further business investment and shipping cargo.

World Trade Organization obligations place a limit on country competition for FTZ business. Subsidies to particular businesses or industries are discouraged, and may be subject to challenge by other WTO members.

Attracting FDI can have benefits to the macro economy, and may encourage broader investment and regulatory reform.

FTZs aim to attract foreign investment, which is thought to have benefits in employment and growth. It is argued that FTZs promote a 'critical mass' of economic activity around ports. This is self-sustaining and also attracts further business.

If the establishment and operation of an FTZ is successful, a FTZ may also act as a blueprint for wider reform once policy makers are convinced of the benefits that may accrue from reform.

While past international experience with FTZs is mixed, successful FTZs often have similar characteristics.

Establishing a FTZ is not a guaranteed method of obtaining higher growth rates or attracting FDI however. There are numerous international examples of FTZs that have failed to meet these objectives. Poor geographical location, low government commitment, operational difficulties, poor management and inadequate promotion give FTZs a higher probability of failure.

International experience suggests that there are certain factors that greatly increase the likelihood of success for a FTZ. Successful FTZs are usually characterised by quality infrastructure, a supportive government, lighter regulation, a strong export focus, tax and customs exemptions and large storage and logistics capacities. Policies that promote macroeconomic stability are also important.

*Thorough policy planning
will maximise chances
of success.*

In order to ensure the greatest chances of FTZs meeting country development goals, sufficient time must be spent considering the strategic goals of the FTZ before implementation. These goals should be consistent with national development goals, and set out the objectives of the zone, and how those objectives will be achieved, and the responsibilities of various stakeholders in making the investment a success.

Free Trade Zone and Port Hinterland Development

1 Introduction

1.1 Background of the study

Liberalization of trade in goods and services, new integrated transport networks and information and communication technology (ICT) developments have created unprecedented business opportunities for the trade and transport industry. The increased level of competition has also resulted in public sector and private sector organizations recognizing the need to move from national and regional business strategies to global business strategies.

Achieving cost reductions and maintaining and improving product quality while responding to customer demands require new business tools which will enable companies to improve their competitiveness in the global market. Manufacturing companies are thus taking a greater interest in managing the total supply chain from the multiple sourcing of raw material to the production and the final distribution of the finished product. Manufacturing companies are also taking steps to establish regional logistics/distribution centres, especially around port hinterlands, to improve their competitiveness by reducing inventory and raw material procurement costs, and by providing swift, customer-oriented just-in-time (JIT) services and value added logistics services.

These trends in logistics and supply chain management are accelerating as tariff and non-tariff barriers, including customs procedures, are streamlined and simplified, particularly through bilateral, subregional and multilateral facilitation agreements.

In line with these trends, and to meet the demands of business, many Asian countries have established or intend to establish special value-adding zones in port areas or in the wider hinterland with high expectations of the economic benefits that these zones would bring. The zones are commonly referred to as *free trade zones* (FTZ).

The concept of a FTZ and the way of establishing a FTZ differs slightly from one country to another. Lack of understanding and experience in establishing and operating a FTZ has often meant that only a few countries in the ESCAP region have had a truly successful experience.

Providing specific guidelines for specific countries was however beyond the scope of this study. The focus of the study was logistics oriented zones and the traditional FTZ with its focus on manufacturing. These are examined in order to understand the concepts and see how some of their features can be applied successfully in the context of port hinterland development.

The three key goals of the public sector when deciding upon building a successful FTZ is to: attract business, bring in capital and create employment. From a customer's perspective, the three main attributes of the FTZ can be summarised in one well known marketing adage, 'LOCATION, LOCATION, LOCATION'. This adage is not simply related to the positioning of a FTZ but also relates to global trends in manufacturing, outsourcing, business mobility and the whole process known as globalization. In this report we look at how this adage relates to FTZs and port hinterland development. In doing this we have considered trends in business location, developments in sea transportation and shore side interface systems in order to provide governments, policy makers and port operators with guidelines that will assist them in optimizing their comparative advantages.

1.2 Objectives

In light of the above, the objectives of this study are to provide:

- a clear explanation of the FTZ concept, both in its regional and country specific variations, together with the rationale behind it
- examples of successful and unsuccessful practices in FTZ drawn from case studies from around the world
- an understanding of the business strategy of private industry, including global logistics providers, to help governments understand industry's needs
- guidelines for governments contemplating the establishment of FTZs within the context of port hinterland development.

1.3 Report structure and contents

Chapter 2 General concepts: FTZ and port hinterland looks at the fundamentals characteristics of the FTZ and port hinterland, both in traditional terms and for the purpose of this report. It introduces these concepts to the reader as a foundation for the rest of the report.

Chapter 3 The port industry provides a background to the development of: containerization; port privatization; foreign direct investment (FDI); the emergence of the hub and spoke port system; the most recent trends in vertical and horizontal integration of ports. It concludes by looking at ports as logistics centres.

Chapter 4 Recent developments in FTZs and port hinterland in Asia and Europe provides numerous case examples of recent trends in FTZ development on these two contiguous continents. This chapter also explores conceptual role changes of ports and port hinterlands and the concepts of logistics FTZs (or logistic parks).

Chapter 5 Implications of WTO's Agreement for Logistics FTZs looks at the possible impact FTZs could have upon WTO membership. This chapter provides an overview of the WTO rules pertinent to FTZs and concludes that whilst subsidies to industry are possible great care should be exercised to avoid infringement of the rules.

Chapter 6 Strategic practices in business reviews why companies move abroad and provides a background to the scene of global business by exploring the process of globalization and its impact on manufacturing and service companies. It concludes by looking at the latest developments in logistics concepts which will have a profound affect upon future business.

Chapter 7 Best practices and policy guidelines concludes this report by expanding upon best practices and suggesting guidelines for policy and decision makers based on the findings of this project. Two analytical tools are introduced that help policy makers analyze and focus upon the issues at stake helping to create strategies for establishing government policy.

2 General concepts: FTZ and port hinterland

2.1 Historical background and evolution

Free trade zones (FTZs), in the form of free harbours, were first established more than 2,000 years ago; over the course of time the concept of free trade zones has been dramatically transformed. Within the last half of the 20th century, free trade zones have undergone substantial changes and adaptations as the result of an exponential growth in world trade and improvements in transport efficiency, particularly in the port sector. As an instrument of commercial policy and development, free trade zones have been transformed and adapted to the realities and local conditions of each region. The concept will continue to evolve over time adapting to new needs and demands from private and public sector.

The last 50 years, FTZs have become increasingly popular in both developed and developing countries as a policy instrument for the promotion of export-oriented FDI. While in 1970 only a small number of countries permitted the establishment of FTZs, in 1997 about 850 zones operated in both developed and developing countries and the number of FTZs continues to increase. Research has shown a strong correlation between the establishment of FTZs and strong export performance. Table 2.1 shows the growth of FTZs over the last 30 years.

Table 2.1 The evolution of FTZs over time (Kusago and Tzannatos, 1998)

	1975	1986	1995	1997
Number of Countries with EPZs	25	47	73	93
Number of EPZs	79	176	500	N/A
Employment (millions)	0.8	1.9	N/A	4.5

2.2 The free trade zone: Terminology and definitions

In exploring free trade zones and the linkages often connecting trade zone development with port hinterland development, it is necessary to firstly define and describe the concept of *free trade zone* and its prime characteristics.

As well as being numerous in quantity there are also a large number of types of free trade zones. Different terms have been used over time, reflecting the variety of activities performed in the zones (see Table 2.2). The most used terms are *free trade zone*, *export processing zone*, *special economic zone*, and *industrial free zone*. They all have some basic features in common.

Many definitions of FTZs can be found in literature and of these the following four highlight the main characteristics of a free trade zone:

- fenced-in industrial estates specializing in manufacturing for export and offering their resident firms free-trade conditions and a liberal regulatory environment (World Bank, 1992).
- industrial zones with special incentives set up to attract foreign investors, in which imported materials undergo some degree of processing before being re-exported (ILO, 1998).

Table 2.2 The evolution of terminology over time (based on Kusago and Tzannatos, 1998)

Term	Main users and date of first use
Free trade zone	Traditional term used since 19 th Century
Foreign trade zone	India (1983)
Industrial free zone	Ireland (pre-1970)
Free zone	United Arab Emirates (1983)
Maquiladores	Mexico (early 1970s)
Export free zone	Ireland (1975)
Duty free export processing zone	Republic of Korea (1975)
Export processing zone	Philippines (1977)
Special economic zone	China (1979)
Investment promotion zone	Sri Lanka (1981)
Free export zone	Republic of Korea

- clearly delimited and enclosed areas of a national customs territory, often at an advantageous geographical location (Madani, 1999) with an infrastructure suited to the conduct of trade and industrial operations and subject to the principle of customs and fiscal segregation.
- a clearly delineated industrial estate which constitutes a free trade enclave in the customs and trade regime of a country, and where foreign manufacturing firms, mainly producing for export, benefit from a certain number of fiscal and financial incentives (Kusago and Tzannatos, 1998).

Based on the definitions above, the common characteristics of the free trade zone concept are:

1. *Above average business infrastructure.* Within a fenced industrial estate, tenants are provided with above quality infrastructure and services – compared to the standards of the host country – such as land, office space, utilities, logistics services, business services and other facilities.
2. *More flexible business regulations.* Customs services are streamlined and red tape is kept to a minimum, often through one-stop shopping for permits and investment applications. Labour and other business related legislation is generally more flexible compared to the laws and regulations applied to business located elsewhere in the host country.
3. *An offshore location.* The free trade zone is chosen as a location for business activities moving offshore, away from the markets where the finished products are sold in search of a low or lower cost manufacturing basis.
4. *Focus on export.* Enterprises located within the zones produce mainly or exclusively for foreign markets, markets outside the host country.
5. *Attractive incentive packages.* Major component of the FTZ-concept are the incentive packages offered to foreign investors. These include:
 - unlimited duty drawbacks or exemptions from import duties on raw materials, intermediate inputs and capital goods used in the production of exported products
 - exemptions from the payment of sales tax on exported products as well as on all goods and services domestically purchased and used in their production

- tax holidays, rebates or reduced tax rates on corporate income or profits, linked to the export performance of companies or to the percentage of exports in total production.

Free Trade Zone	<p>In this study we will use the term free trade zone or FTZ as a business estate that offers investors:</p> <ul style="list-style-type: none"> ■ an offshore location ■ above average business infrastructure ■ flexible business regulations ■ attractive tax incentives and lower investment and operating cost.
-----------------	---

2.3 The primary goals of free trade zones

With what purposes in mind have governments established free trade zones in ports and why do they continue to establish these zones? The benefits sought have been extensively examined in the three studies cited below:

- *Export Processing Zones*, a study published as Policy and Research Papers 20 by the Industry Development Division and Energy Department, and Trade Policy Division Country Economics Department of the World Bank, 1992
- *Export Processing Zones: A Review in Need of Update* by Kusago and Tzannatos, published by the Social Protection Group, Human Development Network of the World Bank in January 1998
- *A Review of the Role and Impact of Export Processing Zones* published as a Policy Research Working Paper 2238 by Madani, the World Bank Development Research Group November 1999

Free trade zones are established with the objective of having a positive effect on the economy. From a national perspective the following are the outcomes governments look for from free trade zones:

- *Generation of foreign exchange earnings.* By promoting non-traditional exports, greater export earnings may have a positive impact on the exchange rate. The result is either greater imports at a given exchange rate, or imports at lower cost for domestic buyers.
- *Providing jobs and creating income.* In developing countries workers move from the agricultural sector to better paid jobs in manufacturing. Shifting workers into industrial production has a low opportunity cost to the economy: the economy does not lose much agricultural output and gains additional output of non traditional export goods.
- *Attracting foreign direct investment (FDI) with a larger capital stock for the host country.*
- *Generating technological transfer, knowledge spill-over and demonstration effects.* This will result in local companies engaging in production of non-traditional products. Local suppliers benefit because they are forced to manufacture at world-class production and quality standards which requires extensive training of labour, staff and management.

The United Nations organized a Seminar on Free Trade Zone and Port Hinterland Development at Economic and Social Commission for Asia and the Pacific (ESCAP) in Bangkok, Thailand from 30 November to 1 December 2004. The event attracted participants from China, India, Islamic Republic of Iran, Japan, Malaysia, Republic of Korea, Singapore, Sri Lanka, and Viet Nam. The programme included an interactive session which focused on ways to measure the success of a FTZ-initiative. On the basis of a list of seven criteria, the participants were asked to rank according to order of importance,

the impact certain policies had on FTZs. Their opinion was also sought as to how they expected these priorities to change in the future. Table 2.3 reproduces the results of the priority survey.

Table 2.3 Results of ESCAP workshop poll on role of FTZ

	Ranking now	Ranking in the future
Creating employment	2	2
Attracting investment capital	1	1
Generating export revenues	3	2
Generating port traffic	4	4
Transfer of know-how	5	4
Creating backward linkages through sourcing of raw materials	6	5
Creating backward linkages through subcontracting	7	6

The aggregate scores in the table above reveals no substantial differences in ranking, now or in the future. However, a detailed analysis of the answers of every participant shows that while creating employment and attracting investment are still the top-goals. There is a slow shift in favour of transfer of know-how and, to a lesser extent, creating backward linkages.

2.4 Categorizing free trade zones

Categorizing free trade zones on the basis of geographical destination of output:

- The traditional free trade zone model allows no sales in the country of goods manufactured within the zone.
- Partial sale in the host country is allowed, on the basis of a quota. Examples are the Dominican Republic where companies are allowed to sell up to 20 per cent of output locally and Mexico where the quota is set from 20 to 40 per cent.
- There are no restrictions on selling to the market of the host country, for example, Manaus (Brazil). Selling in the domestic market is advantageous for the zone and fosters backward linkage in the host country.

2.4.1 Categorizing on the basis of geographical diversity

- The FTZ was originally conceived as a fenced-in business estate. The major advantage that the fenced-in FTZ offers is that it facilitates the supply of above average quality sites, utilities, infrastructure and services. The most important drawback is that the impact – in the form of backward linkages and technology transfers – will be limited to the immediate region where the zone is located.
- An alternative is not to limit the FTZ benefits to specific companies located in an identifiable and fenced-in area, but allow companies located anywhere else in the host country to benefit from the FTZ-status. An example of this is an export processing firm.

2.4.2 Categorizing on the basis of ownership/management of the FTZ

- **Public ownership and management.** Most traditional and older zones are run by the government of the host country. Usually the prime focus of these zones is more social and economic policy goals: job creation, FDI attraction, promotion of industry and

diversification. Arguments often quoted against public ownership are: the lack of interest from the (local) government, red tape, indecision and corruption. Some public FTZs have been very successful, examples are: Taiwan Province of China and the Republic of Korea.

- **Private ownership & management.** An increasing number of zones are in private hands. The advantages of privately owned and managed zones are that they tend to be more flexible and innovative and are better equipped to cope with to change. The number of private zones is increasing. The World Bank is one of the most pronounced promoters of the private FTZs. Some examples: Philippines, Kenya, Dominican Republic.

The global trend towards privatization has made privately run zones more popular and a number of highly successful private initiatives have shown that a hand-offs approach from the government works. The role of the government then is primarily to provide a competitive legal framework with attractive incentive packages meeting WTO requirements.

2.4.3 Categorizing on the basis of services offered

- **High-end or low-end zones.** Here the distinction is related to the range of services provided by the zone in terms of management, facilities and services offered. The trend now is to establish an FTZ offering a full service package to its tenants that will develop further in the future.

2.5 Characteristics of FTZs

In these section an overview is provided of the main characteristics of free trade zones, focusing on location or regional spread of FTZs, the geographical origin of inward investment, the types of industry that locate in FTZs and the composition of labour. This section is based on the World Bank SP Discussion Paper No. 9802: 'Export processing zones: a review in need of update' by Kusago and Tzannatos, 1998.

Location

Free Trade Zones are concentrated geographically. A substantial share is located in just two continents. Latin America and the Caribbean account for 48 per cent of worldwide FTZs while Asia boasts 42 per cent. In terms of employment, the former employ 1.2 million workers while the latter 3 million. Africa has another 250,000 workers employed in its zones (ICFTU, 1997).

Foreign ownership

Investment in FTZs originates from a small number of countries. In the three Asian countries listed in Table 2.4 the majority of investors originate from Japan and the United States of America. Kusago and Tzannatos, 1998 observe that the share of newly industrialised countries (NICs) is quite substantial¹. In contrast an interesting feature of Mauritius FTZ is the high share of local ownership.

Types of industry

Traditional industries choosing a location in an FTZ are generally characterized as labour-intensive industries as opposed to technology intensive.

¹ These are countries whose dominant method of production recently became industrial. These economies moved from a labour to a capital intensive industrial structure resulting in labour-intensive production being moved to other developing countries.

Table 2.4 Foreign ownership in FTZs (based on Kusago and Tzannatos, 1998)

	Malaysia 1990 (%)	Republic of Korea 1991 (%)	Philippines 1996 (%)	Mauritius 1984 (%)
Local	14.2	27.2	12.6	43
Japan	36.6	68.9	22.2	
United States of America	17.7	0.7	35.6	2.3
Other Western Economies	12.6		5.5	11.2
Newly Industrialized Countries	15.8		18.3	38
Others	3.1	3.1	5.8	5.5
Total	100	100	100	100

According to Kusago and Tzannatos, 1998, the ratio of investment made in labour intensive industries to the total investment in FTZs comes to 66-68 per cent in Masan (Republic of Korea), Kaohsiung (Taiwan Province of China), Lat Krabang, (Thailand) and 56 per cent in Shenzhen. The ratio of labour intensive industry in employment declined in many countries: from 70 to 65 per cent in the Republic of Korea, from 67 to 47 per cent in China, from 89 to 76 per cent in Malaysia, and from 92 to 62 per cent in Sri Lanka.

In general, the textile and electronics industries are the largest employers. There are obvious risks linked to such a concentration. A decline in one of these industries or a change in comparative advantages resulting in massive relocation will result in significant job loss (see Table 2.5).

Manufacturing remains the dominant activity in free trade zones, although service activities generally also qualify for FTZ status. A good example of a free trade zone that has successfully diversified into services is the Shannon Free Zone which has attracted data and financial services. According to Kusago and Tzannatos, however, the proportion of workers in services is still less than 10 per cent in the majority of zones.

According to UNCTAD, the offshoring of service functions is at an early stage as the first steps to relocating service activities to lower cost locations only began in the 1980s. The *World Investment Report*, published by UNCTAD annually has focused its 2004 edition on this phenomenon. According to UNCTAD, the market for offshore outsourcing of IT-enabled services was estimated at \$1.3 billion, which represents a market share of less than 1 per cent.

UNCTAD expects offshoring of services to accelerate further in the foreseeable future. Offshore outsourcing of business processes is expected to grow from \$1.3 billion in 2002 to \$24 billion in 2007, raising the international share of the total market from 1 to 14 per cent in five years. Among the world's 1,000 largest companies, some 70 per cent have still not offshored any business processes to lower cost countries.

Table 2.5 Industrial sectors in FTZs (International Labour Organization, online)

Country	Sector	Employment (%)
Dominican Republic	Textile and clothing	66
	Leather and footwear	7
	Other light manufactures	15
El Salvador	Textile and clothing	78
Guatemala	Textile, clothing and footwear	68
	Other light manufactures	18
Honduras	Textile and clothing	97
Mauritius	Textile and clothing	88
	Leather and footwear	1.7
	Food processing	2
Mexico	Electrical and electronic products	35
	Transport equipment	25
	Textile and clothing	11
Madagascar	Textile and clothing	82
	Food processing	5
	Data entry/processing	0.1
Jamaica	Textile and clothing	90
	Data entry/data processing	8
Malaysia	Electronics	65
	Textile and clothing	11
	Scientific and measuring equipment	9
Saint Lucia	Textile and clothing	72
	Data entry/data processing	3
Sri Lanka	Textile, clothing and leather	66
	Chemical, petroleum, coal, rubber and plastic products	11
	Other light manufactures	16
Togo	Chemical products	26
	Textile and clothing	24
	Food processing	21
Bangladesh	Textile, clothing and leather	66.5
	Sports goods	20
	Electrical and electronic goods	5

Case Study 2.1 Offshoring Services to India

Based on the World Investment Report 2004 – *The Shift Towards Services*

United Nations

The off-shoring of software development and, later, back-office and call centre services, has driven India's rapidly expanding service exports. During the past decade, the value of exports of software and other services jumped from less than a \$0.5 billion to \$12 billion in 2003-2004. In parallel, the export intensity of the Indian software and service industry rose from 58 to 78 per cent, and the share of these services in total exports from India increased from 3 to 21 per cent between 1996 and 2003.

Whereas software exports still account for the lion's share of these exports, IT-enabled services have emerged as an increasingly important component, rising from \$0.6 billion in 1999-2000 to the current level of \$3.6 billion. In 2001, India's share of the global market for offshore IT and IT-enabled services was estimated at 25 per cent – second only to Ireland – while for offshore IT-enabled services only the figure was as high as 67 per cent. According to estimates by NASSCOM, the market for IT-enabled services will continue to grow fast and could be worth \$17 billion by 2008.

What has been the role of FDI in India's success as an offshore location?

While foreign investors have created new software jobs in India, most of them entered the country when the domestic industry was already well developed. India has earned a strong reputation on account of high quality services. IT firms in India typically hold the necessary quality certifications.

In contrast, FDI has played a critical role in India's exports of back-office services. Today, a large number of foreign affiliates operate IT-enabled services in India. In 2002-2003 they accounted for 58 per cent of exports of offshored business processes.

Among IT-enabled services, companies are offshoring to India customer care, finance, human resources, billing and payment services, administration and content development. There is increasing offshoring of upcoming service lines involving higher value added activities such as engineering and design, knowledge processing and logistics.

It has been estimated that the industry generates about 240,000 jobs. The customer-care segment accounts for about 39 per cent of employment, and has recorded the highest growth rate in recent years.

The total number of foreign affiliates in IT-enabled services in India increased from 57 to 102 between 1997-1998 and 2002-2003. As a result, the share of foreign firms in the total number of firms in this industry rose from about 13 to 20 per cent. The export intensity is as high as 93 per cent for foreign affiliates, whereas the corresponding share for local firms was about 70 per cent.

Employment in foreign affiliates has expanded faster than in local firms during the past five years. In software development, foreign firms now account for about 20 per cent of total employment; in IT-enabled services the share is about 28 per cent (RIS 2004). There is hardly any difference in the employment intensity of foreign and local firms, but highly skill- and designintensive activities generate fewer jobs than less skill-intensive activities such as data entry. In software development, the average employment per \$1 million of exports is in the order of 30 persons. For the IT-enabled service industry as whole, this figure is about 68 persons, and it is 88 for content development and 79 for customer care. Thus, employment generation in software is only about half of that in IT-enabled services.

(Source: UNCTAD, 2004)

Composition of labour in FTZs

The creation of employment is the first and foremost reason for the establishment of a FTZ. Analysis of the labour composition in FTZs indicates that women's share of total employment in FTZs is substantially higher than in both the economy as a whole and the manufacturing sector outside the FTZ.

In many host countries the zones have made it possible for unpaid homemakers, women who are heads of households, those in the agricultural sector and school leavers with very few job prospects to find paid employment in industry. Employers have a strong preference for women production workers, since it is believed that manual dexterity, patience and other 'gender-specific attributes' make them more suitable than men for carrying out tasks that are repetitive and demand painstaking attention to detail. Another view is that women workers are preferred because they are considered less likely to press demands for better pay and working conditions.

Table 2.6 Employment in FTZs (adapted by Secretariat from Kusago and Tzannatos, 1998)

		Employment in FTZs (%)	Employment Outside FTZs (%)
Malaysia	1980	75	35.6
	1990	53.5	47.2
Republic of Korea	1987	77	41.7
	1990	70.1	42.1
Philippines	1980	74	–
	1994	73.9	45.2
Sri Lanka	1981	86.3	29.8
	1992	84.8	46
Mauritius	1984	78.9	–
	1987	66.2	–

Aged between 18 and 25 years, most of the women are single, with primary school education and little or no previous work experience. There are, however, some contexts in which at least one-third and as much as half of them have completed secondary education (e.g. Sri Lanka, Panama and the Philippines). Since for most workers training is generally on-the-job, of relatively short duration and task-specific, it does not provide the basis for upward mobility either within or outside the given enterprise.

Consequently, while women have a relatively high profile in clerical positions, which are traditionally considered women's jobs, they are largely underrepresented in skilled and technical occupations and at the supervisory and middle-management levels. On the whole, women, regardless of their level of education, comprise the bulk of the unskilled and semi-skilled production workers and this is particularly pronounced in the textile, clothing, leather and electronics industries. However, one of the United Nations Millennium Development Goals (MDGs) agreed by member states, tackles the issue of gender inequality and the empowerment of women. The goals relate to targets addressing specific problems in the areas of education, environment, gender, health and poverty which are due to be completed by 2015.

Wages and working conditions

Pay and Working Conditions in most FTZs are either similar to or better than those in comparable manufacturing enterprises in other parts of host countries. Traditionally wages are usually negotiated on an individual basis (i.e. employee to employer) or through collective bargaining (i.e. union to employer). However some countries have statutory minimum wages stating the lowest level at which an employee

may be paid (e.g. Thailand, United Kingdom, etc.). In such countries wage policies tend to consist of a minimum hourly; daily; weekly or monthly rate and vary by skill category (i.e. the more skilled the employee the higher the minimum wage). In some countries recommended minimum wages may differ between zones and ceilings rates by skill category may apply to all firms regardless of whether or not they are located in a FTZ.

Average monthly wages, which generally include bonuses, allowances and overtime pay, can vary widely within a given zone or a host country. The difference between the lowest and highest average monthly wage can be as little as 20 per cent, as is the case in Panama and as much as 150 per cent, as in El Salvador and Kenya, whilst in other countries like China the difference stands at 66 per cent.

For the most part FTZ employers reportedly pay more than the minimum wage set by government or the zone administration, and in most countries average monthly wages are said to be higher in businesses within the zones than in other comparable firms.

A survey was organized in the framework of a workshop on free trade zones and multinational companies, by the International Textile, Garment and Leather Workers' Federation (ITGLWF) and the Textile Workers' Asia Regional Office (TWARO) in 1994 (ILO, 1996). The survey demonstrated that the differences in wages in FTZs as opposed to those outside are not that striking in the textile, garment and leather industries which are major employers in most Asian FTZs. One possible reason for this may be the low level of skills required in apparel industry. Only in Bangladesh and Penang (Malaysia) were the average wages in factories in the zones higher than those in similar non-EPZ establishments.

2.6 Definition of port hinterland

Port hinterland is one of the most important concepts in transport geography, but often the exact meaning is vague and dependant on speakers and listeners. Literally, hinterland means the land behind a city or a port. A port's hinterland is the area from which the port's customers are drawn from. Following are general definitions of port hinterland. The hinterland is the:

- area where a port has a monopolistic position (Fageda, 2005)
- origin and destination area of a port, that is, the inner region provided by a port (Fageda, 2005)
- land space over which a port sells its services and interacts with its clients
- the market area served by a port and from where a port draws its cargo
- market reach of the port, that is, the areas from which cargo originates, as well as the areas where cargo moving through the port is destined. Some ports will have hinterlands that extend across many states, while other ports will have smaller hinterlands (Strauss-Wieder Inc., online).

Figure 2.1 shows port hinterland concept and Figure 2.2 shows port functions and the port hinterland at the same time. In Figure 2.1 port hinterlands are composed of two kinds of hinterlands, the main hinterland and competition margin hinterland. The main hinterland is an exclusive area where a port has a monopolistic position in drawing cargo. The outer area is a competition area where more than two ports compete for cargo. A regional port (sometimes referred to as a spoke port), is usually located within the port hinterland of the main port (hub port) and acts as an intermediate transport node/FDC (see Figure 2.1).

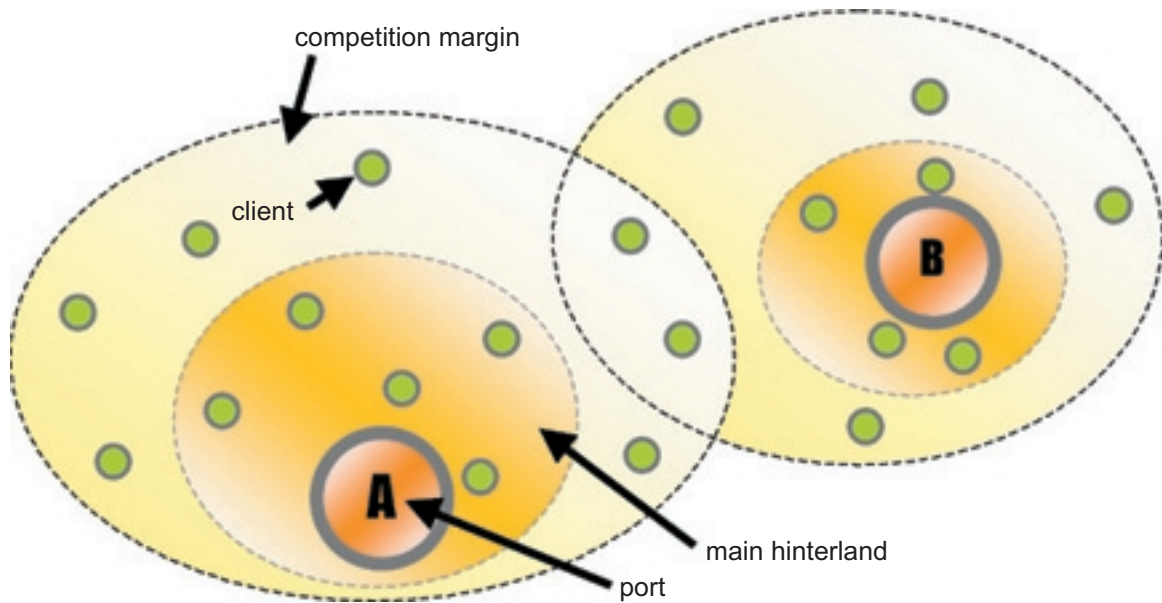


Figure 2.1 Port hinterland concept (Rodrigue, 2005)

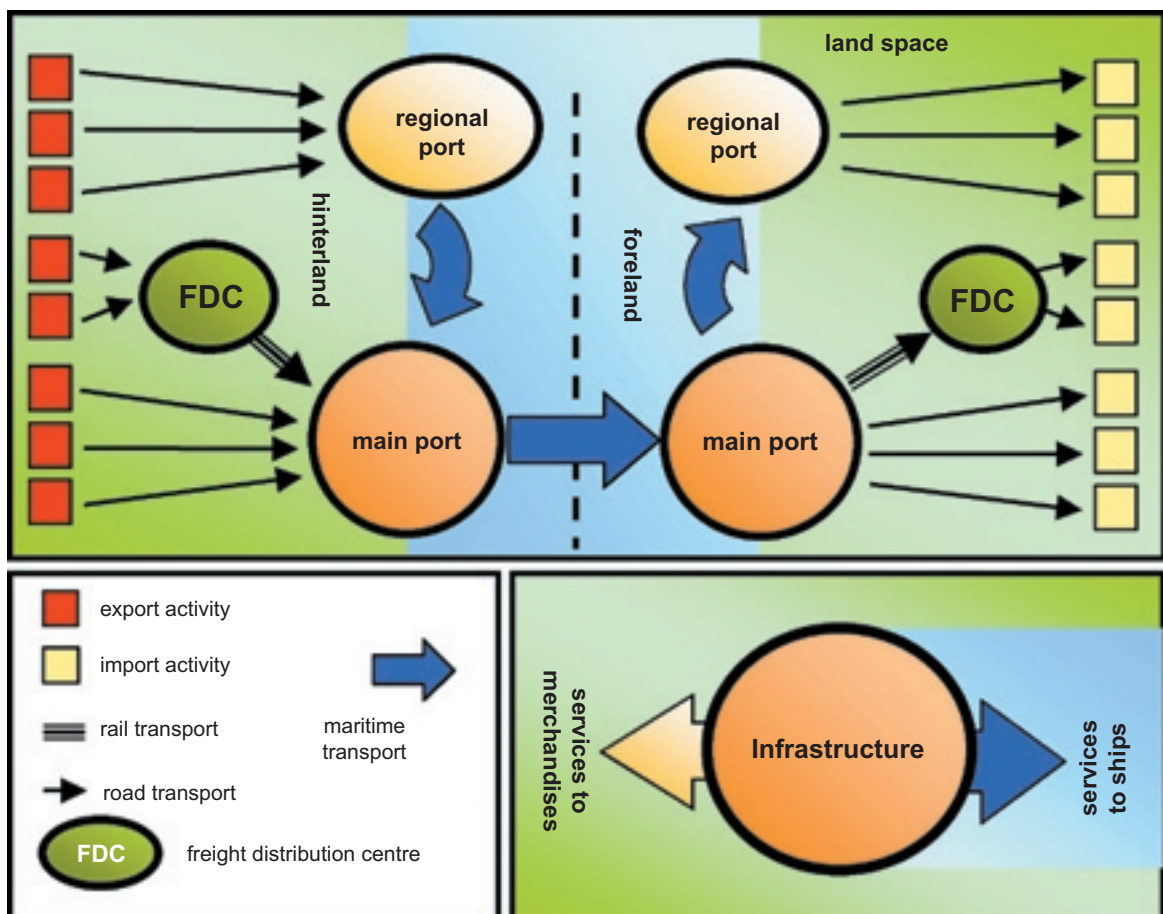


Figure 2.2 Port functions and hinterland (Rodrigue, 2005)

However, the development of intermodality makes the exclusive hinterland into a common hinterland where different ports share facilities. The border of a hinterland between different ports will now depend on the development of intermodal transport corridors and not on the exclusive market area of each port. This has the effect of placing in direct competition with one another ports that are quite geographically separated (Fageda, 2005). Figure 2.3 shows the competition for German containers among neighbouring ports.

In terms of clients or cargo it can be said that the port hinterland is an area from where a port draws its cargo or clients (Figure 2.3). This is a broad and generally accepted concept of a port hinterland. It can narrowly be defined as an exclusive geographical area from which cargo comes to a specific port for shipping elsewhere. The hinterland is, therefore, influenced directly by the port. Sometimes a port hinterland also means a jurisdictional area where a port authority controls with official sanction. All these concepts can be applied differently for specific purposes.

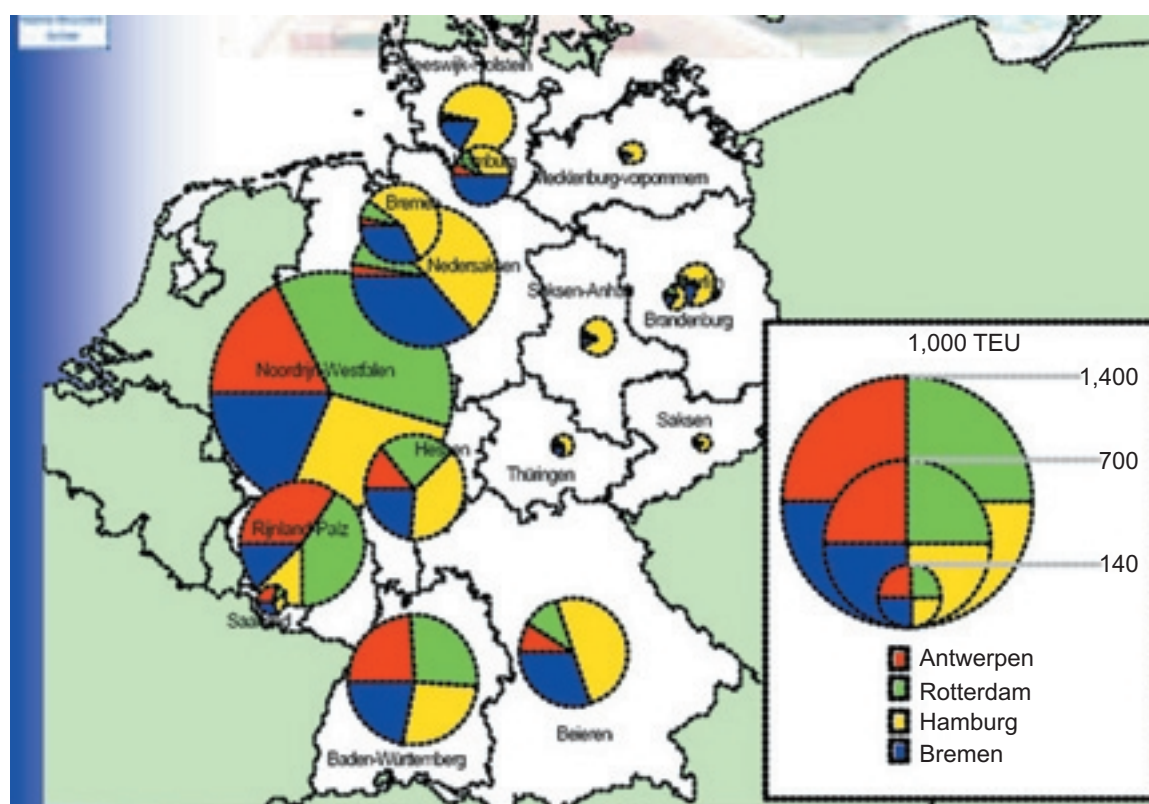


Figure 2.3 The battle for the (German) hinterland (figures 1997) (Notteboom, 2005)

Because a variety of definitions of hinterland are possible, a single, simple interpretation has been adopted for this report.

Port Hinterland	<p>In this report port hinterland means:</p> <p>the land area located in the vicinity of a port such as immediately nearby or within the port boundary, and functioning interactively and closely with a port by providing various business activities, whether or not the hinterland is within the administrative jurisdiction of the port authority.</p>
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2.7 Port and port hinterland development models

During the last few decades the role and functions ports and the services they provide have undergone significant changes, with greater emphasis being placed on port hinterland development. Figure 2.4 shows a conceptual model of port development in a Venn diagram. The complexity of port activities and the special circumstances surrounding the growth of a port mean by placing ports into a model, the reader can more easily comprehend the concept of port development thus helping to formulate a development strategy.

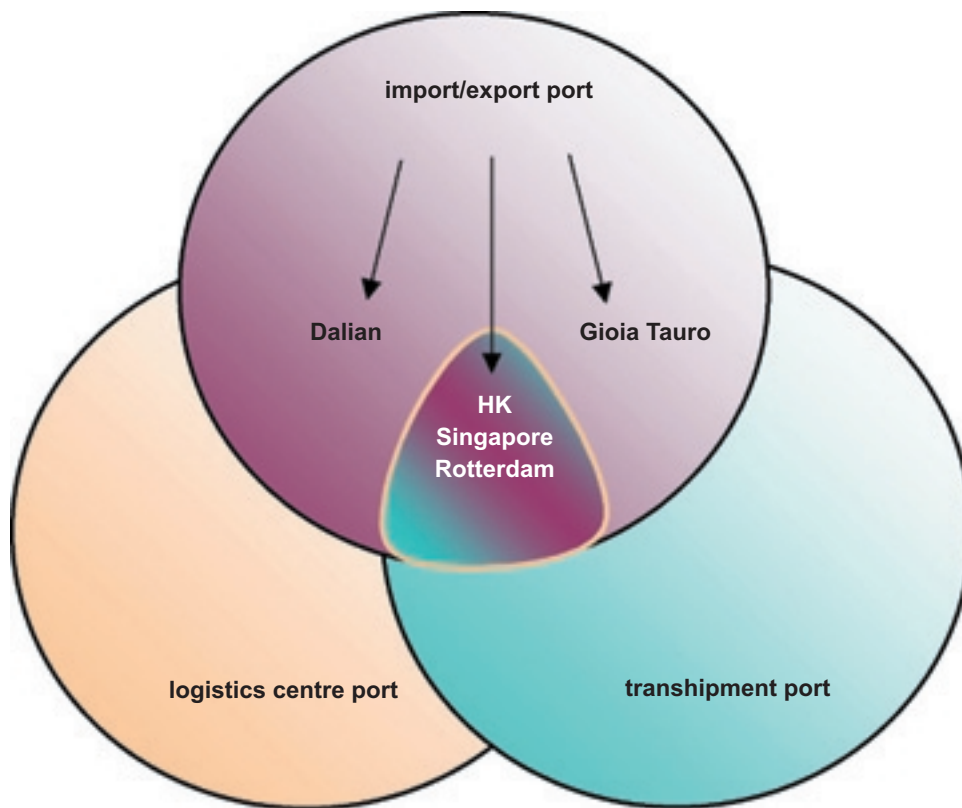


Figure 2.4 Conceptual model of port development
(adapted by ESCAP secretariat from Valentine & Gray, 2000)

There are fundamentally two kinds of cargo: import/export cargo; and transshipment cargo. Handling import/export cargo is critical for a country to develop its domestic economy and industry. Transshipment cargo is different; such cargo is not vital but optional for a country's economic development. Transshipment gives additional revenue and brings other opportunities to develop a country's logistics industry based on the resources of the transshipment cargo industry.

The concept of transshipment is usually defined as the movement of cargo through an intermediate port en route from the origin port to the destination port. This description is from the perspective of a shipping line. From the perspective of a port, transshipment can be defined as all cargo arriving at a port from another country irrespective of the mode of transport. With the development of land transport networks and the opening of land transport borders between countries, ports compete for cargo from a larger hinterland. This extension of the hinterland is linked to the development of intermodal transport. The port hinterland can thus be defined broadly as the market area from where a port draws its cargo or clients (see section 2.6, Definition of port hinterland).

In Figure 2.4 the import/export model and the transshipment port model are related to the type of cargo dealt with by the port. In contrast, the logistics centre port model is related more to the services provided. In other words, the port development model that is most appropriate to a specific port is determined by the type of cargo handled and services provided.

The traditional role of a port was naturally focused upon import and export cargo. This is because port business, like the shipping business, is a derived demand; that is, the use of the facilities is derived from the demand of local importers/exporters. Whilst this is still the case in shipping, the same no longer applies to ports. As international trade has increased and become more complex, this traditional role of ports has evolved to include transshipment cargo and more recently the provision of logistics centres. The benefit for ports moving from the traditional role, as depicted in the Venn diagram in Figure 2.4, is the opportunity to increase revenue without reliance upon the local hinterland. The movement of ports from one segment for another is aided by location; that is, the distance to the main shipping routes or larger markets. The objective for developing ports is to move from a solitary segment (traditionally the import/export port) at the top of the Venn diagram into the overlapping segments as this increases market share and adds to diversification. There is also a multiplier effect as more business is attracted to the 'cluster' of businesses. This fact has enabled small countries such as Singapore or Holland to have cargo volumes far larger than their national hinterland would warrant.

What this clearly shows for developing countries is the need to identify the potential opportunities for a move into other segments. Being close to a main international shipping lane allows for easier movement into the transshipment segment, whereas closeness to a large market hinterland allows for an easier move into logistics centre segment. The Port of Dalian in China, because of its location away from main shipping routes (its location is close to regional shipping routes), has thus opted for a move into the logistics centre segment, as its hinterland extends to the border of the Russian Federation and Mongolia. This is in contrast to Gioia Tauro in Italy which is close to the main shipping routes, but not to a large land hinterland; hence its movement into the transshipment segment.

To enter into the central shaded part of the diagram in Figure 2.4 (like Hong Kong, Singapore and Rotterdam) a port has to establish a dedicated space for logistics business clusters, adjacent or within the port boundary. In general that dedicated space is best designated as a special zone such as a FTZ or logistic park in order to promote/control the type of business which operate there. Port hinterland development is thus an essential element in advancing a port in the current business climate.

2.8 External environment for development of the port and logistics industry

Most international ports have already engaged in implementing FTZs and port hinterland development with the hope of becoming hub ports. A great deal of money has been invested by many ports in order to develop the physical infrastructure just to take part in this competition between facilities. Unfortunately, investment does not always guarantee success.

Companies can make significant savings in total logistics costs by taking advantage of port hinterland areas dedicated to logistics activities. Value-added logistics services such as delayed manufacturing can be made through the international procurement of raw materials and regional assembly.

Recent significant progress in trade liberalization is good news for the port and logistics industries. The reduction of tariff and non tariff barriers due to free trade agreements (FTA) such as bilateral, tripartite or regional trade agreements involving block economies will result in increasing world trade. This will increase the importance of distribution and consolidation centres as companies had previously needed to set up centres in almost every country in order to avoid entry barriers into a country where no free trade treaty existed.

According to the WTO (*World Trade Report* 2003) a total of 259 regional trade agreements (RTAs) had been notified to the GATT/WTO by the end of December 2002, although only 176 RTAs were in force in 2002. An additional 70 RTAs are estimated to be operational, although not notified and about 70 were under negotiation. As of March 2003, only four WTO Members – Hong Kong, China; Macao, China; Mongolia and Taiwan Province of China were not party to a regional trade agreement. With the sole exception of Mongolia, these WTO members were all engaged in negotiations on preferential agreements. However, now Mongolia is looking at membership to the Bangkok Agreement, a regional trade agreement.

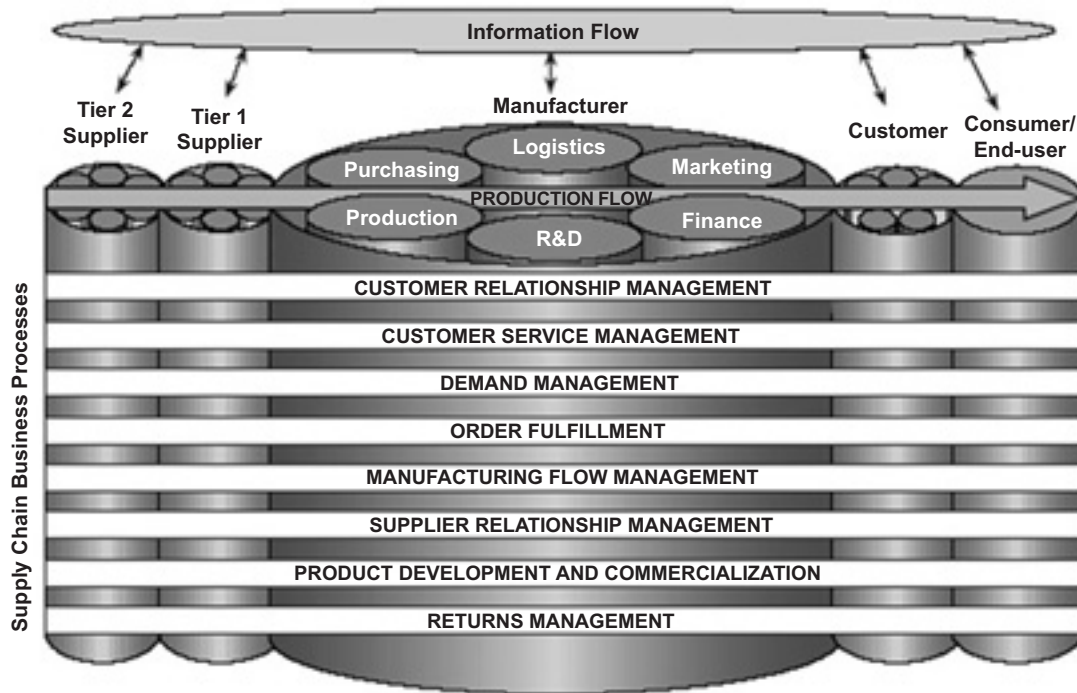


Figure 2.5 Integrating and managing business processes across the supply chain
(Croxtan *et al.*, 2001)

The companies hoping to enhance and even to maintain their global competitiveness have recognized that supply chain management (SCM)² and logistics systems arrangement are the most critical factors in optimizing their global business and logistics systems. Figure 2.5 illustrates SCM, with eight key business processes which run the length of the supply chain and cut across a firm's functional silos. Functional silos include marketing, research and development, finance, production, purchasing and logistics. Activities in these processes reside inside a functional silo, but an entire process will not be contained within one function (Croxtan *et al.*, 2001). Figure 2.6 shows the activities making up the supply chain. The SCM and activities involved in supply chain can be understood by combining Figure 2.5 and Figure 2.6 (refer to Chapter 5 for further details regarding supply chain management).

Global companies are continuously under pressure to reduce costs, to focus on core competencies and to satisfy their customers. To this end they have been forced to consider not only globalizing their manufacturing activities but also to rely increasingly on just-in-time inventory management systems. One of the best options for companies is to introduce the so-called consolidation centres or logistics hubs around transport nodes. Companies can thus provide a more customer-oriented, creative service with faster delivery time, higher and more consistent reliability. By establishing a highly responsive supply chain, companies can cater for fluctuations in demand, compress unproductive time in the supply chain and collaborate with suppliers and buyers for a more reliable partnership with minimal inventories.

² One definition of SCM is 'the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders' (Croxtan *et al.*, 2001).

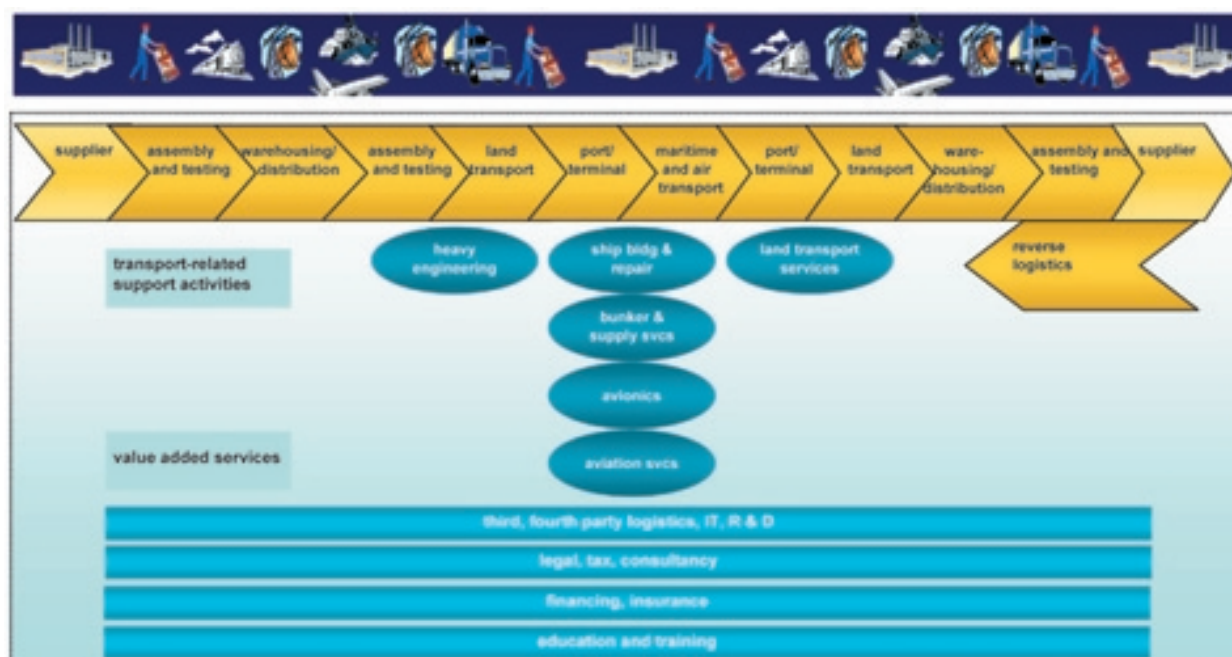


Figure 2.6 Activities making up the supply chain (Economic Review Committee (ERC), 2002)

With rapid developments in transport and information and communication technologies worldwide, the logistics market is growing fast. The global SCM market is estimated to grow to US\$ 173 billion in 2005, representing a compound annual growth rate of 10 per cent (Economic Review Committee, 2002). Annual SCM growth rates are projected at 7 per cent in Europe, 10 per cent in North America, and 15 per cent in Asia. The high growth rates for Asia are confirmed by a JP Morgan Research survey which showed that Asian shippers have outsourced only about 2.5 per cent of their logistics functions as compared to between 20 to 25 per cent by their American and European counterparts. The survey also revealed that Asian companies are showing strong interest in revamping their supply chains and integrating them with operations worldwide (Economic Review Committee, 2002). China's logistics market, for example, is estimated to grow by 20 per cent annually. The statistics from the Chinese Ministry of Commerce show that China's logistics industry in 2004 achieved 788 billion RMB, a 10.5 per cent year-on-year increase. The Chinese logistics market, when compared to markets in developed countries, is still in its infancy. There are many logistical bottlenecks in China, giving rise to a potential for improvement (German Chamber of Commerce, 2005). China's entry in the World Trade Organization (WTO) is a strong incentive for the development of China's modern logistics, considering also that China's imports and exports have been growing so fast that it has become the world's fourth largest economy after the United States of America, Germany and Japan.

Table 2.7 shows the intra-regional and world trade for merchandise. Asia recorded about 50 per cent in intra-Asia trade, which is relatively low compared with intra-regional trade shares of America and Western Europe recording 60.7 per cent and 67.7 per cent respectively.

There is a strong potential for an increase in regional intra-trade in Asia due to the fast economic development of many Asian countries. This, combined with the gradual removal of trade barriers in Asia, will lead to an increase of trade volume and demands for port capacity and consolidation centres in Asia. Hong Kong, for example, achieved 8 per cent annual growth of container throughput in 2004, handling 22 million TEUs. Considering the growing competition with Shenzhen Port in China, this growth rate is significant. According to the Hong Kong Shippers Council, throughput growth in Hong Kong in 2004 was driven by intra-Asia trade.

Table 2.7 Intra-regional merchandise trade, 2003 (WTO, 2004)

	Total trade value (billion dollars)	Intra-regional trade value (% share)
America (North+Latin)	1 375 (100%)	834 (60.7%)
Western Europe	3 145 (100%)	2 130 (67.7%)
C./E. Europe/Baltic States/CIS	401 (100%)	98 (24.4%)
Africa	173 (100%)	18 (10.4%)
Middle East	299 (100%)	22 (7.4%)
Asia	1 901 (100%)	949 (49.9%)

Table 2.8 Intra-regional trade of major RTAs, 2003 (WTO, 2004)

	Intra-trade value (billion dollars)	Share in world exports (%)	Share of intra-regional trade (%)
EU (15)	1 795	24.6	61.9
NAFTA (3)	651	8.9	56.1
AFTA (10)	105	1.4	23.3
CEFTA (7)	29	0.4	13.6
MERCOSUR (4)	13	0.2	11.9
ANDEAN (5)	5	0.1	9.4
Total	2 598	35.6	

2.9 Implications of logistics-oriented FTZs and port hinterland development

2.9.1 Traditional FTZ concept

The concept of FTZs has changed rapidly along with the economic situation and external environment. In general conventional FTZs or EPZs, irrespective of the name used, focus upon labour intensive manufacturing processes of an unskilled nature. This often results in poor labour rights, health issues, low wages and exploitation of young, often female, workers. FTZs are usually adopted by developing countries which lack a mature, modern business environment and appropriate resources for development, education, technology capacity and efficient government, all of which are needed to develop the whole country. Even though many economically advanced countries still maintain FTZs, the role and contribution of these special zones have become very limited.

The conventional FTZ policy is still widely considered one of several economic policies available to developing nations for promoting national economic development and attracting foreign companies. However, the likelihood of an FTZ succeeding will be higher in developed countries than those that are least developed. The former are able to provide a relatively stable and standard business environment with skilled labourers, domestic technology capacity and government efficiency. The types of businesses attracted are dependent on the level of these factors provided. Malaysia, having a relatively high level of domestic technology, for example, has attracted both labour intensive and high technology dependent businesses together.

2.9.2 Recent trends in FTZs in port hinterland

With the worldwide advance of ICT and transport technologies, demand for SCM from multinational companies has increased significantly in the last decade. This demand has created and enlarged the

SCM market, and much of SCM is related to information management and value-added services such as light assembly and processing, procurement of raw materials and parts, consolidation, testing and packaging. All of these activities are very closely related to international transport nodes such as airports and seaports.

The provision of space for logistics activities within the port has been catered for in many countries and is seen as one of the important policies in logistics-oriented FTZ or logistics parks (zone)³.

These logistics-oriented FTZs or logistics parks are not the same concept as the traditional labour intensive manufacturing oriented FTZs. Figure 2.7, for example, shows the share of business sectors in the enterprises within the port hinterland of the Port of Rotterdam and the Port of Singapore. More than 60 per cent of enterprises within the port hinterland are logistics companies while 14 to 23 per cent of enterprises are shippers from manufacturing companies and trading companies.

China has introduced eight bonded logistics zones since December 2003. The main reason behind the establishment of these zones is to promote interactions among ports, existing FTZs and these bonded logistics zones.

The Republic of Korea has also introduced FTZs in port hinterland areas such as Busan, Gwangyang, Incheon and Incheon airport with total areas of 16.5 square kilometres. These FTZs are logistics-oriented zones for international transshipment, distribution, procurement and entrepot trade.

Hong Kong, China, even though it is a free port and the busiest container port in the world, has planned the development of Lantau logistic park covering 72 hectares located on the north shore of Lantau Island. This Lantau logistic park will be completed by 2009 and offer value added services. Box 2.1 shows more details regarding the development of the Lantau logistics park.

Traditional FTZs and logistics FTZs are both considered as outside of customs territory⁴ as a matter of policy, and they act as catalysts of economic development. Recent emphasis centres upon the enhancement of interactions between several zones, such as zones mainly for manufacturing and zones for logistics activities, as well as airports and seaports in order to achieve synergy. The logistics-oriented FTZs or logistic parks can be at the centre of developing and achieving this concept.

number of companies**	68	289*
logistics	63%	66%
shippers (domestic and foreign) manufacturing trading/wholesalers	14%	23%
others	23%	11%
	Port hinterland of Rotterdam Port	Port hinterland of Singapore Port

Figure 2.7 Shares of business sectors in enterprises within port hinterland, 2003

Note: * The number does not include the enterprises leased from Jurong Town Corporation (JTC).

** The number is subject to changes according to definition of port hinterland. (Arthur D. Little, 2003)

³ In general FTZ can be considered as multi-functional zone whilst in a logistics park only logistics related. Activities are allowed. The concept of FTZ and logistics park, however, can be different from above explanation due to their country specific characteristics.

⁴ Hong Kong's logistic park, may be considered outside of the customs territory since it largely a free port.

Box 2.1 Hong Kong, China's New Logistics Park

To maintain Hong Kong's position as a transportation and logistics hub, a new logistic park is planned on North Lantau Island. A recently completed study has also confirmed the preliminary technical feasibility of the park and defined the scope of the follow-on detailed feasibility study. The logistic park will be close to the product source and enjoys excellent transportation links. The access to air and sea transport. Customers' needs can therefore be satisfied through integration of sourcing, processing and transportation. Situated in the Pearl River Delta, as one of the most important manufacturing centres in the world, links to the Hong Kong International Airport and Kwai Chung container port, is seen as a great opportunity for future development.

The Lantau logistic park will also, as required by the industry, offer value added services such as cross-docking, customization, kitting, labeling, management reporting, merge-in-transit, manufacturing support, order taking, pick- and pack, repair or refurbishment, reverse logistics, special packaging and sub assembly. Furthermore associated services could also be provided, such as call centre management, consultancy services including systems integration and process reengineering, customs brokerage, freight consolidation, project logistics, purchase order management and last but not least quality control.

Concerning the IT infrastructure, a high speed data connection and access to the Digital Trade and Transportation Network System is planned.

Conveniently located on the north shore of Lantau Island, the 72 hectare park will provide 40 hectares of net rentable land, will be directly accessible from the North Lantau Highway that links the airport with Kwai Chung container port and downtown Hong Kong. The journey from Central to the Park will take around 30 minutes, from Tung Chung Mass Transit Railway station it takes 5 minutes to the park.

(Source: German Chamber of Commerce, 2005)

2.9.3 The concept of logistics FTZs or logistic parks

Logistics-oriented FTZs or logistic parks are essentially a cluster of logistic related businesses that provide various services, including CFS (Container Freight Stuffing), storage, consolidation and distribution, and value added services. Table 2.9 and Figure 2.8 provide a detailed explanation.

Table 2.9 Basic functions of a port hinterland (Arthur D. Little, 2003)

Functions	Definitions
CFS	A warehouse where cargo is stuffed into and unstuffed from containers. The location taking place container packing and unpacking activities to make FCL with LCL cargo.
Storage (including refrigerated warehouses)	A place to store cargo before the cargo delivers to a final consignee. The place for storage of cargo before it is carried to port terminal for loading.
Consolidating and distributing	The location where cargo is consolidated and stored to be distributed to regional storage warehouse or other markets.
Value added services	Additional activities such as assembling, processing, labeling etc. before cargo is transported to inland areas or shipped for other countries. This is a combination of logistics and industrial activities.

Based on these functions of the port hinterland, the preferential taxation and tariff system in logistics-oriented FTZs provide another valuable service for manufacturers. Figure 2.9 provides an example of the logistics-oriented FTZ concept. One of the big issues facing companies who export from a specific country is the value-added tax (VAT), for instance, 10 per cent in the Republic of Korea and as

CFS	19%	19%
Storage	37%	40%
Consolidation & distribution	33%	23%
Value added services	11%	9%
Refrigerated storage	–	9%
	Port hinterland of Rotterdam Port	Port hinterland of Singapore Port

Figure 2.8 Shares of major functions of a port hinterland (2003)
(The Ministry of Maritime Affairs and Fisheries of the Republic of Korea 2003, analyzed by Arthur D. Little)

high as 17/18 per cent in China and Europe respectively⁵. VAT is levied on each transaction on virtually all goods and services in most countries. Without FTZs or logistic parks, a company importing raw materials and processing them in a factory may have to pay VAT.

The VAT is, in general, a burden for manufacturers; some of them export unassembled or incomplete products to third countries, and then re-import them for secondary processing in order to reduce this tax burden. Many companies handle the entire manufacturing process while keeping the cargo in bond by repeating exports and re-imports in some countries. In this case, the manufacturer has to also wait to start procedures for VAT refunds until the cargo is exported from the conventional warehouse. The biggest advantages of logistics-oriented FTZs or logistics parks are that they allow exporters not only to reduce their tax burden, secure long-term storage of export cargo but reduce the double movement of goods.

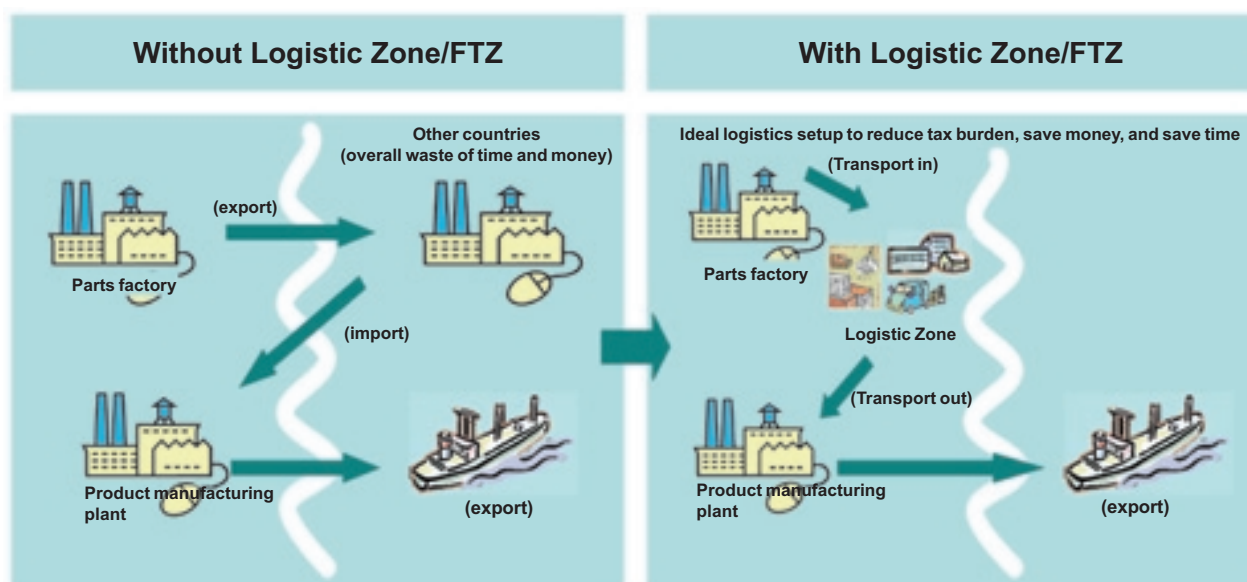


Figure 2.9 The concept of logistics-oriented FTZ or logistic park
(adapted by ESCAP secretariat from MOL Logistics (Japan) Co., Ltd.)

⁵ The exact rate of VAT is subject to change according to a specific country's regulation, and the concept of VAT is also country specific. For more accurate information, please refer to the specific country's regulations on VAT.

2.10 FTZs and other special zones for economic development

There are many special zones which have been introduced into many countries in an attempt to boost economic development (see Figure 2.10). While it is difficult to identify each of them using standard definitions due to their variety and the variety of countries in which they are found, the following explanation of the types of special zones provides a reasonable guide.

Special economic zone (SPZ) or free economic zone (FEZ)

- A special or free economic zone covers a large area, including residential areas and hospitals, schools and other business and supporting facilities and infrastructures. It promotes FDI by providing a good business environment with several incentives, such as a global standard level of labour regulation, allowance of repatriation and reduction of taxation for foreign investment, all of which might not be controlled under domestic regulation but under specially designed regulation appropriate to the nature of the facility.
- Within this type of zone almost all economic activities are allowed and the zone is not outside of customs territory.
- Sometimes other special zones, such as a FTZ, can be established within this zone.
- This type of zone is like a microcosm of a country.

Export processing zone (EPZ)

- An export processing zone can be seen as a traditional zone acting as a manufacturing/processing works for exports, and considered as outside of customs territory.
- Industry sectors within this type of zone are usually labour intensive and low skills industries such as producing garments, textiles, shoes, timber, plastics and electronic components using low cost labour.
- In general, domestic sales of products manufactured within this zone are limited. Some percentage of products can be sold in the domestic market.
- The area covered is relatively small in size, up to two or three square kilometres.

Free trade zone (FTZ) or logistic park (LP)

- A free trade zone is focused on international trade, especially value-added logistic activities involving light manufacturing and processing.
- The zone is outside of customs territory, and is very similar to an EPZ.

Industrial zones or complexes

- An industrial zone is a platform for a manufacturing industry and provides industrial clusters.
- Domestic manufacturers and a few foreign investors establish their factories to take advantage of relatively good supporting facilities for manufacturing. For FDI, this type of zone often is transformed into an exclusive foreign investment zone for manufacturing.
- In general, this type of zone is not outside of customs territory.

Distribution zone or complexes

- Within a distribution zone logistics activities are carried out with public warehouses. Usually this area is not considered as outside of customs territory.
- Inland container depots (ICD) are included this type of zone, but ICDs are generally outside of customs territory.
- Distribution zones are usually dedicated to consolidation and distribution and located in strategic inland areas to cover several domestic markets and to provide transportation to other transport nodes such as seaports, airport and rail stations quickly, conveniently and easily.

Other zones

There are many other special zones such as exclusive research and development zones or tourism zones, each designed differently according to the specific purpose of the zone. For example, visa exemption might be applied to all visitors entering into specially designated tourism zones.

Within these definitions, several special zones can be combined and used to promote the development of a nation's economy. Whilst it is not a definitive explanation of specific national policies, Figure 2.10 helps the reader understand the concept of special zones.

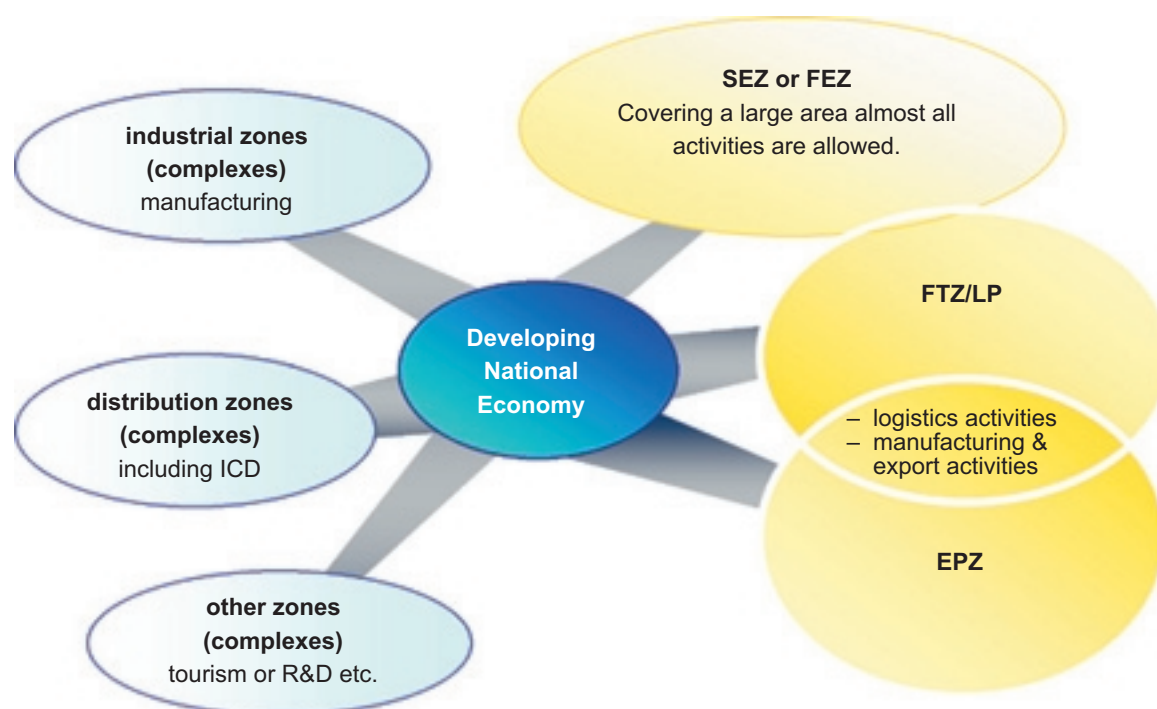


Figure 2.10 Several special zones as alternative policies for economic development

Note: The terminologies used can be different. The terminologies in the diagram are used to enhance the understanding of the concept of several special zones as a national economic development tool. (ESCAP secretariat)

3 The port industry

3.1 Challenges and emerging issues in port development

A port is essentially a point where goods are transferred from one mode of transport to another. In an era of economic globalization ports are evolving rapidly from being traditional land/sea interfaces to providers of complete logistics networks. This means that ports have had to face many challenges due to unpredictable environmental changes and trends in the shipping, port and logistics industries.

Most ports in the world have paid (or should pay) attention to these challenges and emerging issues, such as:

- globalization of manufacturing and outsourcing
- global trends of logistics network restructuring and reposition of regional and/or local distribution centre
- rapid growth in volume of world seaborne freight, especially container
- emerging hub and spoke system in global shipping service
- increase of transshipment cargo and competition among ports and terminal operators
- introduction of the super mega size containership
- increasing competition towards hub ports
- emerging global terminal operators and their growing market share
- one stop shopping concept and intermodal transport linking strategically between ocean, railway, road and inland waterway
- increasing role of ports in global supply chain management and logistics network structures
- increase of productivity and efficiency in ports
- high cost and constraints for developing port facilities.

To cope with these challenges and emerging issues ports across the world have been trying to develop their physical infrastructures, especially container terminals and related facilities, and to expand their port hinterland through introducing free trade zones with a hope of developing hub ports and international logistics centres. In addition, many ports have been carrying out port reforms such as port governance restructuring and deregulations, private and public partnership.

3.2 Development of container ports

There are close to 600 container ports across the world with an estimated combined handling capacity of 380 million TEU. The largest ports, those that can handle in excess of 1 million TEU per annum, account for nearly two thirds of global capacity (Drewry, 2001).

By 2010 Shanghai container throughput is expected to have surpassed Hong Kong, currently the world's largest port, but by 2020 Shanghai is expected to be overtaken by Shenzhen to become the world's largest container port. Shanghai and Shenzhen are expected by 2020 to be moving 56.2 million and 57.9 million TEU respectively. In 2004 Shanghai moved 14.6 million TEU and Shenzhen 13.7 million TEU (Fairplay, 2005). From 2003 Shanghai container throughput increased by 53.5 per cent yet wharf length increased by only 14.3 per cent (Ports and Harbours, 2005).

Ports can be broadly classified into three types of ownership. In 2002 the global container terminal operators controlled close to 55 per cent of total capacity, the other private sector operators 22 per cent and the public sector operators 24 per cent.

With the introduction of 8,000+ TEU vessels there will be a need for dredging, investment in handling equipment, extra feeder costs and landside congestion and distribution. In terms of ports and terminals, most of the leading container ports currently accommodating the largest ships in service are designed to berth ships of up to 300-400 metres in overall length and have approach channels and berths dredged to 15-15.5 metres, sufficient to accept ships up to 14.5 metres draught (Matthews, 2003).

Vertical integration is a viable alternative for key clients. Several large shipping lines such as Maersk Sealand and China Ocean Shipping Company (COSCO) have integrated vertically and developed into formidable container terminal operators. Shipping lines accounted for 25 per cent of the container terminal market in 2002. This option is only economic for shipping lines with sufficient volumes (in a region) and strong balance sheets. As a result, carriers focus on certain areas and rarely operate a global network of either dedicated (for their own business) or public terminals. However, the ability for shipping lines to operate their own terminals acts as a regulator on container terminal operators and keeps a check on pricing.

Drewry (2001) has forecast that investments in new berths and quays will increase throughput capacity to 442 million TEUs by 2008 or growth of around 4 per cent per year. At that pace of expansion, capacity utilization should increase from around 72 per cent in 2002 to around 88 per cent by 2008. Drewry (2001) expects that if current port utilization levels of 73 per cent in 2002 were to be maintained then an additional US\$ 14 billion would be needed to be invested in quays, cranes and container yards.

8,000 TEU vessels is not the limit. There are predictions of building new containerships as big as 18,000 TEU (Malacca-max), which will be calling at fewer and fewer hub ports (informare, online). However, it may take a long time before this type of vessel is built. There are plans to design an ultra large containership (ULCS) of 12,500 TEU capacity, which maintains the 14.5 metres loaded draught, but assumes a 361 metres length and much wider beam of 57 metres, allowing for 22 rows of boxes on deck (Matthews 2003). Economic forces appear to be favouring the emergence of super-hubs and a changing pattern of port calls (Trace, 1997). By limiting port calls to regional hub ports, shipping companies can reduce costs. It has been suggested that ports must have throughput of 5 million TEU and logistics facilities to support the efficient flow of cargo (Lloyd's List, 2002).

Drewry (2001) forecasts container throughput to grow at 8.3 per cent per year from 2002 to 2008 to a total of 442 million handlings. This includes growth in transshipments estimated at 9.3 per cent per year (see Table 3.1).

3.3 Hub and spoke network in liner service

In last two decades, the hub and spoke system in liner service has been introduced as larger containerships have been adopted in major sea transport routes such as Europe-Far East-American West coast. The emergence of this new system has allowed load centres along the East-West shipping lanes. This hub-feeder system allows shipping lines to provide a global grid of east/west, north/south and regional services. The large ships on the east/west routes will call mainly at transshipment hubs where containers will be shifted to multi-layered feeder subsystem serving north/south, diagonal and regional routes (Notteboom, 2004).

Liner service network design depends on the balance of power between carriers and shippers (Notteboom, 2004). From the carrier's perspective economies of scale are a critical element in order to reduce costs, which can be achieved by operating larger ships and having fewer ports of call. However, from the shipper's perspective total freight rates, time and service quality, including frequency and

Table 3.1 Capacity utilization global ports by region

(million TEUs)	2002			2008		
	S	D	U (%)	S	D	U (%)
North America	47.9	34.2	71.40	58.6	45.9	78.33
North Europe	50.2	34.7	69.12	64.3	49.2	76.52
South Europe	34	22.9	67.35	49.4	34.7	70.24
Far East	109.4	86.6	79.16	154.3	154.3	100
South East Asia	55.3	40.8	73.78	67.9	69.5	102.36
Middle East	19.3	13.5	69.95	26.8	22	82.09
Central America	15.2	10.6	69.74	18.9	16.1	85.19
South Africa	14.4	8.4	58.33	16.5	14.6	88.48
Oceania	9	5.9	65.56	9.6	8	83.33
South Asia	8.1	6.8	83.95	14.2	12.8	90.14
Africa	11.4	8.3	72.81	14.6	11.5	78.77
East Europe	3.9	1.7	43.59	6.2	3.4	54.84
Global	378.1	274.4	72.57	501.3	442	88.17

S = Supply (Capacity in TEU million)

D = Demand (Throughput in TEU million)

U = Utilization (Throughput/Capacity)

flexibility, are more critical elements. There are clearly different views existing between carriers and shippers with respect to the hub and spoke system.

According to Notteboom (2004) liner service network design has tended to move from a pure cost-driven exercise to a more customer-oriented differentiation exercise, as the optimal network design is not only a function of carrier-specific operational factors, but more and more of shippers' needs (for transit time and other service elements) and of shippers' willingness to pay for a better service. The hub and spoke system could be interesting from a pure liner network cost perspective. Hence, the more cost efficient the network becomes from a carrier's perspective, the less convenient that network could be for the shippers' needs in terms of frequency and flexibility. The multi-loop system of the alliances with smaller vessels bears less risk and could therefore turn out to be a cheaper option than running very large vessels on only a few loops. The higher the bargaining power of shippers, the more pressure for direct calls, which will shift the 'cargo follows ship' principle to the 'ship follows cargo' principle. In this regard, as liner service network design becomes a more customer-oriented differentiation exercise, there could be an increased tendency towards less transshipment and more direct port of calls. The networks operated by large vessels will continue to be based on end-to-end services. Hub and spoke systems are just a part of the overall scene (Notteboom, 2004).

Overall, then, logistics systems cannot be explained simply in terms of the customer's needs, such as transit time and better services. The hub and spoke system are also related to the regional or local characteristics of the final destination, such as the existence of major ports in the vicinity of the final destination, land transport networks and land transport cost from nearby major ports around the destination to the final delivery place, the existence of another hub port with lower total logistics costs close to the final destination, the amount of cargo volume available and so on.

In addition, freight forwarders will arrange the most economic transport routes that will satisfy the shippers' needs after considering whole transport networks. Some shippers may prefer a lower transport cost with relatively long transport times, while some other shippers may be in favour of quick transport times with relatively higher payment.

Logistics costs are, therefore, one of the major elements influencing competitiveness and productivity in the globalization of manufacturing and material outsourcing. The ability to source finished or partially manufactured goods and intermediate goods in areas of low cost has been at the centre of the globalization of industries. The total logistics costs are estimated to reach up 20 per cent of total production costs in OECD countries. Transport usually accounts for a quarter of total logistics costs in OECD countries, storage for a fifth and inventories for a sixth.

In other words, low transport costs along with information technology development have made it possible for companies to globalize their manufacturing, outsourcing and logistics systems, and logistics costs already occupy a major portion of total product cost. Taking into account this current situation in terms of the globalization of world industry and increasing pressure on current logistics costs, shippers and shipping lines cannot disregard cost aspects.

Shipping lines, which are a capital intensive and risk high industry, have suffered low profitability over past decades even though they are making good profits due to the increases of recent freight rates and significant world container volume increase during the period of 2003-2004. This means that shipping lines must try to reduce the fixed cost incurred because the recent boom will not continue, and the efforts for better profitability may not be negotiable due to strong resistance to freight rate increases among shippers. Shippers have already shown strong resistance to freight rate increases on the part of some liner conferences in recent years.

Recently most ports have introduced incentives to transshipment such as longer free storage periods, lower terminal handling charges and the reduction of port tariffs for shipping lines handling more than certain freight volume, which could contribute significantly to reducing the cost of shipping companies and/or shippers. Moreover, most shipping lines have been introducing vertical integration by transforming their role from shipping carriers to global logistics providers covering logistics supply management, logistics distribution and global logistics and value-added services. Hence, the role of shipping lines will not be just as carriers but as total logistics service providers with additional service activities increasing customer's value. These total services may need more sophisticated services around ports with well developed and related logistics clusters.

In addition, there has been a strong trend towards mega size containerships. The service pattern of these mega size containerships may depend on the cargo volume available. If there is enough volume to fill the space, well developed ports and good land transport facilities with reasonable cost, and a direct call system may be a better service pattern. On the other hand, there is a strong possibility of ports adopting a hub and spoke service pattern with an appropriate number of ports of call.

Case Study 3.1 CMA CGM case

The ideal service is a weekly shuttle service between two ports (easy schedule to maintain, clear for the shipper, no logistics headache), for example CMA CGM has succeeded in launching just two: Marseille – Algiers, Marseille – Oran.

The 65 others services CMA CGM operate incorporate complicated rotations with several ports of calls of which many are hub ports. Many of CMA CGM lines intersect each other and its fleet includes a large numbers of feeders.

Starting from a base in the Mediterranean by 1986, CMA CGM went as far as the Middle East with vessels entering the Persian Gulf up to Kuwait and then returning to Europe. The markets started to be depressed and a Europe/Middle East line, being very much one way traffic, was no longer viable. CMA CGM had no other solution than to continue its Eastbound progression towards the Far East. This is when transshipment, a relatively new idea at that time, came into the equation at CMA CGM.

To go all the way to Japan from Europe, CMA CGM has to cut its voyage time. One way to do that was to stop entering the Gulf area and to call at a port outside the area. Mina Qaboos in Oman was chosen. CMA CGM then developed its own dedicated feeder to deliver the cargo to all ports in the Gulf up to Kuwait. At the time this was rather innovative and customers did not like the idea. CMA CGM has been working with this same pattern for last 16 years and is still amongst the three leading carriers in this trade.

Today taking Asia-Europe, as an example, CMA CGM, currently offers about 80 different places of origin and about 100 different destinations in Middle East, Mediterranean and Northern Europe. This means about 8,000 port pairs in each direction. It is difficult to imagine if there were no hub ports and no transshipment.

Based upon current port coverage on a Far East – Europe vice versa Voyage, the voyage duration would be 180 days and thus each vessel would be able to perform only two round trips a year. Furthermore, the approximate slot cost of such a voyage would be about 2,250 USD per TEU on a round trip basis. Transit time to Hamburg would then be about 90 days.

If CMA CGM received a tender from a global company comprising of 992 entries, corresponding to as many port pairs, volumes would vary from the odd container to hundreds. To satisfy such global customers, it is necessary to have a global network which can only be provided if major trunk lines cross regional lines in well selected hubs. The clever use of networking allows a multiplication of opportunities for shippers.

For the main ports in Asia, Europe and the United States of America, there are competitive direct services available, and these will stay. However, customers in smaller ports – normally in less developed countries – will rely on hubs and transshipment services to reach the markets.

Particularly on certain North-South routes, the transshipment line can be in a position to offer a faster and more frequent service trade than the direct end to end specialists who cannot afford to be weekly. Aggregated volumes from multiple origins may sustain a weekly service operated from the regional hub to a specific destination whereas on a single trade basis the end to end operator cannot get enough volumes to justify weekly calls or even weekly frequency. For example, in the case of a North-South destination such as Port Sudan, the options to choose between a fortnightly direct service and twice weekly departures for Northern Europe using Jeddah as a hub with a weekly fixed day relay. In addition, the Sudanese consignee will receive on the same weekly basis his imports from Asia.

Transshipment is now a full part of the carrier's strategy. The global customers are expecting their global service providers to deliver their containers from anywhere in the world to any destination. The small third world customer also wants – and is entitled to – good access to the world's markets.

(Whitelaw, 2002)

3.4 Port reforms, privatization, new roles

In most economies in this 21st century, public/private partnerships to finance port investments and manage port facilities have been commonplace for many years. The first port privatization occurred in the United Kingdom in 1983 when the government sold a 49 per cent stake in Associated British Ports. In the following year the remaining 51 per cent was also sold. Between 1990 and 1998 some 112 port projects with private participation reached financial closure in 28 developing countries with investment totalling more than US\$ 9 billion (Sommer, 1999). Many governments have accelerated deregulation of economic activities and decentralization of decision making, with the objective of reducing demands on the public sector budget, increasing financial viability and improving productivity and efficiency in the port industry. The United Kingdom alone has raised some US\$ 121 billion through its privatization programme whilst globally the figure stands at well over US\$ 1 trillion (Baird & Valentine, 2006).

According to the World Bank (2001), there are four types of port management models which are:

- service port
- tool port

- landlord port
- private service port.

Except for small ports with small portion of commercial activities, most port management or port authorities⁶ in the world are categorized into landlord port with a few exceptions as a result of recent privatization process or participation of private sector in the port sector (Table 3.2).

Table 3.2 Basic port management models (World Bank)

Type	Infrastructure	Superstructure	Port labour	Other functions
Public service port	Public	Public	Public	Majority public
Tool port	Public	Public	Private	Public/Private
Landlord port	Public	Private	Private	Public/Private
Private service port	Private	Private	Private	Majority private

For privatization basically there are three distinct and essential elements of a port which should be carefully considered:

- port regulator
- port landowner
- port operator.

Firstly, regulatory activities within a port will generally be related to duties and responsibilities such as enforcing regulations and providing pilotage services and vessel traffic management, most of which will have been established by statute. This function traditionally is conducted by a government body. A port authority may also be expected to monitor the performance of the port, coordinate policy making with local and national government bodies, plan for future expansion, and market and promote the entire port and its facilities to users.

The second element is **port land**. The key tasks a port landowner will need to undertake include:

- managing and developing the port estate
- conceiving and implementing port policies and development strategies
- supervising major civil engineering works
- providing and maintaining channels, breakwaters, locks, turning basins, berths, piers and wharves
- providing or arranging road access to the port complex. (Baird, 1999)

The third element is **operations**, which may include a range of value-added activities and free trade zone related activities within the port estate. Most private participation takes place in this element.

⁶ Ports usually have a governing body referred to as the Port Authority, Port Management or Port Administration. 'Port Authority' is used widely to indicate any of these three terms. The term 'Port Authority' has been defined in various ways. In 1977 a Commission of the European Union defined a Port Authority as a 'State, Municipal, public or private body, which is largely responsible for the tasks of construction, administration and sometimes the operation of port facilities and, in certain circumstances, for security' (World Bank, 2001).

Table 3.3 shows all three of key port elements of privatization options. In this framework most world ports are considered as PRIVATE/I in which only port operations are carried out by the private sector. This PRIVATE/I type is a similar concept to the landlord port of the World Bank model. In the top 100 containers port as of 1999, 88 ports were PRIVATE/I and seven ports were PUBLIC. The reason that most ports have adopted the PRIVATE/I model may be that this model allow the state to leverage private sector investment in its ports without losing either control of its port industry or ultimate property rights with respect to port land. This model in practice has shown a reasonably positive outcome for private port operators, for the state and for port users (Baird, 1999). However, some countries, such as Hong Kong, China and South Africa, have adopted 'corporatization' models which are essentially private style companies but under the control of government [sic]. Other countries such as Poland have adopted a mixture of public, at both a state and municipal level, together with private interest (Valentine and Gray, 2000).

Table 3.3 Key port elements: Privatization options (Baird, 1999)

Port Models	Port		Operator
	Regulator	Landowner	
<i>PUBLIC</i>	Public	Public	Public
<i>PRIVATE/I</i>	Public	Public	Private
<i>PRIVATE/II</i>	Public	Private	Private
<i>PRIVATE/III</i>	Private	Private	Private

According to another study, when considering port reform there are three institutional issues which must be examined:

- the role of the national port authority
- the role of the local port authority
- the role of the private sector. (Lethbridge and Ra'anana, 1991)

The role of a national port authority should be reduced to a few major tasks and the staff kept to a minimum. Appropriate tasks are:

- to coordinate port investments so as to avoid wasting scarce resources to ensure that sufficient capacity exists to meet the country's trade needs
- to guarantee an adequate quality of service
- to exert some control over pricing of port services (to ensure government receives a return on its investments and port profit levels are not excessive)
- to act as the body representing the ports industry in discussions with government, port users and the public.

At the local port authority level, the first major step in reform is to establish the port as if it were a commercial enterprise. Essential elements are the freedom to recruit staff at competitive salaries and the existence of responsible financial management and accounting practices. The second step is to divide port functions into a number of areas – safety, security and environment, investment and maintenance of major infrastructure, superstructure investment and maintenance, port operations and pricing – and to retain in the public sector only those areas necessary to ensure the safe functioning of the port.

Since most ports are monopolies, simply transferring their activities to private enterprise without carefully designed and appropriate regulations could easily be against public interest. The role of the private sector may be for stevedoring, the provision of floating craft (tugs, mooring boats, work boats, pilot boats), certain aspects of port maintenance and electronic data processing systems, and for container and bulk terminal management and operation. Eventually, with growing participation by private sector companies, the port will retain only certain key activities – a good example is the role of the harbour master and his office (responsible for the safety of navigation, hazardous vessels, traffic control, and other important tasks); another example is the responsibility for maintaining dredged depths and channels (not doing the actual dredging, but managing the task and its implementation).

China began reform of their port management system in 2001. The management of ports by the central government was transferred to the responsibility of municipal government. They separated government function (or regulation) and enterprise management (or operation). The government function was assigned to municipal governments while the enterprise function was granted to state-owned enterprise from early 2003. For example, at Dalian Port, port operation related matters are under the authority of the Dalian Port Corporation Limited, which is a state-owned enterprise with the function of the former port authority. Free trade zone related matters are controlled by the Administration of Dalian FTZ, and government related regulation matters are controlled by the Port Bureau of Dalian Municipal Government.

In the case of the Republic of Korea, Busan Port Authority as a state-owned enterprise was established in January 2004, and Incheon Port Authority will be established in 2005. These reforms in the Republic of Korea and China are aimed mainly at improvement of efficiency and productivity through overcoming the limits of the former port authority which was the government or state.

In port reform, especially the introduction of a container terminal privatization system, one thing must be carefully considered, which is to introduce a competition system within a port in order to maintain the competitive position and national strategic role of the port. During the economic boom of 2003 and 2004 many ports suffered from terminal congestion due to the rapid increase in the number of containers, and some monopolistic terminal operators introduced terminal congestion charges. This may mean the loss of competitiveness of national export and import production.

To increase terminal productivity modern quayside handling equipment has to be introduced. However, the existing labour union system, which is usually monopolistic in terms of the supply of labour, often refuses to accept reductions in the labour force and ignores the need to upgrade skills. Many countries have faced or continue to face such unions which act as barriers to productivity improvement.

Governments must pay careful attention to the need for port management organizations to change in order to meet national objectives and economic strategies, customer's needs and to cope with rapidly the changing maritime environment. Ports must look outside their immediate jurisdiction as a focus of their future development. Such strategies fall within a perspective of port regionalization where a port seeks a closer integration with the supply chains of its hinterland. Major factors to be considered in port management roles are as follows:

- increase of private sector participation in the port development and operation
- often conflicts between port sector and city sector
- port sector role moving beyond the physical port boundary, expanding to the outside of its boundary as the importance of intermodalism grows
- growing competition toward hub port and logistics centre and user's demand for competitive services
- needs of coordination and cooperation among a variety of government organizations (such as customs, labour and security related public offices), private operators and users interrelated in port activities

- strong leadership and initiatives to meet its long and short term strategies by persuading and negotiating national and local level of stakeholders
- needs of industry cluster approach to ports as a whole including shipping industry and logistics industry
- needs of promotion of port competitiveness and marketing strategy as a whole.

On the first of January 2004, the Port of Rotterdam (Havendrijf Rotterdam N.V.) became a government corporation. The part of Articles of Association of the Port of Rotterdam in Case Study 3.2 will be useful to understand its roles.

Case Study 3.2 Articles of Association of the Port of Rotterdam (Havenbedrijf Rotterdam N.V.)

Article 2

- 2.1** The objects of the company are: to operate the port installations and in such context to strengthen the position of the Rotterdam port and industrial zone within a European perspective, on the short and long term.
- 2.2** Part of the objects of the company are:
- a. to monitor effective, safe and efficient management of shipping traffic and to provide conditions of nautical and maritime order and safety, as well to operate as the competent port authority for the Rotterdam port area;
 - b. to develop, install, manage and utilize the port and industrial zone in Rotterdam, in the broadest sense; and
 - c. to contribute to the urban development, to develop the city ports, and to improve the housing conditions and the working and living climate of the city and area of Rotterdam, even in the situation wherein such activities might (initially) incur losses.
- 2.3** The company seeks to accomplish its objects inter alia by performing the following:
- a. to enter into a (port) agreement with the municipality of Rotterdam and agreements pursuant thereto, including a long lease agreement;
 - b. to acquire, dispose, encumber, found or make found, develop, operate, manage and administer real estate;
 - c. to enter into joint ventures and to otherwise participate in and to conduct the management of other business enterprises and companies;
 - d. to render services in the management, technology, financial economic or administrative field;
 - e. to make loans, to finance and to provide security for debts for its account as well as that of others;
 - f. to perform port activities outside the region of Rotterdam, and furthermore all activities which are incidental to or which may be conducive to any of the foregoing, all in the broadest sense.

(Port of Rotterdam, online)

3.5 Emergences of global container terminal operators

Increase of world trade volume and introduction of larger container ships require quality services and productivity in the stevedoring industry, and have increased the importance of the role of the industry. The privatization of port activities throughout the world has also increased the participation of global terminal operators, especially in container port operations.

Recently, global terminal operators have penetrated the global container stevedoring market more aggressively in order to increase their competitiveness through the establishment of global networks. Active horizontal integration of terminal operators has appeared in forms of mergers and acquisitions⁷, investments for container terminal development in other countries through joint ventures with local companies, other global terminal operators or shipping lines. Examples are Hutchison Port's acquisitions of concessions at ports in China, Indonesia, the Republic of Korea, Thailand and Myanmar, and PSA's acquisitions in China and Brunei.

The leading terminal operators have developed diverging strategies towards the control of larger parts of the supply chain with clear understandings that the transport chain is viewed as a totally integrated system. The door-to-door concept has transformed a number of terminal operators into logistics organizations. The services offered include warehousing, distribution and value-added logistical services such as customizing products for the local markets. Many terminal operators have been involved in intermodal transport to create a landbridge between ports and inlands, for example, by operating rail terminas, setting up road haulage companies or operating their own feeder services (Notteboom, 2004). Such vertical expansion includes the downstream diversification of shipping lines into terminal management, for example by AP Moller (Maersk Sealand) at the Port of Tanjung Pelepas.

Owing to these horizontal and vertical expansions, the top ten global terminal operators handled around 150 million TEU in 2003. For example, Hutchison Port Holdings (HPH) operates 219 berths in 39 ports in 17 countries along with a number of transportation related service companies. In 2003, the HPH Group handled 41.5 million TEU (HPH online). In 2003, the top five terminal operators in the world handled 118.4 million TEU, representing 52 per cent of world total throughput. Table 3.4 shows the container throughput of the top ten global terminal operators and their capacity expansion.

Table 3.4 Container throughput by global terminal operators, 2004 (Various sources)

Handling volume (million TEU)				Capacity (million TEU)			
	2002	2003	Increase (%)		2002	2003	Increase (%)
Hutchison Port	36.7	41.5	13.1	Hutchison Port	44.2	48.9	19.5
PSA Corp.	26.2	28.7	9.5	PSA Corp.	34.5	37.2	6.9
APM Terminals	17.2	21.4	24.4	APM Terminals	23.3	24.4	4.6
P&O Ports	12.8	16	25	P&O Ports	18.1	21.5	18.9
Eurogate	9.5	10.8	13.7	Eurogate	11.3	12.9	13.9
Cosco	4.7	7.4	57.4	Cosco	6	9.4	56.1
Evergreen	5.7	6.7	17.5	SSA Marine	6.9	9.2	32.6
Dubai Port International	5.3	6.5	22.6	Evergreen	6.8	8.3	21.6
SSA Marine	4.4	5.4	22.7	NYK	6.1	7.7	25.8
APL	4.3	4.9	14	Dubai Port International	6.8	7.5	9.6
Total	126.8	149.3	17.7	Total	164	187	14
World Total Throughput	266	286.93	7.9				

* The number includes only container volume handled at container terminal.

** The numbers in 'World Total Throughput' are adopted from Ocean Shipping Consultants, 'World Containerport Outlook to 2015', and these are preliminary.

⁷ For example, Eurogate in 1999 (Eurokai, BLG), Hutchison Port Holdings in 2001 (increase of share in ECT terminal from 35 to 75.5 per cent, ICTSI's overseas division), PSA Corp. in 2001 (purchase of 80 per cent shares of Hesse Noord Natie, Belgium terminal operator), Dubai Port International in 2004 (purchase of CSX World Terminals).

In recent years shipping lines have opted for their own dedicated terminals, which mean that traditional definition for stevedoring and carriers sectors is getting vague. As vessel size increase, the control available by integrating stevedoring with vessel scheduling becomes increasingly attractive. It is far from clear that dedicated terminals are cheaper – rather they represent an integration of the service to the customer. Figure 3.1 shows the recent trends of terminal ownership changes.

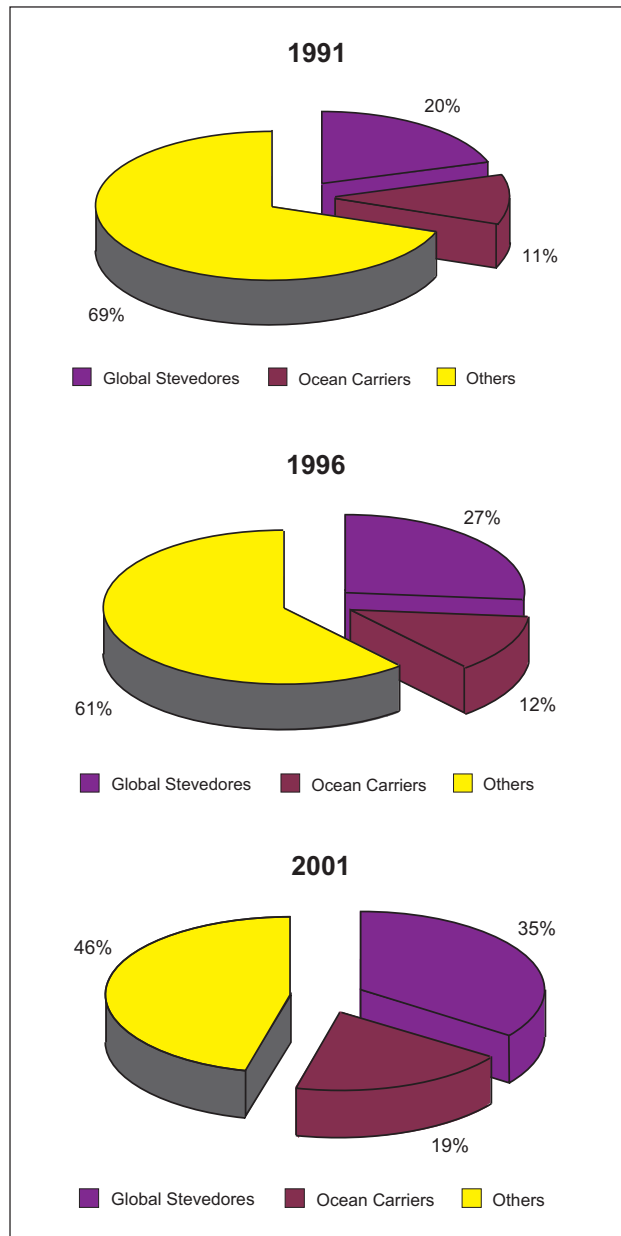


Figure 3.1 Terminal ownership structure (1991-2001) (Drewry Shipping Consultants Ltd., 2001)

3.6 Hub ports and logistics centres

3.6.1 Hub ports

Increasing competition among hub ports has been growing as previously less developed ports in countries undergoing national economic growth have been developing port infrastructures to compete with the existing hub ports. As competition among ports has been increased, shipping alliances and major shipping lines have been taking advantage of their growing power in negotiating concessions for dedicated terminals and/or in deciding ports of call. Ports are losing their bargaining power and have been forced to provide deep water, quality services, productivity, efficiencies, infrastructures including rails and roads, all of which are frequently demanded by shipping lines with bargaining power created by great amounts of container volume. When a port fails to meet the shipping line's demand, it may lose its major clients. Ports and container terminal operators are under strong pressure from their clients, which means they are forced to take part in the competition among ports by actively enhancing productivity and investing a great amount of money in order to stay in the game.

The demands of shipping lines (customers of ports) exercising their growing bargaining power for lower port tariffs, quick turnaround times, accommodation of super large ships and many other quality services, and industry trends towards containerization, super larger ships, consolidated port operations, and concessions to global operators allow for a straightforward definition of the conditions for success as hub port:

- location (proximity to major world routes)
- quick turnaround time
- quality services with efficiencies and productivity
- reasonable costs
- ability to accommodate super larger ships – deep water, advanced equipment

- excellent networks covering neighbouring feeder ports
- existence of logistic cluster supporting value-added logistics activities
- no red tapes and no burdensome paper works
- advanced information technology
- intermodal infrastructures- access to rail, air and road distribution networks
- local markets producing freight volume.

Table 3.5 outlines the measuring tools for hub port quality through which ports can measure or evaluate their position and identify which sectors have priority when implementing related policies.

Table 3.5 Port characteristics (Song, 2002)

Dimension	Factors	Measuring tools/Means
Port Location	Distance to the industrial agglomeration region Distance to the main lines Strategic location in the global network	Referencing geographical information Surveying carriers and LLPs*
Port Infrastructure and Superstructure	Berth number Berth depth Crane type Yard area	The requirements of accommodating the latest generation container ship
Port Service	Load and discharge speed Pick up and delivery service Information availability Provide customized service Ancillary service	Referencing to the international benchmarks Surveying shippers and forwarders Surveying carriers
Port Charge and Cost	Port charge of cargo Port charge of ship	Referencing to the international benchmarks
Carrier's Service in Port Connectivity	The calling frequency The freight rate	Referencing the published data
Hinterland Accessibility	Intermodal operation time consume Intermodal operation cost Custom clearance procedure Cargo tracing serve	Referencing to the international benchmarks Surveying carriers and LLPs
Distribution Centre (DC)	Total operation area of DC The equipment and information system of DC Service scope	Referencing statistics data Requirements of the advanced supply chain management (Surveying LLPs)
Info-structure	Port community system Information interchange with customs Information exchange between the intermodal organizations	Requirements of the advanced supply chain management (Surveying LLPs)

* LLPs: Lead Logistics Providers who are responsible for managing the primary interface between the customer and other logistics providers.

Case Study 3.3 shows an example of shipping line's perspective in selecting hub ports.

Case Study 3.3 A shipping line's perspective of how to select a hub port

No or little deviation from the main routes

Central location in the area to allow feeder network to serve in a respectable time

Modern and large port infrastructure allowing competitive productivity and immediate availability of berths/cranes

Limited paperwork requirements from local authorities

Competitive costs

Hub port with local markets is of course a plus

Regional hinterland via intermodalism is an extra plus.

(Whitelaw, 2002)

Most major ports in the world have tried to meet these above mentioned requirements for hub ports through exploring many new policies on the port organization, port facilities, regulation etc. Policy guidelines for ports and governments can be outlined as follows:

- redefine port governance and organizations to tackle emerging issues
- privatization and promotion of partnership between public and private sectors in order to enhance efficiencies and productivity
- launching port development projects such as expanding container terminals, deepening approach channel and depth alongside quay, purchasing advanced quayside equipment, assigning more number of quayside cranes to a vessel.
- deregulation for shipping, logistics, private sector involvement
- establishing port cluster by:
 - exploring free port system
 - introducing free trade zones for international logistics industry,
 - developing industry complexes around ports
 - and concentrating logistics related industry including shipbuilding, ship-equipment, ship-spare parts, maritime training centre, exhibition and conference centre, research institutes etc.
- developing intermodal infrastructures such as railway, roads, inland waterways, inland container depots
- strengthening marketing strategy
- introduction of information technology such as edi and e-commerce
- increase of partnership with local community and other government organizations such as customs organization.

However, many ports are faced with impediments to implementing their ambitious policies. For example, port development projects generally require a huge budget. In 1998, more than 20 billion dollars were earmarked around the world for port development projects. Forty per cent of this, that is, 8 billion dollars,

was in Asia alone, and this is a rather conservative estimate (Drewry, 1999; Haralambides, 2000). To secure a port development budget, many ports have tried to attract private sector participants such as stevedoring companies or ocean carriers through deregulation and preferential incentives. This policy to attract private sector in port development is also aimed at improving efficiencies and productivity by utilizing the expertise of the private sector. Even if ports are successful in attracting private sector participation in their development projects, they are still under pressure when attempting to secure their development budget because in many cases involvement of private companies is through a joint venture with the port authority (or other private sector organizations), or investment for part of whole structures.

The space for port expansion is usually scarce because port location is traditionally near the commercial centre of a city. Many ports have suffered from this problem when they try to establish an ambitious port development project. In this regard ports should reserve enough land space for future development. Some ports have also been threatened by the local community's demand for commercializing the port area, introducing housing, waterfront parks and other commercial developments. All this mean that the land price in the port area may be too expensive to maintain logistics activities.

In case of developing intermodal facilities, there are many government bodies involved, which means there are likely to be difficulties in coordination among government organizations involved. This may act as a barrier to the promotion of multimodal logistics because of the lack of consensus and the different priorities among the organizations.

Ports also face a plethora of environmental legislation, which makes the procedure for obtaining consents more complex and more time consuming. It is, of course, important that there is legislation in place to provide adequate safeguards to protect the environment. Ports, by definition, have to be at the sea-land interface and the coastal zone tends to be an area where environmental sensitivities are high.

Decision makers should consider all these potential impediments together with policy guidelines already outlined when they are planning port development projects in order to minimize the cost and time of implementing relevant projects. Otherwise there is the strong possibility that their vision for a hub port cannot be achieved

Case Study 3.4 Algeciras, Spain

Algeciras, located near Gibraltar at the entrance to the Mediterranean, was established as a pure transshipment facility by both Maersk and Sealand in the 1970s. In 1999, it ranked 22nd in the world, having handled two million TEUs, an increase of 9.1 per cent from 1998 and almost 25 per cent from 1997. Maersk Sealand will consolidate the two companies' facilities into one that has a capacity of close to three million TEUs. During the period 1998-2002, the terminal is being expanded by the Algeciras Port Authority at a cost of US\$ 200 million, while Maersk has ordered three post-panamax cranes and six rubber-tired yard gantries, a total investment valued at over US\$ 30 million. Algeciras has no hinterland; it exists merely as a pivot point for the convergence of Maersk-Sealand's east-west and North-South services. 'Algeciras fits the role of a North-South and east-west transshipment port to perfection, and the potential of calling at Algeciras is unmet' (Richardson 1998). Algeciras has benefited from the full commitment of both Maersk and its former rival and now fully merged partner, Sea-Land, which developed the port into a major transshipment hub.

(Source: Cirtwill *et al.*, 2001)

Case Study 3.5 Freeport, Bahamas

Located 65 nautical miles from the coast of Florida, Freeport, Bahamas, was built by the largest container-terminal operator in the world, Hutchison Port Holdings, to exploit Freeport's location astride several north-south and east-west trade lanes. Three years ago, Freeport handled less than 11,000 TEU; in 1999, it was expected to handle over 750,000.

The terminal was designed to handle the largest vessels afloat, transiting the major east-west trade lanes, and transshipping cargo for the Caribbean and South America. In the words of one of HPH's executives, 'The first thing that struck me was Freeport's position – a lot of trade lanes merge here' (Adams, 1998). As a Maersk executive has observed, 'Any combination is possible from here because you can reach any point in the world'.

Freeport Container Port is a joint venture between HPH and Grand Bahama Development Company, of which HPH owns 50 per cent. Phase I of this development cost US\$ 78.3 million. The facility's initial capacity was 560,000 TEU, and it boasted four post-panamax gantry cranes. Expected additional improvements will include 366 metres of new quay, three additional post-panamax cranes, and 12 straddle carriers. The whole complex will comprise three berths of 915 metres, seven super post-panamax cranes, and 22 straddle carriers, with total capacity of 950,000 TEU. The port's owners also plan to explore the feasibility of linking the transshipment terminal's operations to the nearby Freeport International Airport.

Florida's ports fear Freeport's impact, and many of them are gearing up with feeder services. Freeport's 47-foot-deep channel 'beckons large vessels to transload containers to and from large ships that might ignore the largest American ports entirely and tie up where non-union port gangs and shortline railroads congregate' (Wilner 1999). Freeport is meant to be a deeper, cheaper rival to Miami, Jacksonville, and perhaps even Savannah. Its costs are significantly lower with lift rates reportedly one-half what they are in Miami. There are no unions and few government restrictions, and HPH pays no taxes on its Freeport earnings. Present customers include Mediterranean Shipping Co. and Maersk-Sealand, which, combined, account for 85 per cent of the port's throughput. Only four per cent is destined for the local market.

(Source: Cirtwill *et al.*, 2001)

Case Study 3.6 Gioia Tauro, Italy

Medicenter Container Terminal (MCT) in Gioia Tauro, located in southern Italy, started its operation in 1995. In 1997 its container throughput reached 1.45 million TEU and 3.15 million TEU in 2003. Occupying 185 acres, it has eight berths, 14 post-panamax cranes, 2,450 metres of quay length, with up to 15 metres of water alongside, and 3,000 metres of on-dock rail.

MCT is owned by Contship Italia, formerly an Italian container line (now owned by CP Ships), in partnership with Ecklemann-Eurokai of Hamburg. It is a classic transshipment hub, located virtually in the centre of the Mediterranean. Recently Maersk Sealand was granted a dedicated terminal area within the port, in return for taking a 10 per cent stake in the terminal operating company.

The port is facing increased competition from several other Italian ports – both older ones, such as Naples and Genoa, and newer ones, like Taranto and Caligari. The port is now beginning to look beyond transshipment, which represents an estimated 65 per cent of its traffic base, to expanding its role as a gateway for Italy and southern Europe.

(Source: Cirtwill *et al.*, 2001)

Case Study 3.7 The Port of Los Angeles

A recent deal signed between the Port of Los Angeles and Maersk Line raises the bar for North American ports and is probably a portent of future developments. In November 1999, Maersk Sealand reached an agreement with the Port of Los Angeles to build an US\$ 800 million, 484-acre container terminal, the largest in the United States and one of the largest in the world. The port's revenue from the lease will reportedly total more than US\$ 2 billion over the 25-year life of the contract. The contract commits the carrier to a minimum annual throughput that will generate sufficient revenue to amortize the port's investment. Revenue in excess of the minimum will be shared with Maersk Sealand. The greater the volume of containers the carrier puts through its facility once the guarantee is met, the greater its share of revenue.

(Source: Cirtwill *et al.*, 2001)

3.6.2 Logistics centres

Globalization has been the most influential phenomenon among the major trends in the world economy over the last two decades. It has been recognized as an inevitable technologically driven process that has dramatically increasing commercial and political relations between people in different countries. Unlike most of the 20th century, during which production remained national, industrial production has become increasingly international over the last 20 years increasing competition among businesses the world over.

This globalization has created a real-time global marketplace and a business focus and concentration on maximizing comparative advantage when sourcing and supplying product. In terms of the global supply chain, global companies have been forced to work simultaneously within two different systems while enhancing efficiency and effectiveness — centralized and decentralized maritime activities — even as international supply chains have become complex and logistics models continuously evolve. Business structures must be made after considering both intercontinental and regional or local aspects.

Many factors such as standardization in production components, low transportation cost and the revolution of information and communication technology make it possible for companies to source raw materials and product components all over the world. Raw materials, parts, and semi-finished products can be brought together at a single or, a few locations, to significantly reduce overall costs without any local interference to product quality. Thus, centralization of business structure for economies of scale is a useful strategy in enhancing global competitiveness.

At the same time, cultural differences in the marketplace or the importance of response time demand global companies to customize or localize their products in accordance with local consumers tastes. Decentralization of business structure or postponement of final assembly must, therefore, be considered, too.

Many companies have experienced significant cost savings through integrating existing logistics places into a few integrated logistics centres, and some other companies have achieved success in penetration of specific markets by thorough localization strategies such as quick response times or different design and functions. In this way, ports have a great chance to play an important role as the centre of global logistics activities. However, because business structures of supply chain networks are decided wholly by a company's specific strategy, ports dreaming to become a hub have been struggling to meet and provide the global standard in terms of hardware and software by investing for world class infrastructures and by experimenting with several policies.

One of the major trends in port industry is to develop logistics related zones such as free trade zones or international logistics zones to accommodate value-added logistics activities and to attract global logistics companies. The advantage of special logistics-oriented zones (whether or not they are designated as free trade zones providing tax related incentives) is that they attract foreign investment and create new employment. In addition, successful logistics zones are able to secure freight volume which may be generated by established logistics companies, and to develop their ports as hub ports. Many ports have been trying to develop their ports towards hub ports to take advantage of these benefits through developing the necessary infrastructures and marketing a variety of advantages and incentives. Thus, competition among ports towards global logistics centres or global load centres is getting severer.

Considering this growing competition among global logistics centres, most ports have been actively trying to attract regional distribution centres of multinational logistics and manufacturing companies. In this regard, ports and governments are placing great emphasis on establishing strong support from governments, which may guarantee a reliable business environment and quality administrative support. Case Study 3.8 below shows why Reebok selected the Port of Rotterdam as its logistics centre, and this case is useful in understanding what policies are prerequisites for ports to develop as global load centres and attract global companies. Case Study 3.9 highlights the Distripark in the Port of Rotterdam.

Case Study 3.8 Reebok Logistics centre in the Maasvlakte Distripark

Value adding activities have been created in many ports to enhance trade and generate employment for the local area. The key ingredients are efficient port operation, availability of good transport services and attractive prices for land, labour and energy. The newly opened Reebok state-of-the-art logistics centre in Rotterdam illustrates how one port helped create a value-adding service that generates employment for 300 personnel and contributes \$6 million in direct income to the local community.

Reebok product line and logistics

Reebok has two product lines, footwear and apparel. In 1998, footwear accounted for 57 per cent of international sales, apparel 43 per cent. Reebok products are actively marketed in 170 countries or territories. The U.K. is the largest market for Reebok products in Europe, representing 30 per cent of total European sales. Spain is another big market for Reebok products. Almost all footwear is supplied from plants in the Far East. Most apparel is supplied from plants in Southern Europe. Footwear moves in containers from the Far East. Apparel moves by truck and container from plants in Portugal, Greece, Turkey, etc.

Restructuring of logistics activities

As part of a global restructuring of logistics activities, Reebok in 1995 decided that warehousing and distribution activities in Europe should be consolidated. In place of having warehousing facilities in each market, a bulk logistics facility would be established in mainland Europe to supply pick-and-pack warehouses in the U.K. and Spain, as well as directly supply other markets in Europe. Except for some very large accounts (which are serviced direct) and apparel for Southern Europe (which is warehoused in Spain), all product flow to the European market would pass through this logistics centre. France, Belgium and the Netherlands were considered as potential locations. Following assessment of each of these locations, Reebok decided to locate the logistics centre in the Netherlands. The site chosen is in the newly created Distripark 3 in Maasvlakte at the ocean edge of the port property. In November 1998 the facility began receiving product.

Why the Port of Rotterdam was selected

Reebok had a variety of reasons for choosing this site. It is close to the new deepwater terminal in the port of Rotterdam, a container handling facility that is generally regarded as one of the most advanced and capable terminals in Europe. The location is on the coast, which provides easy access to short sea transport to the U.K. market. There is a good supply of warehousing labour in the Rotterdam area, despite the fact that the general labour market is tight. Most people in the Netherlands understand English, which was considered by Reebok to be important. Customs in the Netherlands is considered to be efficient and business friendly. While not an advantage, labour costs and regulations concerning labour practices were considered to be similar to those of other countries in Europe. But most importantly, space was available and the port wanted to have a launching customer in the new Distripark. So the port, in combination with the municipal government, proactively pursued Reebok and provided strong incentives to locate the facility in Maasvlakte. Based on a six-year operating lease with a five-year renewal option and substantial residual value guarantees by Reebok, the port funded construction of the state-of-the-art 700,000 sq. ft. logistics facility. The port also created the necessary infrastructure to connect the facility to the adjacent container terminal, facilitated creation of bus service fitted to the plant shift system and provided a contact person to deal with problems and issues. Reebok describes its relationship as a partnership with the port.

(World Bank, 2001)

Case Study 3.9 Value added development efforts in the Port of Rotterdam

Distriparks

Distriparks are the Port of Rotterdam's response to the growing demands on shippers and transport firms for just-in-time delivery at lower costs. Distriparks are advanced logistics parks with comprehensive facilities for distribution operations at a single location close to the cargo terminals and multimodal transport facilities for transit shipment.

They employ the latest information and communications technology. Distriparks provide space for warehousing and forwarding facilities including the storage and handling of cargo and the stuffing and stripping of containers. They also offer a comprehensive range of value added services. In Distriparks, companies can, either on their own or in partnership with local specialist firms, process their goods according to specific customer and country-of-destination requirements. These value-added services include packing and re-packing, labeling and assembly, sorting and invoicing. The Distripark's on-site customs service promptly handles import and export documentation. To date, three Distriparks have been established within the area of the Port of Rotterdam.

Trade, distribution and marketing centres (TDMCs) Distriparks in Rotterdam

Distriparks	Starting date of Operations	Size (1,000 m²)	Remarks
Eemhaven Distripark	1989	237	Close to the home terminal of ECT
Botlek Distripark	1990	165	Close to the Botlek Port area Handles many chemical products
Maasvlakte Distripark	1 st phase: 1998 2 nd phase: construction	848 1 017	Close to the ECT Delta terminal Most companies constructing their warehouses
Total		2 267	

TDMCs in Rotterdam are specialized centres where traders and manufacturers from non-European countries meet and trade with their European counterparts and with each other. The TDMCs are concentrated in Rotterdam's Euro Trade Park. The TDMCs enable participating manufacturers to tune into local markets and requirements. Each TMDC represents a concentration of know-how, products, markets, professionals, financial resources, technologies, government agencies and other institutions. Each Centre is specialized in different areas of industry, geographic areas and particular expertise.

(World Bank, 2001; ESCAP, 2002)

4 Recent developments in FTZs and port hinterlands in Asia and Europe

4.1 FTZs in Asia

Many countries in Asian region have introduced FTZs to develop their national economies by attracting foreign direct investment (FDI) into the FTZs. In a world of limited amounts of investment funding available most Asian countries have selected this policy partly because it is easier to provide relatively well developed infrastructures in these small special areas than to establish good infrastructures throughout the whole country in a short period of time.

The characteristics of FTZs in Asian countries are basically same as described in Chapter 2. FTZs are considered as outside of customs territory, are designed to attract FDI and to provide a business friendly environment with incentives, good infrastructure and other advantages.

Most of all, FTZs, whether or not they are referred to by that name, have concentrated traditionally on manufacturing for export, and many of them are located along the coast or near sea transport routes to leverage international transportation.

Some differences in Asian FTZs can be attributable to differences in political, economic and social situations. For example, it could be argued that the whole of Singapore is a FTZ, while almost all other countries, such as the Republic of Korea and Malaysia, have designated very specific and small areas as FTZs compared to the size of whole country.

The situation in China is different again. Since China opened its economy to the world in 1980s, the country has introduced many kinds of special zones of various sizes covering large to relatively small areas. For example, Xiamen Special Economic Zone covers an area of 1,565 square kilometres and has a population of about 1.31 million while Tianjin Free Trade Zone (Bonded Zone) covers an area of five square kilometres. China's economic activities are taking place mainly through these various special zones, unlike most other countries.

By taking into account these paradigms in FTZs in the Asian region, three types of FTZ can be identified based on the extent of the FTZ's role in the whole economy, viz. the country or market size; economy; political and social situations (see Table 4.1). These types of FTZs, however, are not necessarily standard classifications of FTZs nor do they necessarily represent desirable policy directions. Instead, they are interesting because of their differences and important because of their contribution to their nation's economies.

The next part of this chapter examines the types of FTZs established in three different Asian countries – Singapore, China and the Republic of Korea.

One of important trends in FTZs in Asia is that many countries have been showing their interests in the logistics industry. This may be due to hopes of improving national export competitiveness through a sophisticated domestic logistics industry; establishing international logistics centres and attracting foreign companies; or for becoming a regional logistics hub to serve neighbouring countries. In fact, this trend has been accelerated as globalization of manufacturing gains momentum and introduction or integration of a few regional or global base distribution centres by multinational companies. In addition, fast growing container volumes in the Asian region is a factor prompting countries to take an interest in logistics as well as multimodal transport being part of the GATS agreement between governments.

Table 4.1 Cases categorized by the role of FTZs (ESCAP secretariat)

Factors	Case A	Case B	Case C
FTZs role in whole country's economy	relatively small, but whole country is similar to FTZs	depends on policy relatively small or medium or large	relies on special zones with FTZs
market size			
national GDP	small/medium	medium/small	large
personal GDP	large	medium/small	small
country size	small	medium	large
labour			
wage	high	high/medium/low	medium/low
skill	high	high/medium/low	medium/low
business environment	superior	good/medium/low	medium/low
example country	Singapore	South Korea, Malaysia	China

This has resulted in the development of port hinterland areas as logistics oriented complexes, especially just behind the main port boundary. These areas are usually designated as FTZs to utilize international transportation infrastructures whatever the names and main functions are. More details are found in the cases studies in the next part of this chapter.

4.2 Singapore

4.2.1 General business environment

Singapore is a free port and has relatively few excise and import duties. The country's free trade policy is at the core of its international trade policy. Virtually all goods which enter Singapore are duty-free. Some investors see that Singapore's strength lie in its strategic location; political stability; legal framework; financial services; business infrastructure.

In addition, Singapore is integrated in the global transport network through the connectivity of its seaport and airport. Free trade agreements (FTA) help to bolster trade with many countries such as the United States, Japan, the Republic of Korea, Australia, the European Free Trade Association and New Zealand. There are also many ongoing discussions with other countries for FTAs. Singapore is a member of the ASEAN Free Trade Area (AFTA) a market of 550 million people. As of 1 January 2003, nearly 92 per cent of all tariff lines in AFTA were reduced to between 0 to 5 per cent from an average of 12 per cent in 1992. Singapore has 47 Avoidance of Double Taxation Agreements, and has concluded 31 Investment Guarantee Agreements with other countries [Economic Development Board of Singapore (EDB), online].

Singapore's major business strategies are to leverage on excellent infrastructure and a pro business environment and to develop Singapore into a:

- headquarters hub
- logistics hub
- international financial hub
- R&D hub
- biomedical sciences and petrochemical industry hub
- international education hub

4.2.2 FTZs in Singapore

All dutiable goods imported into or manufactured in Singapore are subject to customs duty and/or goods and services tax (GST). The broad categories of dutiable goods for customs duty in Singapore are intoxicating liquors, tobacco products, motor vehicles and petroleum products. GST is a tax on domestic consumption within Singapore. It is paid at the rate of 5 per cent whenever customers buy goods or services from GST-registered businesses within Singapore.

FTZs in Singapore were first established in 1969 to facilitate entrepot trade in dutiable goods. Singapore has seven FTZs, six for seaborne cargo and one for air cargo, within which a wide range of facilities and services are provided for storage and re-export of dutiable and controlled goods. Goods can be stored within the zones without any customs documentation until they are released in the market. They can also be processed and re-exported with minimum customs formalities. FTZs in Singapore are primarily for transshipment cargoes, and the key characteristic of Singapore is that the whole country is similar to FTZs. This means that in examining the concept of an FTZ with reference to Singapore, the whole country system needs to be considered.

The FTZs are located at the Port of Singapore, Jurong Port, Sembawang Wharves, Pasir Panjang Wharves and Changi Airport (see Table 4.2). The FTZs provide 72 hour free storage for import/export of conventional and containerized cargo and 14 day free storage for transshipment/re-export cargo. The rental cost of FTZ facilities within port area is relatively expensive due to scarce land. Most logistics companies have facilities in FTZs both inside and outside the port, but relatively small space in the FTZs inside the port for goods requiring quick action.

The ALPS (Airport Logistics Park of Singapore) at Changi Airport was officially opened in March 2003. This 26 ha (237 thousand square metres) of dedicated infrastructure, strategically located within the airport free trade zone, leverages good connectivity and handling efficiency to enable quick turnaround, value-added logistics and regional distribution activities.

Table 4.2 FTZs under the FTZ Act in Singapore

	Size (1,000)	Major facilities
Keppel FTZ	2 590	3 container terminals (Keppel, Tangjong Pagar, Brani) with 30 berths
Pasir Panjang FTZ	650	Pasir Panjang container terminal, conventional terminal
Jurong FTZ	615	Jurong Port usually for conventional cargoes
Sembawang FTZ	199	Sembawang Wharves for motors, bulk cargoes
ALPS	237	Changi Airport

4.2.3 Other logistics related facilities

In addition to FTZs, Singapore has many distriparks and warehouse schemes which may be located within the FTZs or outside them. Distriparks in Singapore are, for example, Keppel Distripark with 200 thousand square metres, Alexandra Distripark with 210 thousand square metres, Pasir Panjang Distripark with 250 thousand square metres and Tanjong Pagar Distripark 65 thousand square metres.

The warehouse schemes of Singapore include *bonded warehouses* and *licensed warehouses* for logistics services. A **bonded warehouse** is conceptually an extension of the free trade zone (FTZ). Depending on the circumstances, a bonded warehouse may be the whole premises, a designated part of the premises, a storage tank or any other place approved by Customs. The designated part may be demarcated with lines, separating it from other areas. When imported goods are removed from the FTZ or imported via the causeway, and stored in a bonded warehouse, GST on the goods is suspended. Similarly, GST is suspended when the goods are transferred from one bonded warehouse to another.

GST is only charged when the goods are removed from the warehouse for the local market and not when the goods are re-exported. Bonded warehouses may be operated by the owners of the goods or by service warehouse operators who take responsibility for the security and proper control of the warehoused goods.

A **licensed warehouse** is a designated area approved and licensed by Singapore Customs for storing dutiable goods, namely liquor, tobacco, motor vehicles and petroleum, with the duty and GST payable suspended. The licensed area to store dutiable goods is demarcated with lines, separating it from other areas. The non-designated area of the same warehouse premises may be used for other purposes. A licensed warehouse may be operated by the owner of the goods or a service operator who is responsible for the security and proper control of the warehoused goods.

Singapore has also developed Banyan LogisPark consisting of 80 hectares of land on Jurong Island. This is dedicated to transshipment and breakbulk operations for bulk liquid petroleum and petrochemical products supporting manufacturers in Singapore and within the Asian chemicals industry. Banyan LogisPark was developed by JTC Corporation⁸, and opened officially in July 2003. JTC Corporation provides other LogisParks and ready-built warehouse in Jurong Island such as:

- Toh Guan LogisPark (30 hectares), Toh Tuck LogisPark (8 hectares); and
- Jurong East Warehouse Complex, Clementi LogisPark (13.5 hectares).

4.2.4 Incentives under the Regional Headquarters Programme

To make Singapore as a regional base for management activities such as overseeing, managing and controlling regional and global operations and business, Singapore has introduced the Headquarters Programme which provides appropriate incentives according to the level of commitment the headquarters put into Singapore. According to EDB Singapore (EDB, online), there are 7,000 multinational companies in Singapore, and more than 4,000 manage regional responsibilities. Of these, some 280 companies' operations have been awarded EDB's headquarters status since 1986. Companies with headquarters in Singapore include manufacturers like Seagate, NEC, Matsushita Electronics, Pall Filtration, Bax Global and Siemens Medical. Asian MNCs (multinational companies) which conduct their global businesses from Singapore headquarters include Indian-based companies like the Scandent Group, Tata Consultancy, and Singapore's System Access (EDB, online).

The Headquarters Programme offers two incentive packages commensurate with the scale and value of the headquarters operation. The Regional Headquarters Award offers a concessionary tax rate of 15 per cent for 3+2 years based on incremental qualifying income from abroad. If a company qualified for a regional headquarters award satisfies all the minimum requirements by year three of the incentive period, it will enjoy the 15 per cent concessionary tax rate for an additional two years on qualifying income. Regardless of their industry or the size of their operations, companies with headquarters based in Singapore for some time, and which have displayed significant investment commitment, stand to be rewarded in due course with the International Headquarters Award (EDB, online).

⁸ JTC Corporation formed in 1968 and tasked to develop and manage industrial facilities in Singapore which is also a statutory board under MTI (ministry of trade and industry) to ensure optimum usage of limited land is a developer of land and industrial facilities. It manages 35 industrial estates including specialized park such as a biomedical park, electronic park, a chemical hub on Jurong Island etc. JTC Corporation also developed the ALPS in Changi Airport.

4.2.5 Key strengths and development strategies for a logistics hub

Singapore's key strengths in the logistics industry are its world class infrastructure and connectivity. According to a report from a working group of Singapore's Economic Review Committee (ERC)⁹, strengths are as follows (ERC, 2002):

- strong physical infrastructure
- good connectivity to major trading hubs and manufacturing bases (by both air and sea)
- major shippers and logistics service providers have their regional headquarters and offices in Singapore
- stable political, economic and social conditions
- an educated workforce
- a strong legal system and business friendly tax structure
- government that is pro-active in opening doors for businesses through bilateral and multilateral initiatives, e.g. FTAs.

However, Singapore, although a well recognized logistics hub and the world's 2nd container port, in terms of total container throughput, has weaknesses as spelled out in the report from the ERC. These are:

- relatively high costs of operation (especially land rental and wages)
- a small geographic space and domestic market
- an industry that is fragmented and lacks scale, with very few global players with global aspirations
- lack of a logistics cluster/ecosystem
- a lack of responsiveness to customers' needs
- a shortage of skilled, experienced and entrepreneurial logistics professionals
- inadequate technological capabilities to carry out a wide range of supply chain management (SCM) activities.

Singapore has recognized that offshore manufacturing (especially relocation of manufacturing to China), and growing competition in neighbouring countries in terms of logistics hubs are potential threats to its logistics hub strategy.

In order to overcome growing competition and to develop Singapore into an integrated logistics hub, Singapore is trying to become both a physical hub and a virtual hub. Singapore has realized that world class physical infrastructures have been relegated to a necessary but insufficient condition for countries to become a logistics hub, and that the highest value is no longer found in moving the cargo, but in controlling and optimising the flow of the cargo via information management and the promotion of a highest value-added logistics industry.

Singapore's major goals are, therefore (ERC, 2002):

- maintaining and leveraging its strong physical hub capacities (world class seaport and airport facilities, ship registry, ship repairs) and integrating these with knowledge-intensive supply chain management (SCM) skills and technologies

⁹ The ERC was formed in 2001 to fundamentally review Singapore's development strategy, and formulate strategies to upgrade, transform and revitalise the economy. There were 7 sub-committees, and each sub-committee had working groups such as working group on logistics. In 2003, ERC released its final report.

- developing the 'softer' aspects of the transport and logistics services and human resource sectors
- developing Singapore as IT logistics nerve centre – IT is central to SCM
- developing Singapore as SCM nerve centre – establishing R&D centres in SCM, providing high-level education and training for knowledge management
- having a secured hub
- offering a multimodal hub – the integration of both physical and IT infrastructure, strengthening multimodal connectivity, sea and air connectivity
- offering a competitive tax regime
- establishing a champion agency to coordinate the government's efforts and act as a one-stop-shop for logistics promotion (In 2002 there were at least nine government agencies involved in transport and logistics supply chain).

In 2000, the transport and logistics industries contributed about 8 per cent to Singapore's GDP or S\$ 12.7 billion. In terms of employment, it absorbs 93,000 workers. Singapore has planned that transport and logistics industries will by 2012 contribute between 9-13 per cent of GDP and employ 120,000 to 170,000 workers once it has implemented its vision outlined by the ERC Working Group on Logistics (see Table 4.3).

Table 4.3 Targeted economic contribution of the transport and logistics industry (ERC, 2002)

Indicator	2000	2012 (status quo)	2012 (with vision)
Sector VA (Singapore \$)	12.7 billion	15-21 billion	30-42 billion
Sector VA growth (real)	1990-1995: 7.6% 1995-2000: 4.4%	2000-2012: 2-4%	2000-2012: 8-11%
Contribution to Singapore economy*	7.8%	5-7%	9-13%
Workforce	93 000	85 000-113 000	120 000-170 000

* Singapore's average annual real GDP growth (2000-2012) is assumed at 6 per cent.

4.3 China

In 1978, China decided to reform the national economic setup by launching a policy of opening to the outside world in a planned way and step by step. Since 1980, China has established five special economic zones (SEZs) such as Shenzhen, Zhuhai and Shantou in Guangdong Province, Xiamen in Fujian Province and the entire province of Hainan. In 1984, China further opened 14 coastal cities to overseas investment: Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Shanghai, Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang and Beihai.

In 1985, the state decided to expand the open coastal areas, extending the open economic zones of the Yangtze River Delta, Pearl River Delta, the Xiamen-Zhangzhou-Quanzhou Triangle, Fujian, Shandong Peninsula, Liaodong Peninsula, Hebei and Guangxi into an open coastal belt.

In 1990, China decided to open the Pudong New Area in Shanghai and other cities along the Yangtze River Valley. In 1992, the State Council had opened 13 border cities, counties and towns, and opened all the capital cities of the inland provinces and autonomous regions.

In addition during the 1990s China also established 15 FTZs, 56 state-level economic and technological development zones, and 53 new and high-tech industrial development zones (Chinagate, online).

Since its founding in 1992, the Shanghai Pudong New Area has made great progress in both absorbing foreign capital and accelerating the economic development of the Yangtze River Valley. The state has extended special preferential policies to the Pudong New Zone that are not yet enjoyed by the special economic zones. For instance, in addition to the preferential policies of reducing or eliminating customs duties and income tax, common to the economic and technological development zones and certain special economic zones, the state also permits the zone to allow foreign business people to open financial institutions, and run tertiary industries. In addition, the state has given Shanghai permission to set up a stock exchange, expand its examination and approval authority over investments and allow foreign-funded banks to engage in RMB business (Chinaforgroups, online).

Chinese special zones have undertaken the dual roles of 'windows' in developing the foreign-oriented economy and of 'radiators' in accelerating inland economic development by introducing a series of reforms in the foreign trade system by running these zones with different preferential policies.

It is estimated that there are around 4,000 development zones of various kinds, national, provincial or local level. Some local governments are tempted by the impact of successful development zones. Despite their rather limited situation, they joined in the movement of setting up development zones. According to official statistics, of the existing 3,837 development zones and industrial parks nationwide, only 1,251 have received approval from the State Council or provincial governments (Shanghai Flash, 2003).

4.3.1 Types of zones

China has many types of zones and bonded areas (both of which offer relaxed import restrictions) at the state, provincial, city, and district level. Both foreign and Chinese companies may set up in all types of zones. National level zones fall into seven main categories as follows: (Walton, 2003).

Economic and technological development zones (ETDZs) are areas that provide international-standard facilities and supporting services. In general, these zones cover relatively large areas. For example:

- Dalian ETDZ has a planned area of 210 square kilometres, and at present it has a developed area of 50 square kilometres and constructed area of 30 square kilometres with a population of 220,000 and five districts under its jurisdiction (Dalian FTZ, online).
- Guangzhou ETDZ is one of the first state level development districts approved by the State Council in 1984. With a total planning area of 51.57 square kilometres, it is made up of three sections: the West Section, the East Section and Yonghe Economic Zone (Taiwanese Investment Zone, online).
- In Zhejiang Province eight state-level and 51 province-level economic and technological development zones have been established.
- Qinhuangdao Economic and Technological Development Zone (QETDZ) was firstly approved in 1984 as one of the development zones of 14 coastal cities. It is the only state level development zone of Hebei Province (Qinhuangdao Economic and Technological Development Zone, online).

Free trade zones (FTZs) are specialized areas for international trade, foreign investment, bonded warehouses, and export processing. For example:

- Shanghai Waigaoqiao FTZ has a planned area of 10 square kilometres just near the Waigaoqiao container terminal and it is located within Shanghai Pudong New Area.
- Tianjin FTZ has a planned area of 5.0 km² with developed area of 3.8 square kilometres.

High-technology industrial development zones encourage the transformation of scientific and technological advances into marketable products. For example:

- The Shanghai Zhangjiang Hi-Tech Park located within Shanghai Pudong New Area was established in July of 1992 as a national level park designated for the development of new and high technology. In August of 1999 the Shanghai Municipal Government issued the Focus on Zhangjiang strategic policy to accelerate the park's development. The Focus programme also increased the park's area from 17 to 25 square kilometres. The park's two leading industries are information technology and modern biotechnology and pharmaceuticals, and its principal focus is to develop innovation and entrepreneurship (Zhangjiang Hi-Tech Park, online).
- Tianjin Hi-Tech Industrial Park was one of the first group of hi-tech industrial development areas approved by the State Council. This high tech industrial park, possessing an area of 21.85 square kilometres, is composed of three parts: Huayuan Industry Development Area covering 12 square kilometres; Policy Area; Beijing-Tianjin-Tanggu Highway Radiating Areas (including Wuqing Development Area, Beichen Scientific & Technological Industrial Park, Tanggu Marine Scientific & Technological Industrial Park) (Tianjin Hi-Tech Industrial Park, online).

Border and economic cooperation zones encourage border trade and export processing, improved relations with neighbouring countries, and better economic conditions in areas populated by national minorities. For example:

- Dongxing Border Economic Cooperation Zone covering an area of 4.07 square kilometres was approved by the State Council in September 1992 to develop border trade with Viet Nam. It is located in Guangxi Zhuang Autonomous Region (Sino-Viet Nam Trade Network, online).
- Yining Border Economic Cooperation Zone in northwest China's Xinjiang Uygur Autonomous Region was approved to be one of the national border economic cooperation zone by the State Council in June 1992. This 10 square kilometres zone in Yining City targets both domestic market and Central Asia, and hopes to boost local economy by using its advantages in geography, resources and policies (People's Daily, online).
- Hunchun Border Economic Cooperation Zone in Yanbian Prefecture, Jilin Province was designated as a national development zone in September 1992 by the State Council. The total area of this Cooperation Zone is 88 square kilometres, and the planned area is 24 square kilometres (Yanbian Korean Nationality Autonomous Prefecture, online). In April 2000, the State Council approved the decision for the Hunchun Export Processing Area to be set up in the Cooperation Zone (The continuing opening up, online).

Export processing zones (EPZs) are special enclosed areas supervised by the General Administration of Customs. For example:

- Tianjin Export Processing Zone was set up in April 2000 by the approval of the State Council. It is located in the northeast of Tianjin Economic and Technological Development Zone with a planned area of 2.54 square kilometres. The area in the first stage of development is 1 square kilometre.
- Chengdu Export Processing Zone was established in April 2000 as ratified by the State Council. Chengdu EPZ is located in Southern Chengdu, with a planned area of about 0.5 square kilometre.

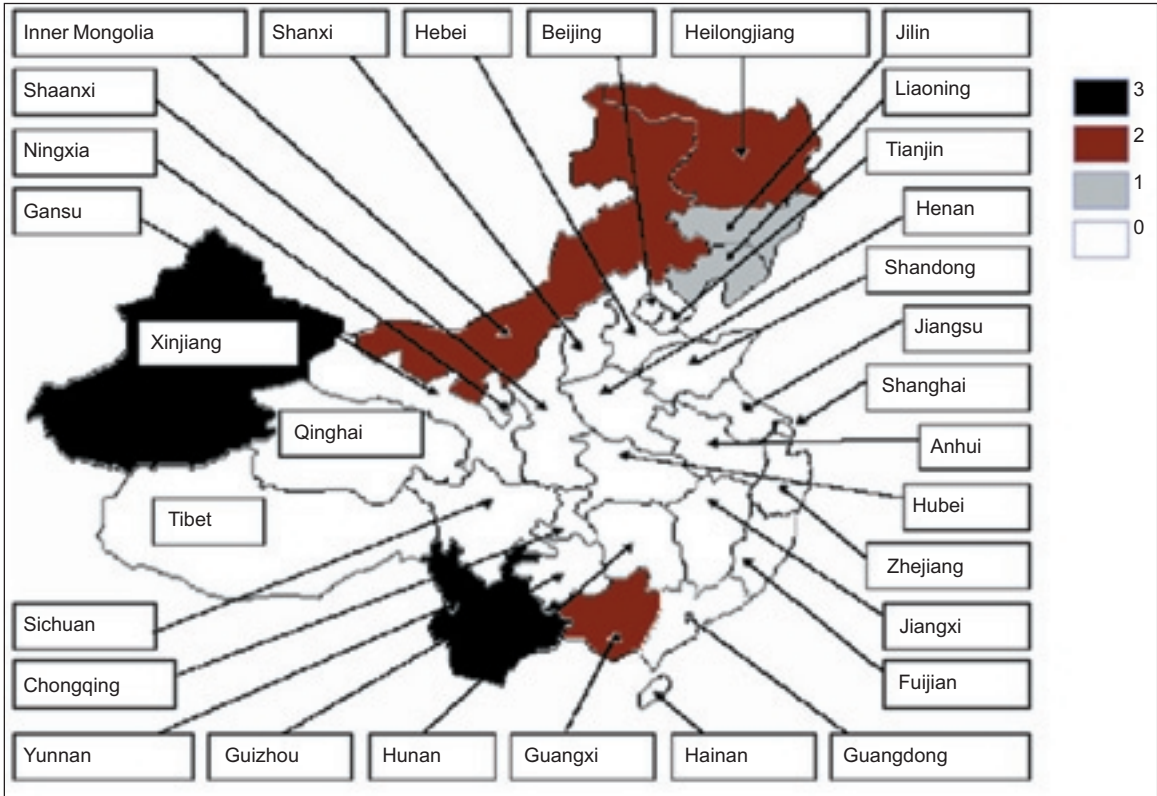


Figure 4.1 Border Economic Cooperative Zones (ESCAP secretariat)

Tourist and holiday resort zones encourage foreign investment in certain resort areas.

Taiwan Province of China investment zones aim to attract investment from Taiwan.

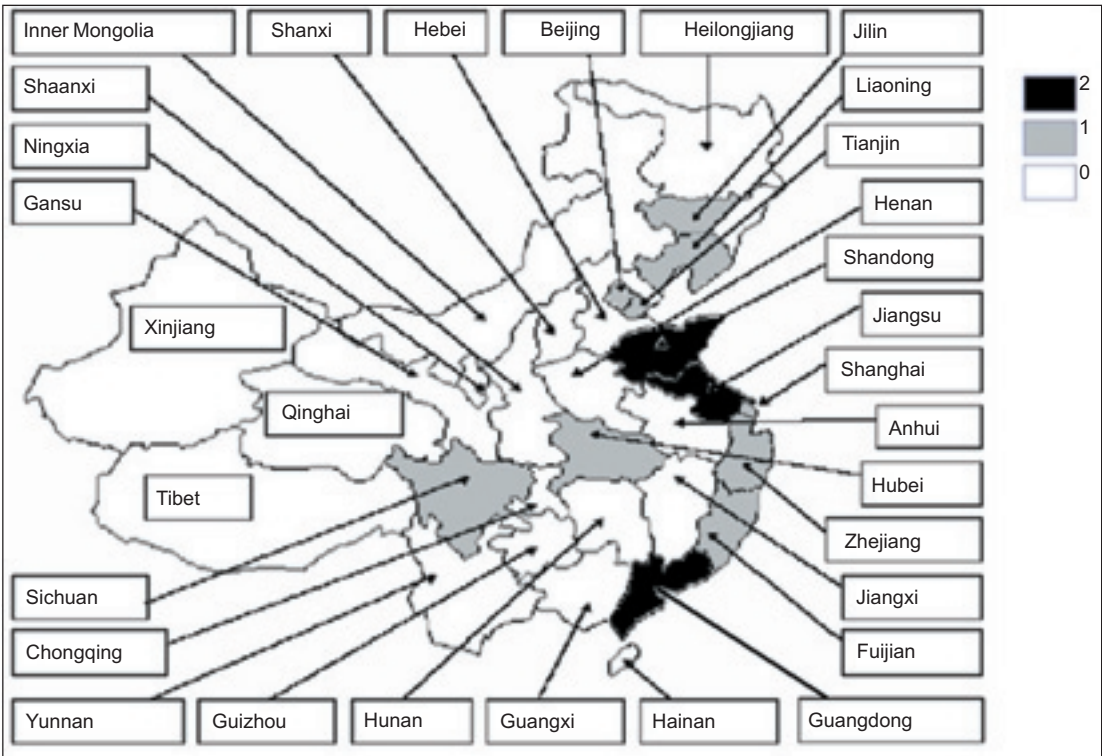


Figure 4.2 Export processing zones (ESCAP secretariat)

In 1984 China's government decided to establish economic and technological development zones (ETDZ) in 14 coastal cities by building upon the experiences learnt from the special economic zones. There are 54 ETDZs in China currently (Invest in China, online). The number may be different according to how to classify ETDZs. If the Shanghai Lujiaui Finance and Trade Zone is included, the number reaches 55 ETDZs.



Figure 4.3 ETDZs in China
(Ministry of Commerce of the People's Republic of China, online)

From 1984 to 1988, 14 ETDZs including Dalian, Qindao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Minhang, Hongqiao, Caohejing, Ningbo, Fuzhou, Guangzhou, Zhanjiang have been established after the approval of the State Council (National Economic and Technological Development Zones, online).

In 1992 and 1993, 18 other national ETDZs including Yingkou, Changchun, Shenyang, Harbin, Weihai, Kunshan, Hangzhou, Xiaoshan, Wenzhou, Rongqiao, Dongshan, Guangzhou Nansha, Huizhou Dayawan, Wuhu, Wuhan, Chongqing, Beijing, Urumchi have been set up (National Economic and Technological Development Zones, online).

From 2000 to 2002, the State Council decided to build 17 zones including Hefei, Zhengzhou, Xi'an, Changsha, Chengdu, Kunming, Guiyang, Nanchang, Shihezi, Xining, Huhhot, Taiyuan, Nanning, Yinchuan, Lanzhou, Lasa, Nanjing. Kunming was established in 1992, and approved in 2000 by the State Council. It covers 9.8 square kilometres. Guiyang was established in 1993, and approved in 2000 by the State Council. It covers 63.13 square kilometres.

The State Council also ratified provisions that allow Suzhou Industrial Park¹⁰ (1994), Hainan Yangpu ETDZ (1992), Shanghai Jinqiao Export Processing Zone¹¹ (1990), Ningbo Daxie ETDZ (1993) and

¹⁰ The China-Singapore Suzhou Industrial Park with 260 square kilometres was established in 1994 when Chinese Vice Premier Li Lanqing and Singapore Senior Minister Lee Kuan Yew signed the Agreement on the Joint Development of Suzhou Industrial Park in Beijing.

¹¹ It covers 20 square kilometres and may differ from other export processing zones, 15 EPZs, which were approved in 2000 by the State Council.

Xiamen Haicang Investment Zone (1989), Shanghai Lujiaui Finance and Trade Zone (1990) to enjoy preferential policies. (National Economic and Technological Development Zones, online). Although different titles appear, such as Shanghai Jinqiao EPZ or Suzhou Industrial Park, they have been provided the same preferential policies with national ETDZs by the State Council (see Table 4.4).

Table 4.4 State-approved ETDZs in China (Ministry of Commerce of the People's Republic of China, online)

Dalian	Qinhuangdao	Tianjin
Yantai	Qingdao	Nantong
Lianyungang	Shanghai Minhang	Shanghai Hongqiao
Shanghai Caohejing	Ningbo	Fuzhou
Guangzhou	Zhanjiang	Wenzhou
Kunshan	Yingkou	Weihai
Fuqing Rongqiao	Dongshan	Shenyang
Harbin	Changchun	Hangzhou
Wuhan	Chongqing	Wuhu
Guangzhou Nansha	Huizhou Dayawan	Xiaoshan
Beijing	Urumchi	Hefei
Zhengzhou	Xi an	Chengdu
Kunming	Changsha	Guiyang
Nanchang	Shihezi	Huhhot
Yinchuan	Suzhou	Ningbo Daxiedao
Shanghai Lujiazui	Hainan Yangpu	Xining
Shanghai Jinqiao	Xiamen Haicang	Nanning
Taiyuan	Lhasa	
Nanjing	Lanzhou	

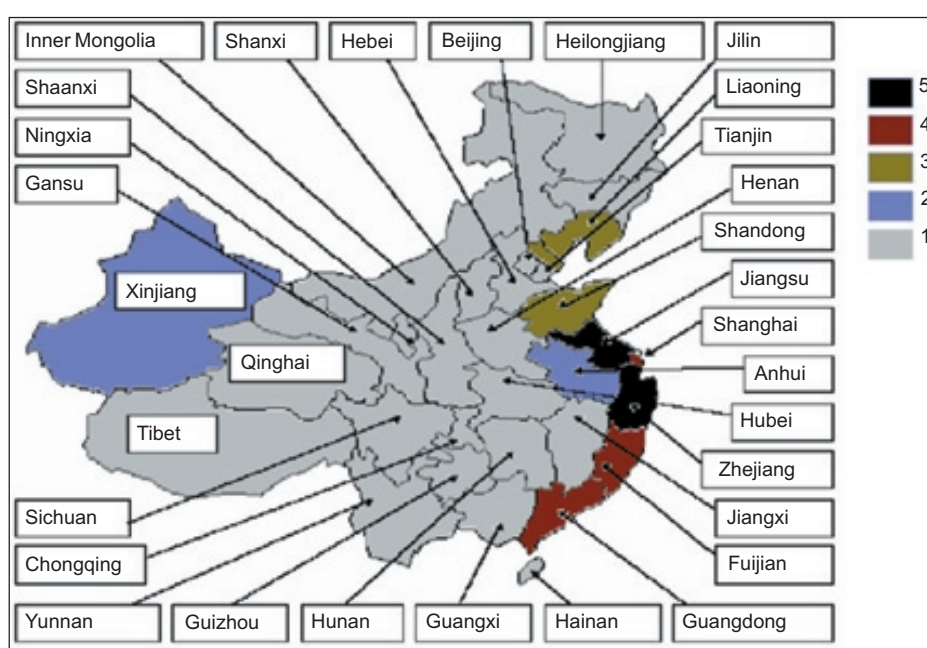


Figure 4.4 Economic and technological development zones on the Chinese mainland (ESCAP secretariat)

The State Council decided to establish high technology industrial zones in 1984, altogether 53 to date, some of which have been merged with economic and technological development zones.

Table 4.5 State-approved high technology industrial zones in China
(China Development Zones, online)

ZhongGuanCun-HIDZ	Zhangjiang-HIDZ	Guangzhou-HIDZ
Shenzhen-HIDZ	Xi an-HIDZ	Harbin-HIDZ
Guilin-HIDZ	Zhuhai-HIDZ	Xiamen Huoju-HIDZ
Chengdu-HIDZ	Chongqing-HIDZ	MianYang-HIDZ
Kunming-HIDZ	Zhuzhou-HIDZ	Changsha-HIDZ
Urumchi-HIDZ	Baotou-HIDZ	Daqing-HIDZ
Jilin-HIDZ	Changchun-HIDZ	Shenyang-HIDZ
Anshan-HIDZ	Dalian-HIDZ	Tianjin-HIDZ
Shijiazhuang-HIDZ	Baoding-HIDZ	Taiyuan-HIDZ
Jinan-HIDZ	Weihai-HIDZ	Weifang-HIDZ
Zibo-HIDZ	Qingdao-HIDZ	Zhengzhou-HIDZ
Luoyang-HIDZ	Yangling-HIDZ	Baoji-HIDZ
Wuhan Donghu-HIDZ	Xiangfan-HIDZ	Hefei-HIDZ
Nanjing-HIDZ	Suzhou-HIDZ	Wuxi-HIDZ
Changzhou-HIDZ	Hangzhou-HIDZ	Nanchang-HIDZ
Fuzhou-HIDZ	Foshan-HIDZ	Zhongshan-HIDZ
Haikou-HIDZ	Guiyang-HIDZ	Nanning-HIDZ
Huizhou Zhongkai-HIDZ	Lanzhou-HIDZ	

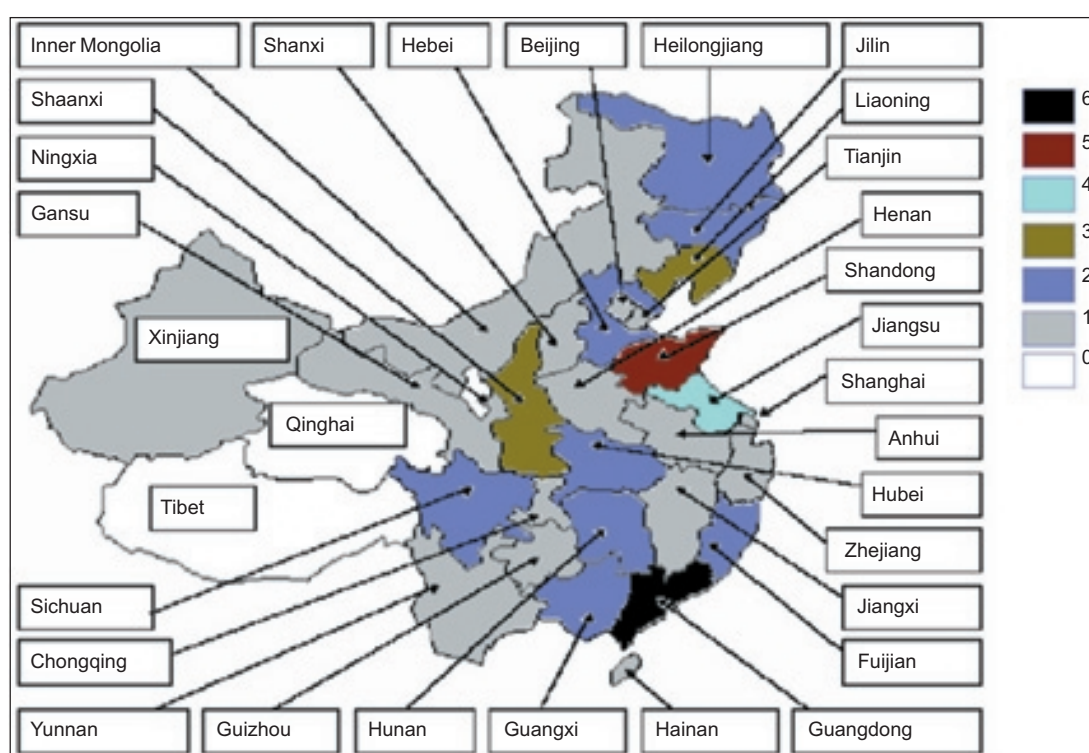


Figure 4.5 High technology industrial development zones (ESCAP secretariat)

In 1990, it established free trade zones (bonded areas), altogether 15 to date, seven of which are located in special economic zones and five of which are located in ETDZs (National Economic and Technological Development Zones, online). In 1992 it established border economic cooperative zones, altogether 14 to date (Table 4.6).

Table 4.6 Border economic cooperation zones (China International Electronic Commerce Network, online)

Heihe	Huichun	Manzhouli
Dandong	Yining	Tacheng
Bole	Pingxiang	Dongxing
Ruili	Wanting	Hekou
Erlianhaote	Suifenhe	

Customs and the State Council approved the establishment of 15 export processing zones in April 2000 (see Table 4.7). That number has since grown to 38 EPZs. Mostly limited to an area of 2 square kilometres to 3 square kilometres, all EPZs must be established within the confines of an existing economic or development zone. According to the Interim Procedures of Supervision on Export Processing Zones by the Customs of China, approved by the State Council on April 27, 2000, an export processing zone in China can only be set up in current economic and technological development zones approved by the State Council.

The EPZ is intended to be a special closed area supervised by Customs. The central government set up these small areas, completely fenced in and under 24-hour Customs supervision, to promote exports and crack down on the illegal sale of duty-free imports of raw materials. Establishing EPZs at central locations throughout the country has helped Customs achieve these goals.

Business activities in EPZs permitted by the State Council are processing zone administration, export processing enterprises, storage enterprises specially offering services to export processing enterprises and transport enterprises verified by the customhouse specifically engaged in transportation of goods in the processing zone. Retail business, general trade, entrepot trade and other irrelevant businesses are prohibited.

Table 4.7 EPZs in China (Walton, 2003)

Tianzhu Industrial Park (Beijing)	Chongqing (Chongqing)	Xiamen Xinglin (Fujian)	Guangzhou (Guangdong)
Shenzhen (Guangdong)	Beihai (Guangxi)	Qinhuangdao (Hebei)	Zhengzhou (Henan)
Wuhan (Hubei)	Hohhot (Inner Mongolia)	Kunshan (Jiangsu)	Suzhou* (Jiangsu)
Wuhu (Jiangsu)	Wuxi (Jiangsu)	Nantong (Jiangsu)	Lianyungang (Jiangsu)
Nanjing (Jiangsu)	Suzhou New District**	Zhenjiang (Jiangsu)	Huichun (Jilin)
Dalian (Liaoning)	Shenyang (Liaoning)	Xi'an (Shaanxi)	Weihai (Shandong)
Yantai (Shandong)	Ji'nan (Shandong)	Qingdao (Shandong)	Songjiang (Shanghai)
Jinqiao (Shanghai) ***	Qingpu (Shanghai)	Minhang (Shanghai)	Caohejing (Shanghai)
Chengdu (Sichuan)	Tianjin (Tianjin)	Urumqi (Xinjiang)	Hangzhou (Zhejiang)
Ningbo (Zhejiang)	Jiaxing (Zhejiang)		

Those EPZs in bold font are the 15 ones first approved in April 2000 by the State Council.

Suzhou EPZ is located within the Suzhou Industrial Park.

** see Case Study 4.1.

*** Shanghai Jinqiao EPZ is also included in the ETDZs.

Case Study 4.1 Suzhou New District (SND)

The development of Suzhou New District (SND) was launched by Suzhou City Government in November 1990 in accordance with the guideline of “preservation of the old city and construction of a new city” by the State Council.

It was approved as national new & hi-tech industrial development zone by the State Council in November 1992. It was appointed as one of the first APEC science parks in China in 1997. It was designated by the State Environmental Protection Administration Bureau as the first National Demonstration Area of ISO 14000 in 1999.

In 2000 it was approved by China MOFTEC (Ministry of Foreign Trade and Economic Cooperation) and the Ministry of Science and Technology as the Hi-Tech Products Export Processing Base. In 2001, it was approved by the Ministry of Science and Technology and State Environmental Protection Administration Bureau as the first National Hi-Tech Environmental Protection Industrial Development Zone.

In April, 2003 it was approved by the State Council as the export processing zone. The total area of SND is 25 square kilometres with a population of 258,000. SND administers Tong'an Sub-Zone, Dongzhu Sub-Zone, Xushuguan Sub-Zone, Export Processing Zone and 7 townships.

The total planned area of SND is 52 square kilometres. The first phase of 25 square kilometres has been developed. The development of the second phase of 11 square kilometres in the north part was started in August 2001.

(Sino-Viet Nam Trade Network, online)



Figure 4.6 Locations of EPZs approved by the State Council in April 2000 (China Development Zones, online)

4.3.2 FTZs in China

FTZs in China are geographically defined areas ranging in size from smaller than 1 square kilometre up to 10 square kilometres. They are also called *bonded zones* and permit a wide range of business activities such as bonded warehousing, foreign exchange transactions, marketing, trading, and export

processing and manufacturing. They differ, however, from the *bonded logistics zones* approved in 2003 and 2004 by the State Council.

China established 15 FTZs in 13 cities such as Dalian, Tianjin, Qingdao, Zhangjiagang, Shanghai Waigaoqiao, Ningbo, Fuzhou, Xiamen, Shantou, Shenzhen (Shatoujia, Futian, Yantian), Guangzhou, Haikou, Zhuhai in early 1990s. (The State Council approved Shanghai Waigaoqiao FTZ in 1990, Tianjin in 1991, Dalian, Qingdao, Guangzhou, etc. in 1992.) The whole area of 15 FTZs is 52.49 square kilometres, and more than 35,000 enterprises have been set up. Among half are foreign-investment enterprises.

Table 4.8 shows the data for Chinese FTZ's performances and number of enterprises registered in FTZs. These FTZs are supervised by municipal government and managed by each FTZ administrative committee. In general FTZs have been established near ports along the coastal line.

Table 4.8 FTZs in China (Revised by ESCAP secretariat from Tianjin Port Free Trade Zone/ Airport Industrial Park, online)

FTZs	GDP ¹	Goods value of import & export ²	Enterprises registered ³	Foreign invested enterprises registered ⁴	Total foreign investment contracted ⁵	Land approved by state	Actual land in FTZ
Shanghai Waigaoqiao	31.50	20.93	7 054	5 364	3.88	10	8.5
Dalian **	5.33	1.86	3 848 ⁶	1 536 ⁶	2.8 ⁶	9.75	4.60
Tianjin	8.30	3.62	8 152	4 541	7.17	5	3.8
Qingdao	2.50	0.86	2 365 ⁷	935 ⁷	1.48 ⁷	2.54	2.54
Zhangjiagang	3.90	1.90	3 312	373	1.88	4.10	4.10
Lingbo	4.01	1.18	4 586	742	2.20	2.30	2.30
Fuzhou	0.27	0.44	636	419	0.30	1.8	0.8
Xiamen	0.72	1.65	32 ⁸	19 ⁸	0.29	5	0.63
Shantou	1.19	0.16	1 103	269	0.34	2.34	2.34
Guangzhou	*	1.56	2 003	592	0.62	2	2
Shenzhen ⁹	15.18	17.90	1 246	1 099	2.23	2.73	2.25
Zhuhai	0.40	0.70	137	106	0.35	3	3
Haikou	0.60	0.02	541	95	0.36	1.93	1.93
Total	73.9	52.78	35 015	14 554	23.9	52.49	38.79

¹ GDP in 2003 (unit: billion Yuan)

² In 2003 (unit: US\$ billion)

³ As of 2003 (unit: number)

⁴ As of 2003 (unit: number)

⁵ From 1991 to 2003 (unit: US\$ billion)

⁶ Dalian FTZ online

⁷ Qingdao FTZ web site (Qingdao Free Trade Zone), as of April 2004

⁸ Number of enterprises registered in 2003 (no data for total number of enterprises is available in original source)

⁹ The data from the three FTZs in Shenzhen have been added together

* The added value of Guangzhou could not be calculated separately. The office business of four zones such as Guangzhou Economic and Technology Development District, Guangzhou Hi-Tech Industrial Development Zone, Guangzhou Free Trade Zone and Guangzhou Export Processing Zone, has begun in joint operation. In 2003, GDP of the four zones reached 42.31 billion Yuan

** The data of Dalian FTZ includes the data of Dalian Export Processing Zone



Figure 4.7 Locations of FTZs in China

Even though China has a total of 15 FTZs, the performance is quite different in each zone. For example, three FTZs – Shanghai, Shenzhen, Tianjin – account for more than 70 per cent (74.4 per cent in 2003) of the overall performance of all FTZs in terms of GDP.

The regulation of the FTZs is divided into central and local parts. For example, there are central regulations such as Measures of Customs Supervision and Management of FTZs, which was promulgated by General Administration of Customs after approved by the State Council of China in 1997 and Measures of Foreign Exchange Administration

in FTZs promulgated in 2002 by the State Administration of the Foreign Exchange Control. The local regulation is made by local government according to national relevant regulations, for instance, Regulations of Shenzhen FTZ made by Shenzhen municipal government, and Regulations of Zhuhai FTZ made by Zhuhai municipal government.

Enterprises in FTZs can basically enjoy almost same preferential policies with those of other special zones in China. Due to the unique advantage of treating FTZs together with EPZs as outside of Customs supervision areas, FTZs provide more incentives compared to those of other special zones in China. Major preferential policies are as follows (Walton, 2003)¹²:

■ *Tax incentives:*

- The prime income tax rate for foreign-invested enterprise (FIE) is 15 per cent of profit.
- The national government has standardized most preferential policies for FTZs, including a package of tax incentives.
- For the first two years of operations, companies are exempt from enterprise income tax. During the next three years, companies are taxed at 50 per cent of the normal FIE tax rate of 15 per cent. After five years, in-zone enterprises pay the full FIE tax rate.
- If more than 70 per cent of the finished product is re-exported outside China territory, any remaining product is taxed at a reduced rate based on the original imported components.

■ *Customs duty incentives:*

- There are duty exemptions on all construction or infrastructure imports necessary for production and on all equipment, parts, and components imported for self-use.
- Imports entering the FTZ from outside China proper are exempt from customs duties and VAT (value-added tax); customs duties and VAT are assessed only after the finished products leave the FTZ for regions outside the bonded area.

¹² These preferential policies are subject to any changes by relevant authorities.

- All finished goods 'imported' from the FTZ into China proper will have customs duty and VAT assessed based on a ratio of locally sourced inputs to imported components.
- *Local level incentives:*
 - Each zone can, and often does, offer its own incentives on top of the central government ones.
 - Local authorities can establish land-use or utility incentives and may also decide to exempt in-zone enterprises from local income tax.
- *No participation limit:*
 - FTZs remain the only locations in which a foreign company may establish a wholly foreign-owned trading company, initially these wholly foreign-owned companies did not possess trading rights (the right to import and export). To sell products in mainland markets, these companies were required to engage agents with trading rights to handle customs procedures for transactions with the non-FTZ enterprise. This changed in June 2003 when the State Council, the Ministry of Commerce and Customs, issued a notice allowing enterprises in Futian-Shatoujiao, Tianjin, Waigaoqiao, and Xiamen Xiangyu FTZs to register for the right to conduct domestic trade without using an intermediary with trading rights, and the notice leaves the drafting of detailed application rules to the zones.
- *Bonded Commodities Exchange Market or exhibition centre:*
 - FTZs offer a Bonded Commodities Exchange Market or exhibition centre through which in-zone enterprises sell their products to Chinese buyers and distributors for sale in mainland markets.
 - Exchange market administrators clear the goods through Customs and issue VAT invoices.

Like other special zones, FTZs in China provide other advantages in addition to the preferential policies:

- simplified and efficient administrative structure
- one-stop service for official procedure settlement
- top-flight infrastructures
- professional service system on a par with international standards
- catering actively to the individual and diversified demands of different investors
- tailor-made service and the readiness to help investors overcome difficulties
- strategic locations.

Case Study 4.2 Zhuhai FTZs

Zhuhai Free Trade Zone (FTZ) was founded on November 13, 1996 with the approval of the State Council. It covers an area of 3 square kilometres. It is situated in southern Zhuhai SEZ, China, adjacent to Wanzai Port and facing Macao across the strait. It connects Macao by land through Hengqing Bridge and the Lotus Bridge. Zhuhai FTZ is about 11 kilometres away from the downtown, 44 kilometres away from Zhuhai Port, 18 kilometres away from Jiuzhou Port, 40 kilometres away from Zhuhai Airport, 5 kilometres away from the constructing Zhuhai Railway Station, and only 36 kilometres from Hong Kong.

(Kish Trade Promotion Centre, online)

Case Study 4.3 Tianjin Port FTZ

Tianjin Port Free Trade Zone (hereinafter referred to the FTZ) was found on the 12th May, 1991 after the approval of the State Council. As a comprehensive opening-up oriented special economic area, the zone is under the supervision of Customs, taking the advantage of being a free trade zone and in the port area, enjoying the most preferential policies granted by the State, and conducting its activities in the conformity with international practice.

Tianjin Airport Industrial Park and Tianjin Airport International Logistics Zone are the extensive areas of Tianjin FTZ. The three areas all belongs to Tianjin Binhai New Area, facing the northeast of Asia and connecting with 13 provinces and Municipalities.

Tianjin FTZ, Tianjin Airport Industrial Park and Tianjin Airport International Logistics Zone are three economic areas, with one administrative committee but two titles, as Tianjin Port Free Trade Zone Administration Committee and Tianjin Airport Industrial Park Administration Committee.

The FTZ stands in the centre of the area around Bohai Bay. So far, 3.8 square kilometres of land have been developed, the planned area of the FTZ is 7 square kilometres. The supply of water, electricity and gas, telecommunications service and roads are available in the zone. Together with its unique advantageous conditions for ocean shipping, and transportation, airway and railway transportation, the FTZ has been made into a hub for international multimodal transportation.

After several year's exploration and development, the FTZ has set its trends to be an international materials flow centre and basically has formed 3 functional systems: the international distribution, allocation and delivery system on the basis of bonded warehousing with materials flow as its core; the market trading system on the basis of exhibition and display with import and export trade as its core; the import and export processing system with the advantage of being a harbour as well as the combination of trading and processing.

With the three functional systems, the FTZ supports the economic development of hinterland and accelerate the total regional economical amount. The FTZ has developed into the largest international trading window in North China and the green passage for the international material circulation to come in and out.

(National Free Trade Zone, online; Tianjin Port Free Trade Zone/Tianjin Airport Industrial Park, online)

Case Study 4.4 Dalian FTZ

Dalian Free Trade Zone (DFTZ) and Dalian Export Processing Zone (DEPZ) are all state-level development zones authorized by the State Council in May of 1992 and April of 2000 respectively. They are the most open economic areas that offer advantages unavailable elsewhere in China. Though located inside China, DFTZ and DEPZ are considered to be outside the Chinese Customs territory. Thus any goods that enter China through the Zones are not assessed Customs duties until after they leave the Zones for domestic market.

Companies inside the Zones benefit from preferential tax policies, simplified customs procedures, liberal foreign exchange privileges and absence of export quotas and other requirements on imports. DFTZ and DEPZ provide an ideal platform for foreign products to enter Chinese market, on the other side, for China-made products to go global as well. Individuals as well as corporations from both home and abroad are eligible to set up joint-ventures or wholly owned firms.

Companies registered with the Zones can do such businesses as trading, processing, warehousing and distribution, commercial services and banking services. Infrastructure in both Zones is complete. Administration of Dalian Free Trade Zone and Export Processing Zone is authorized by the Municipality with administrative power over the Zones. DFTZ and DEPZ, together with the Dalian International Logistics Park will be integrated with the neighbouring ports to become an internationalized free trade area in northeast Asia.

Up to October of 2003, there were altogether 3,848 investment projects registered in DFTZ and DEPZ, among which 1,536 were foreign funded by investors from 41 countries and regions with accumulated contract capital of USD 2.8 billion. There are 14 Fortune 500 companies set up their businesses in the zones. The GDP of DFTZ

and DEPZ was RMB 4.53 billion in 2002 and it is expected to reach RMB 5 billion in 2003. The foreign trade volume of DFTZ and DEPZ in 2002 was USD 1.35 billion with USD 0.6 billion exports and USD 0.75 billion imports. In 2003, the foreign trade volume is expected to reach USD 1.7 billion, 0.8 billion and 0.9 billion for exports and imports respectively.

(Dalian FTZ, online)

Case Study 4.5 Qingdao FTZ

Qingdao Free Trade Zone (QFTZ) was approved by the State Council on November 19th 1992 and set up according to the International Kyoto Convention. With the total scheduled area of 3.8 square kilometres, Qingdao Free Trade Zone has passed through the examination of National Customs Authority and was put into operation on March 28th 1993.

This special area enjoys preferential policies with 'exemption of import and export licences, duty-free, bonded free'. QFTZ functions as a centre for international trade, import and export processing, bonded warehousing, logistics and distribution with the characteristic of 'outside the Customs, within the border'. It is the unique free trade zone in North China and along Yellow River reaches as well as one of the most open areas in China with the most flexible operational modes and the most preferential policies.

QFTZ has attracted investors from more than 40 countries and regions and over 20 provinces inland involving 2,365 investment projects among which 935 are wholly foreign-owned enterprises, joint ventures and cooperative enterprises up to April 2004,. The contracted foreign capital achieves USD 1,481 billion, valuing RMB 10,043 billion in industry output. The sales of logistics and distribution enterprises have reached to RMB 19,14 billion including export of USD 1,324 billion.

Fortune 500 enterprises such as Itochu, Sumitomo, Mitsubishi, Iwai, Marubeni, Panasonic, Fussan from Japan, Lucent, American Aluminium, Chevron Phillips, Eastman from the United States of America etc. have already settled in QFTZ. Some domestic big corporations like Haier, Hisense, Aucma↗ Sinotrans and Beijing City Construction Company have also set up their companies for processing, warehousing and international trade in QFTZ, all of them compose a new economic increasing point.

(Qingdao FTZ, online)

Case Study 4.6 Zhangjiagang FTZ

Jiangsu Province Zhangjiagang Free Trade Zone, approved by the State Council in October 1992, is the only inland river type free trade zone in the country, with the planned area of 4.1 square kilometres. Its establishment is to radiate and accelerate the internationalization of Jiangsu Province and even the whole Yangtze River Valley, and provide service for Chinese enterprises to enter the international market and foreign enterprises to enter Chinese market by taking advantage of the unique bonded conditions of the Customs and relying on the unique location advantages of being connected with the Yangtze River and the sea, excellent harbour conditions, developed transportation net and an integral whole of Zone and Harbour.

The main functions of Zhangjiagang Free Trade Zone are export processing, bonded storage and international trade, and four characteristic industries have been formed – oils & cereals, chemicals, textile and mechanics & electrics. By the end of 2002, 3,225 enterprises of all kinds have registered in Zhangjiagang Free Trade Zone including 312 foreign investment enterprises, with total amount of investment of USD 2,384 billion, contractual foreign investment of USD 1.62 billion and paid-in foreign investment of USD 1.24 billion. Investors are from more than 10 countries and regions like the United States of America, Japan, France, the United Kingdom, Singapore, Australia, Hong Kong, China, Taiwan Province of China etc. Now Zhangjiagang Free Trade Zone has entered a stage of high-speed development in an all-round manner, and become an important investment carrier in the Yangtze River Valley of China.

Bonded Logistics Park

There are two planned individual areas of the Bonded Logistics Park – the west part and the east part, and each will be supplied with complete infrastructure (water, electricity, steam, drainage, sewage pipeline, communication, transportation and leveled land, etc.) The west part is in the area of approved Free Trade Zone, enjoying the same preferential policies as Free Trade Zone. The east part with an area of 1 square kilometre is under application to support Yangtze River International Chemical Industrial Park as a part of the complete set.

These two parts will integrate ports and zones, which will not only greatly decrease the cost of international logistics, but also help the development of storage logistics, international trade, transit trade, distribution, processing of bonded goods, etc. Introduction of large multinational corporations and logistics firms will be the key of the Bonded Logistics Park.

(Jiangsu Province Zhangjiagang Free Trade Zone, online)

Case Study 4.7 Guangzhou FTZ

On May 13, 1992, the Guangzhou Free Trade Zone (GFTZ) was officially approved by the State Council. In May 1993 it was inspected by Customs and put into operation. Based on the prevailing international practice of free trade zones, GFTZ implements a supervisory policy of 'Within Territory but Out of Customs' by Customs to comprehensively open up a special zone to enable free in and out privileges from the bonded zone and abroad, for foreign currencies and for personnel as well. Thus it provides the export processing plants all over the Pearl River Delta with multifunctional services and a business space for trade, bonded storage, material logistics and bonded demonstration.

GFTZ consists of four main functional parks: the Computer Industry Park, South Auto Import Park, Export Processing Park and International Logistics Park. GFTZ is equipped with facilities such as Customs clearance building, chartered wharf, bonded warehouse, all-purpose facilities, open-air storage yard, showrooms, cargo inspection yard etc. GFTZ encourages the development of industries such as international trade, bonded logistics, processing & manufacturing.

GFTZ covers an area of 2 square kilometres. There are presently two stages of development, with Baoying Bridge connecting the first-stage and the second-stage. The first stage will concentrate on the development of commercial trade, storage, showrooms, elementary commercial processing, wharf and public services. The second stage is designed to set up a Computer industrial Park to facilitate the development of IT industry and other hi-tech industries.

(Guangzhou Development District, China, online)

Case Study 4.8 Shenzhen FTZ

The Shenzhen FTZ consists of the three free trade zones, such as Futian FTZ, Shatoujiao FTZ, and Yantian Port FTZ. The three free trade zones with a total area of 2.47 square kilometres have been developing together with the growth of Shenzhen Special Economic Zone.

Futian Free Trade Zone was established on May 28, 1991 upon approval by the State Council. On February 18, 1993, its insulating facilities were qualified by Customs General Administration. The free trade zone occupies 1.35 square kilometres, with 0.33 square kilometre allocated residential quarter.

Shatoujiao Free Trade Zone was established on December 25, 1987 upon approval by Shenzhen Municipal Government, and was formally set up on May 28, 1991 upon approval by the State Council. It is the earliest free trade zone occupies on industrial land area of 0.27 square kilometre, with a residential land area of 0.15 square kilometre. Shatoujiao Free Trade Zone is located in Yantian district in the east of Shenzhen, it is 1 kilometre from the largest international container port in South China-Yantian Port in the east, 2 kilometres from Shatoujiao Port

to Hong Kong in the south. Financial institutions such as the Bank of China, the Agricultural Bank of China, the Industrial & Commercial Bank have their branches in the zone. With a total building area of 200,000 square metres, the residential quarters can accommodate 30,000 employees.

Yantian Port Free Trade Zone was established on September 27, 1996 upon approval of the State Council. Its first phase of development area covers 0.85 square kilometre.

(Shenzhen Administrative Bureau of Free Trade Zones, online)

4.3.3 The difference between FTZ and EPZ

EPZs and FTZs are the same in that those zones are considered as outside of customs supervision territory. However, there are also differences between two zones mainly due to the EPZ's exclusive focus on export processing.

- First, EPZs permit fewer types of business activities such as only export processing, warehousing for providing services for processing activities of in-zone enterprises, and transportation service suppliers who are authorized by the customs authorities to do the transportation business for enterprises in the zone.
- Unlike in FTZs, there are no VAT charges on public utilities.
- Only companies with exports of more than 70 per cent of their outputs are eligible for the income tax benefits available to all companies in FTZs.
- There is a difference in the export rebate policy. If a company within an EPZ purchases goods from an enterprise within China, the selling enterprise will receive an export rebate, and the in-zone buying enterprise will not have to pay VAT. In contrast, companies in FTZs, or bonded facilities outside of zones, must pay VAT up front on any goods sourced in China and apply for an export rebate only after the good has been exported.
- Enterprises in EPZs also benefit from priority Customs clearance over those located outside the zone and more streamlined clearance than those in FTZs. All companies in an EPZ must have a computerized database connected with Customs to clear goods electronically. EPZs enjoy 24-hour Customs support (Walton, 2003; Guangzhou Development District, online).

Case Study 4.9 shows clearly the differences between investing in Songjiang EPZ and in Waigaoqiao FTZ. Although these differences are coming from consideration between specific zones, most other cases will fall into this category.

4.4 Introduction to bonded logistics zones

All of China's 15 free trade zones have ports, but almost all the free trade zones are isolated from the ports. One direct impact from this situation is the FTZs working independently from nearby seaports. As a result, the roles of the free trade zones, such as export processing, entrepot trade and bonded warehouses, are not supported by the ports and vice versa, which has resulted in China's own seaports remaining small in transport capacity because of insufficient demand.

In addition, under these situations the cargo cannot directly access the free trade zones from the ports. Import, export and distribution of the cargo have to undergo Customs check procedures of both the ports and the free trade zones. It is difficult for Customs to supervise the process due to the complicated procedure during cargo distribution within the zones. At the same time, it is difficult for the ports to make use of the open advantages of the free trade zones.

Case Study 4.9 The differences between investing in Songjiang EPZ and in Waigaoqiao FTZ

Business Scope

EPZ

Only the processing trade of self-produced goods is permitted.

Over 70 per cent of the Products should be sold to other countries.

FTZ

Enterprises can be engaged in international trade, domestic trade and manufacturing and processing.

All products can be sold out domestically.

Taxation

EPZ

The entrance of spare parts and raw materials from enterprises outside the zone to the zone is regarded as export and VAT can be refunded.

Customs duty will be levied according to ready-made products sold domestically and manufactured by enterprises in the zone with spare parts and raw materials from abroad.

FTZ

VAT on spare parts and raw materials entering the zone from enterprises outside will not be refunded.

Customs duty will be levied according to the standard of spare parts and raw materials from abroad on those ready-made products sold domestically and manufactured by enterprises in the zone with spare parts and raw materials from abroad.

Customs inspection

EPZ

Cancellation of verification is carried out every half year or whole year.

FTZ

Cancellation of verification is carried out upon each contract.

(Shanghai Foreign Economic Relations & Trade Commission, online)

4.4.1 Addressing the distorted concept of FTZs

Except for a few FTZs, most FTZs in China are dominated by export processing or manufacturing to make FTZs in China similar to export processing zones in China and in other countries. Local governments in China often fail to find the differences between FTZs and the currently introduced export processing zones in China. In other words, FTZ in China meant at first a bonded zone (area)¹³, but the real meaning of this bonded zone has been changed to the concept of an export processing zone, rather than a logistics oriented zone.

¹³ In this study, bonded area or zone means a logistics-oriented zone where international trading and value-added logistics services such as storage, testing, packing, labeling, assembling etc. take place rather than manufacturing.

To address this distorted concept of FTZ (bonded area) and various problems, the State Council approved a new Shanghai Waigaoqiao Bonded Logistics Zone (Park) as a first pilot zone-port interaction area in December 2003 in order to develop international logistics industry and to promote China as an international logistics and maritime centre.

In 2004 the State Council has approved seven other bonded logistics zones, a total of 15 FTZs (bonded zones) to fully utilize FTZs (bonded zones) and ports (see Table 4.9).

Table 4.9 Bonded logistics zones¹⁴

Shanghai Waigaoqiao Qingdao	Dalian Zhangjiagang	Xiamen Xiangyu Shenzhen	Tianjin Ningbo
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According to Shanghai Customs, by joining the bonded logistics parks of the free trade zones with those of the ports, the policy advantages of the free trade zones and the geographical advantages of the ports will be given to full play, thus further simplifying the procedures, speeding up cargos circulation, advancing the harbour navigation industry, warehousing industry and logistics industry, and promoting the interactive development of harbour navigation industries.

The bonded logistics zones are expected to satisfy the needs of multinationals and their headquarters in China for the transshipment and supply of products, materials and parts in a global sense.

4.4.2 Activities permitted within bonded logistics zones

The intended functions of the Bonded Logistics Park will cover the following activities: bonded warehousing, allotment and distribution, information processing, import and export trade, check and maintenance, commodities exhibition, and centralized Customs declaration. At the same time, preferential taxation policies and port functions will be in place. Cargo handling inside the park will include inter-Customs transfer, Customs declaration and claim between special regions within Customs supervision, such as in the Bonded Logistics Park, the Bonded Logistics Centre, free trade zones, export trade processing areas, bonded warehouses, and export supervision warehouses (The Hong Kong Shippers' Council, online).

For example, the Shanghai government encourages multinational companies to use the Bonded Logistics Park as a regional procurement and distribution centre, supplying goods to overseas markets, regional markets and the PRC. The Bonded Logistics Park may serve as a hub for international transportation and international sourcing (i.e. the sorting and simple processing of goods sourced domestically and abroad for sale to domestic and overseas destinations), as well as entrepot trade. In terms of trade, domestic companies registered in the Bonded Logistics Park are granted import and export rights. They may also provide support services such as transportation.

It has been reported that the Chinese Government has intentions of developing the bonded logistics zones as free ports or free trade areas in the future, like Hong Kong, although it will take a lot of time before really adopting free port or free trade areas.

¹⁴ On August 18, 2004, the State Council approved the construction of the Customs Bonded Logistics Centre (Type B) of Suzhou Industrial Park, with the first phase of 0.32 square kilometre. Suzhou Bonded Logistics Centres are subdivided into two types, namely, Type A and Type B. Pivoted by a logistics company, Type A is intended to develop bonded warehousing, simple processing and distribution to meet multinationals' internal logistics demands. Type B is a public place to be used by multiple logistics enterprises, and the customs will implement regional and networked management according to export processing area's supervision model.

4.5 The Republic of Korea

4.5.1 Introduction of FTZs

In 1960s the Republic of Korea developed industrial parks/complexes according to its First National Economic Development Plan in which industrialization policy was selected for national economic development. Before the 1960s, the enterprises developed their factory lands by themselves according to their own needs.

In the 1970s, the Republic of Korea developed heavy and chemical industrial parks/complexes according to its economic development policy which emphasized heavy and chemical industry development as the way of growing its economy. During this period, large heavy and chemical industrial parks/complexes were developed in industrial belts, such as those of the Ulsan, Changwon and Yeochun areas. In this period, the Republic of Korea's economic development policies were export-driven.

As non-tariff zones, Masan and Iksan Export Processing Zones¹⁵ were established as the first special zones with incentives such as preferential tariffs and taxes to attract foreign direct investment for promoting export, employment and technology transfer in 1970 and 1973 respectively. Export processing zones are different from industrial parks/complexes in that is the zones are considered as lying outside of the customs boundary, unlike other industrial parks/complexes. In 2000, the name of export processing zone was changed to free trade zone (FTZ).

In January 2002 Busan and Gwangyang ports were introduced as customs free zones, and then Incheon Port and Incheon International Airport were designated as customs free zones in January 2003 to promote the international logistics industry.

There were differences between free trade zones (former export processing zones) and customs free zones at first. Free trade zones were manufacturing-oriented special zones while customs free zones were logistics-related zones where manufacturing was not allowed. However, in 2003 the two concepts of special zones, free trade zone and customs free zone, were integrated into free trade zones by the *FTZ Act*. This has resulted in both manufacturing and logistics activities being allowed within these FTZs.

According to the *FTZ Act*, the areas able to be designated as FTZs may be industrial complexes, adjacent hinterlands of airports and seaports, distribution complexes or freight terminal¹⁶. In general, seaport and airport FTZs aim to promote international logistics business even though manufacturing activities are allowed within these zones, while the other zones, such as the FTZs designated in/around industrial complexes, aim mainly at promoting manufacturing businesses.

Currently the Republic of Korea has put its greatest amount of effort into developing successful FTZs, especially by continuously exploring various successful policies such as simple regulations, strengthening marketing strategies and improving administrative efficiencies and by developing huge logistics land areas around ports (Table 4.10).

¹⁵ It is sometimes called free export zone or export free zone or free zone for export.

¹⁶ In Korea freight terminal means the facilities designated by relevant regulation, which has necessary functions for collection, loading, sorting, packing, storage, customs clearance for freight except those facilities within specific areas such as ports, airports etc.

Table 4.10 FTZs in the Republic of Korea

Zones	Designating Date	Size (1,000 m ²)	Planning (1,000 m ²)	Remarks
Masan	1970	793 ¹	–	
Iksan	1973	309	–	
Daebul ²	2002	1 158	–	Completed in 2007 Within Daebul National Industrial Complex
Gunsan	2000	1 254	1 029	Completed in 2004 Within Gusan National Industrial Complex
Gunsan Port*	–	–	1 019	2000-2007 Within Gun-Jang National Industrial Complex
Busan Port	2002	5 451	868	Including the zone in the Busan New Port Within free economic zone
Gwangyang Port	2002	6 755	–	Within free economy zone
Incheon Port	2003	2 167	117	
Incheon Airport	2005	2 080	2 050	Being operated from 2006

¹ Masan FTZ has been expanded to total 1,095 thousand square metres in 2002.

² Opened in 2003.

³ It consists of Gunsan Port area (1,019 thousand square metres) and Gun-Jang New Port area (1,725 thousand square metres).

The zones with bold font are dedicated to logistics industry, and the other zones are dedicated to manufacturing even though both activities are possible in any zones.

Table 4.11 Performance of Masan FTZ (Masan FTZ Administration)

Year	Investment (million)*	Foreign investment rate (%)	Export value (million)	Foreign exchange earnings (million) (rate)**	Employment	Number of enterprises
1971	5.3	93	0.86	N/A	1 248	22
1973	82.8	95	70.4	25.9 (36.8%)	21 240	115
1980	112.9	83	628.1	333.0 (53.0%)	28 532	88
1985	125.9	77	809.3	412.6 (51.0%)	28 983	79
1990	215.8	84	1 405.4	758.1 (53.9%)	19 616	72
1995	235.3	77	2 400.9	1 081.1 (45.0%)	14 736	73
2000	251.4	77	4 442.1	1 302.6 (29.3%)	14 415	78
2004	263.9	78	4 617.8	1 342.5 (29.1%)	9 424	76

* All currency used in table is USD, and the amount of investment is accumulated.

** Foreign exchange earnings rate is calculated by dividing export value by foreign exchange earnings.

4.5.2 Attracting business to FTZs: Incentives in FTZs

Domestic and foreign companies that set up operations in FTZs will benefit from various advantages provided by the *Free Trade Zones Act*. Foreign companies in particular will be provided with preferential treatment in terms of taxes and leasing fees. Major advantages for the tenants in the free trade zones are as follows (International Logistics Consulting Centre, Ministry of Maritime Affairs & Fisheries of Korea, online):

■ Exemption of direct tax

Corporate/income taxes and acquisition/registration/property/land taxes will be exempted for the first three years and discounted 50 per cent for the following two years if more than USD 10 million in the case of foreign manufacturing company or more than USD 5 million in the case of foreign logistics company is invested¹⁷.

■ Exemption of indirect tax

Customs tax on foreign goods brought into the FTZ by companies operating in the zones will be exempted. No value added tax on local goods brought into the FTZ by companies operating in the zone, or on business transactions between companies operating in the zone will be imposed. Enterprises within the FTZ will benefit the exemption from the temporary import surtax, liquor tax, special excise tax, transportation tax, special tax on agriculture and fishery products, and education tax.

Other benefits for the in-zone enterprises include low leasing fee for land, long leasing period of a maximum 50 years and simplifying customs procedures, quality infrastructures, strong administrative support for business activities and so on.

■ Free economic zone

The Republic of Korea introduced the *Free Economic Zone (FEZ) Act* in December 2002, and then designated Incheon FEZ, Busan-Jinhae FEZ and Gwangyang FEZ in October 2003. These three FEZs are currently under construction, and will be in operation step-by-step from 2006. Table 4.12 shows FEZs in the Republic of Korea. The FEZs in the Republic of Korea are special areas designated for promoting a business-friendly environment by:

- applying different regulations from domestic regulations
- providing preferential incentives for foreign investments
- providing sophisticated infrastructures such as manufacturing related facilities, seaports and airports, international logistics facilities, international business complexes, international schools for education and hospitals, hotels, residential areas for foreigners
- allowing establishing hospitals, medical and education institutions, broadcasting stations by foreigners which are not allowed outside of FEZs in the Republic of Korea
- promoting better environments for international business such as simple customs procedures and administrative regulations, foreign language services, one stop services and so on.

Table 4.12 FEZs in the Republic of Korea

FEZs	Designating Date	Size (1,000 m ²)
Incheon FEZ	August 2003	209 455
Busan-Jinhae FEZ	October 2003	104 265
Gwangyang FEZ	October 2003	88 960

¹⁷ Foreign company is defined as the one a foreign entity owns more than 10 per cent of total shares of the company according to the relevant law.

For example, the Incheon Free Economic Zone (IFEZ) includes the Songdo Intelligent City, Yeongjong area (including Incheon International Airport) and Cheongna Area, which covers a total area of 209 thousand square metres, with a projected population of 475,000. The Republic of Korea is aiming at developing self-sufficient cities with international logistics and business centres, hi-tech, knowledge-based industries and leisure and tourism complexes.

Songdo Intelligent City, near Incheon International Airport, will be developed as a centre for multinational business and a high value-added knowledge-based complex. The British construction firm AMEC has signed a memorandum of understanding with the city of Incheon to build a Second Airport Bridge that will link Songdo Intelligent City and Incheon International Airport. The Second Airport Bridge will be completed by 2008.

The American-based Gale Company (master developer and marketing agent) reached a real estate joint venture agreement with POSCO Engineering & Construction (construction manager), the second largest steel manufacturer in the world, in March 2003, to develop Songdo Intelligent City as one of the world's largest urban centres to be built from the ground up. The new partnership, called NSC, will be responsible for developing 1,364 acres of reclaimed land on the waterfront at a cost of more than USD 12.7 billion.

Songdo Intelligent City will be developed over an eight year period. In the first phase, an international convention centre and 60 story world trade centre, 60 other office buildings, deluxe hotels, shopping malls, and golf courses will be built by 2008. A Knowledge and Information Industrial Complex and Bio Complex will also be built by 2008 (Planning Office of Free Economic Zone, the Ministry of Finance and Economy of Korea).

The FEZs in the Republic of Korea have some special characteristics compared to other free trade zones in the Republic of Korea:

- The FEZs occupy much larger areas.
- The FEZs provide not only facilities for economic activities such as manufacturing facilities, but also supporting facilities not directly involved in economic activities, such as education, residential and recreational facilities, hotels and a tourism district.
- The FEZs may include other special zones such as FTZs.
- The FEZs include international transportation facilities such as seaports and/or airports.
- The FEZs require more investment to qualify for preferential taxation and other incentives compared to the FTZs.

According to the Planning Office of Free Economic Zone, the Ministry of Finance and Economy of Korea the preferential policies of FEZs are as shown in Table 4.13:

Table 4.13 Preferential policies of the Republic of Korea FEZs

Sector	Benefits
Tax breaks	<ul style="list-style-type: none"> Corporate tax exemptions for the first 3 years and a 50 per cent reduction the following 2 years (for investments of more than US\$ 50 million, a 100 per cent exemption for the first 7 years and a 50 per cent reduction the following 3 years) A flat 17 per cent income tax for foreign CEOs and executives at foreign companies Capital goods import tariff exemption for 3 years Acquisition, registration, property, and aggregate land tax exemptions for the first 3 years and a 50 per cent reduction for the following 2 years.
Financial support	<ul style="list-style-type: none"> Companies that locate in FEZs will either be exempt from or subject to reduced land fees Financial assistance for the construction of such facilities as hospitals and schools to make life more convenient for foreigners.
Deregulation	<ul style="list-style-type: none"> Minimal land-use regulations governing factory construction and enlargement. (currently applicable to Seoul metropolitan area) Lift restrictions on entering businesses reserved for SMEs (small and medium enterprises) Direct foreign currency payments for ordinary transactions of less than US\$ 10,000 allowed.
Employment and labour-management	<ul style="list-style-type: none"> Unpaid weekly holidays allowed (currently paid) Exemption from obligatory employment of veterans, the disabled, the elderly.
Educational improvements	<ul style="list-style-type: none"> Schools can be established by foreign investors. Domestic residents can attend foreign schools.
Foreign hospitals and pharmacies	<ul style="list-style-type: none"> Foreign-financed hospitals and pharmacies for foreigners allowed.
Foreign broadcasting	<ul style="list-style-type: none"> The ratio of cable network foreign broadcasting retransmission channels expanded from the current 10 to 20 per cent.
Administrative support	<ul style="list-style-type: none"> English allowed for processing of public documents. Foreign Investment Ombudsman's office will be established.

4.6 Europe in general¹⁸

In this section, we will be looking at the state of affairs of free trade zones in Europe.

As was discussed in Chapter 2, incentives are an important component of the FTZ-concept. In the European Union, a number of industrial zones are labelled as free trade zones. Zones like de Zona Franca de Barcelona or the Shannon Free Zone were established many years ago and have been very successful in attracting investment. Their impact on local economic development has been – and still is – significant. However, in a recent review by the authors of the key selling points of these zones reveal that tax incentives are no longer a main characteristic. The emphasis has moved towards a concept that is more oriented to providing value added services rather than from tax and other financial incentives.

The reasons for this can be said to be attributable to the following, firstly is that a better service has to be offered in order to remain competitive in a global economy. Essentially, the 'FTZ-product' requires continual upgrading like any product produced therein. Secondly, the policy of the European Commission has been one that creates a level playing field towards state aid to private enterprises. In this chapter we will explain what the current legislation of the EC is towards incentives.

¹⁸ NB. This section is condensed from the following (Source: <http://europa.eu.int>)

Also we will examine how member states creatively try to go around the EC-regulations by developing alternative tax-based incentives. In this section we will look at alternative tax schemes proposed by the Belgian and Dutch governments – both very successful in attracting distribution activities.

Lastly, a brief overview will be given of operations at the Ports of Antwerp and Rotterdam.

4.6.1 The European Union's policies on incentives¹⁹

General principles. With the development of the common market the European Union has sought to removal legal and technical barriers to trade. The tax differences between the countries of the European Union have also come to be an important concept for consideration since companies operating out of different countries should be subject to the same level playing field. The issue of tax competition between member states has thus been a concern to the Commission for almost 30 years. The harmonisation of direct taxes among European Union countries has not followed largely due to political reasons.

In 1997 the European Commission published a Code of Conduct entitled 'A package to tackle harmful tax competition in the European Union' to deal with the problem of harmful tax competition.

The EC has adopted a number of resolutions dealing with the areas of business taxation, taxation of savings income and the issue of withholding taxes on cross-border interest and royalty payments between companies. A Code of Conduct Group was established in 1998 and has become known as the 'Primarolo Group' named after the first Chairperson, Mrs. Primarolo. It's aim is to assess the tax measures that may fall within the Code. The location of a business activity in the Community in relation to tax is governed by the Code of Conduct The Code covers laws or regulations and administrative practices of member states, who by becoming members, commit themselves not to introduce new tax measures which are harmful within the meaning of the code.

A list of potentially harmful tax provisions was compiled by member states and sent to the Commission for review by the 'Primarolo' Group. Amongst those countries examined, the Group look at the tax treatment of special tax regulations for coordination, distribution and service centres in the Netherlands and Belgium. These will be discussed further in this chapter.

The European Commission states that any aid granted by a member state or through state resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods is incompatible with the principles of the common market. Aid granted to promote the economic development of areas where the standard of living is abnormally low or where there is serious under-employment is a notable exception.

The Commission has also the power to review all systems of aid existing in the member states and can order the state concerned to abolish or alter such aid. If the state does not comply a refer may be made to the Court of Justice and the beneficiary of the subsidy can also be forced to refund the subsidy.

EC competition rules prevent state aid in the following cases:

- Where an advantage relieves a company of charges that are normally born from their budget.
- Where the advantage is made by the state or with state resources.
- Where competition and trade between member states is affected.
- Specific or selective either for companies, industries or the manufacture of certain goods.

¹⁹ *ibid.*

State aid constitutes any measure intended partially or wholly to exempt firms in a particular sector from the charges arising from the normal application of the general system 'without there being any justification for this exemption on the basis of the nature or general scheme of this system'.

The mere fact that the aid strengthens the firm's position compared with that of other firms which are competitors in intra-Community trade is enough to allow the conclusion to be drawn that intra-Community trade is affected. The size or amount of the aid is irrelevant, as too the size of the company receiving it nor whether the company exports. The receipt of aid itself is sufficient to warrant a breach of EC rules.

NB. If tax measures are the same to all economic agents operating within a member state then it is not considered to be state aid.

Every year member states are required to report to the commission their existing state aid systems.

4.6.2 State aid within the sale of land and buildings by public authorities²⁰

Besides direct grants and tax allowances, governments have another powerful instrument at their disposal to attract foreign direct investment to a region: to sell land and buildings at below-market rates. However, the Commission has developed a set of guidelines for handling sales of land and buildings in a way that automatically precludes the existence of state aid. This guidance concerns only sales of publicly owned land and buildings. The basic principle is that public property cannot, in principle, be sold below its value.

Sale through an unconditional bidding procedure. A sale of land and buildings following a sufficiently well-publicized open and unconditional bidding procedure, comparable to an auction, which later results in the acceptance of the best or only bid is by definition at market value and consequently does not constitute state aid.

- An offer which is repeatedly advertised over a reasonably long period (two months or more) is deemed 'sufficiently well-publicized'.
- An offer is 'unconditional' when anybody is generally free to acquire the land and buildings and to use for his own purposes.

Sale without an unconditional bidding procedure. If public authorities do not use the above method they should obtain an independent market valuation from several competent valuers. The market price thus established is the minimum purchase price that can be agreed without granting state aid.

4.6.3 Special status for distribution activities in the European Union

Free zones²¹. The section above gives an explanation as to why FTZs in Europe are what they are today. The conclusion is that FTZs as originally conceived do not exist any more in the European Union. The Commission does allow the establishment of free zones within its territory but its definition of free zone is a very narrow one. Free zones are special areas within the customs territory of the Community where goods are free of import duties, VAT and other import charges.

Free zone treatment applies to both non-Community and Community goods. Non-Community goods stored in the zone are considered as not yet imported whereas Community goods can be considered as already exported. On importation, free zones are mainly for storage of non-Community goods until they are released for free circulation. Import and export declarations have only to be lodged when the goods leave the free zone. In addition, there may be special relief available in free zones from other taxes, excises or local duties. These will differ from one zone to another.

²⁰ *ibid.*

²¹ *ibid.*

The free zones are mainly a service for traders providing fewer customs formalities.

- Control Type I free zones have a perimeter fence so that goods are tightly supervised by Customs.
- Control Type II free zones are essentially the same as customs warehouses. Unlike with traditional-style free zones, the goods are subject to a declaration in order to be able to benefit from the arrangement.

Customs warehouses. See Council Regulation (EEC) No. 2913/92 (the Customs Code) and its implementing Commission Regulation (EEC) No. 2454/93. The main features of the regulations are set out below.

The customs warehousing procedure provides for storage of:

- Non-Community goods without such goods being subject to import duties or commercial policy measures
- Community goods (principally CAP goods entitled to payment of export refunds) which are subject to particular export arrangements by virtue of being warehoused.

Normal import or export prohibitions or restrictions on the goods are not precluded from the customs warehousing procedure .

Types of customs warehouses. A customs warehouse means any place approved by and under the supervision of the Customs authorities where goods may be stored under the prescribed conditions. A customs warehouse may be either a public or a private warehouse. A public warehouse is a customs warehouse available for use by any person for the warehousing of goods, whereas a private warehouse is reserved by the warehouse keeper. Customs will accept applications for approval of different types of warehouses as follows:

- *Type A:* A public warehouse available to any person for the warehousing of goods under the responsibility of the warehouse keeper.
- *Type B:* A public warehouse that has one warehouse keeper who may in principle allow anyone to use the space. Type B warehouses are intended primarily for transit storage suppliers. The person whose name is on the declaration placing the goods in the warehouse is liable to Customs for them and must provide a guarantee for them. Customs will supervise the entry, storage and removal of the goods in Type B warehouse by means of both storage documents that it retains and physical supervision. Type B warehouses must be located near a Customs office.
- *Type C:* A private warehouse reserved for the warehousing of goods by the warehouse keeper. The warehouse keeper is synonymous with the depositor, although does not have to be the owner of the goods. Only the warehouse keeper is allowed to store goods and is liable to Customs for the goods in storage by way of a guarantee. Customs supervises the goods mainly on the basis of records but also carries out physical controls. The types of goods and the level of detail in the records determine the frequency of these controls. The more specific the data, the less the need for physical controls. Because of the controls required, type C warehouses must generally be located near a Customs office.
- *Type D:* This warehouse is similar to a type 'C' warehouse, but the declarant has the option of having the goods assessed for duty either on the basis of their value on being placed in warehousing or at the time of release for free circulation. Type D warehouses, like type C, are private warehouses. They are intended solely for goods stored by the warehouse keeper and are mainly used for commercial storage or for building up stocks. The warehouse keeper is liable to Customs for the goods in storage. The difference

between Type D warehouses and other types is that for all other types of customs warehouses, the customs value and quantity of the goods are determined when they are removed from the warehouse. In Type D warehouses the status of the goods on placement in the warehouse is decisive. However, deviations from this principle are possible if warehousekeepers so request. Customs supervises the goods on the basis of the stock records and financial records. These records must therefore meet high standards. Random physical controls also take place. Type D warehouses may be located anywhere in the country.

- *Type E:* A private warehouse, similar to Type C. However, the Type E authorization allows goods to be stored in a number of different locations. Type E warehouses are intended solely for goods storage by the warehouse keeper. Like Type D they are mainly intended for commercial storage and for building up stocks. Again the warehouse keeper is liable to Customs for the goods in storage. Customs supervises the goods in Type E warehouses primarily on the basis of the financial and stock records, with limited supplementary physical controls. The warehousekeeper's records must therefore meet high standards. His organization must also have separation of duties and internal control measures. The warehouse keeper may store goods in multiple locations. His records must show what goods are located in which location. As a rule, Type E warehouses may be located anywhere.

Operating procedures. A declaration is required for all goods intended to be placed under the customs warehousing procedure. The warehouse keeper must keep stock records of all goods deposited in the warehouse. These records must contain all the information necessary for the proper application and control of the warehousing procedure. The stock record system must be approved in advance of authorization and must ensure control of stock movements and provide sufficient detail to facilitate assessment of customs duty and enable checks to be carried out.

Goods placed under the customs warehousing procedure may undergo the usual forms of handling necessary to ensure preservation, marketable quality, or to prepare them for distribution or resale.

Goods under customs warehousing control may be temporarily removed from the warehouse. A written application must be made by the warehouse keeper for authorization to remove the goods. Alternatively, where a warehouse keeper intends to remove goods regularly on a temporary basis, the warehouse authorization may indicate approval for temporary removal of the goods. The normal provisions will apply where 'usual forms of handling' are carried out while the goods are temporarily absent from the warehouse.

Transfer of goods between warehouses is allowed subject to prior approval. Community and non-Community goods may be stored in the same storage areas provided that specific ways of distinguishing between both categories are available and again subject to prior approval.

The customs warehousing procedure is discharged by:

- release for free circulation or placing under another customs procedure
- placing in a free zone
- re-exportation
- abandonment to the state
- destruction under official supervision.

4.7 Case Study: Belgium²²

Investment incentives and subsidies have been the responsibility of Belgium's three regions: Brussels, Flanders, and Wallonia since 1980. However most tax measures still remain under the control of the federal government and are inline with the EC.

In Belgium the promotion of foreign investment is the responsibility of the above Belgian regions through their regional investment agencies viz. the Brussels Enterprise Agency, Flanders Foreign Investment Office (FFIO) and the Office for Foreign Investment (OFI) in Wallonia.

Performance measurements in Belgium usually relate to job creation. The government reserves the right to reclaim incentives if the investor fails to meet this objective although actual enforcement is rare.

4.7.1 Free trade zones²³

In Belgium the concept of customs warehouses is prevalent rather than actual Free Trade Zones. A customs warehouse is a warehouse approved by the customs authorities, where non-European Union imported goods may be stored without payment of customs duties and VAT. In principle, non-European Union goods of any kind may be admitted, regardless of their nature, quantity or country of origin or destination. Individuals and companies wishing to operate a customs warehouse must be established in the European Union and obtain authorization from the customs authorities by filing a written request and by demonstrating an economic need for the warehouse.

4.7.2 Tax treatment of distribution activities²⁴

Belgian distribution centres of foreign multinational enterprises that meet certain conditions can operate in a special tax regime. These recognized distribution centres pay taxes on a fixed percentage (5 per cent) of their operating costs. The newly established distribution centre may operate as a branch of a foreign company or as a Belgian subsidiary. There are no specific rules on employment levels or turnover. Qualifying distribution centres can thus realize significant tax savings over coordination centres.

The distribution centre has to limit its activities to the following:

- the purchase, in its own name or on behalf of companies within the group, of raw materials, additives, finished products or merchandise
- the storing, administration and packaging of the items mentioned above
- the receipt and handling of orders from customers outside the group, the drawing up and dispatch of order confirmations but not the acceptance of the orders
- the sale to the companies of the group only, as well as the transport and delivery of the items mentioned above
- the transport and delivery of the items mentioned under a) to customers outside the group, on behalf of the group's companies, with the exception of the sales themselves
- the preparation and dispatch of invoices, it being understood that sales to customers outside the group have to be invoiced in the name and for the account of the group company. The centre cannot accept payment of invoices sent to customers outside the group

²² NB. This section has been condensed from the following (source: <http://www.buyusainfo.net>)

²³ *ibid.*

²⁴ *ibid.*

- the carrying out of financial and bank formalities in relation to the above-mentioned activities
- the carrying out of vat and customs formalities in relation to the above-mentioned activities.

4.7.3 Non-authorized activities²⁵

Non-authorized activities include:

- carrying out operations which amend or change the original nature of the finished products and merchandise
- the packaging of finished products or merchandise supplied loose
- activities that result in an increase of the value of the merchandise or involve the sale of this merchandise to third parties.

The tax authorities will accept a low taxable amount with a minimum comprising a flat-rate profit calculated on a 'cost-plus' basis, known as the flat-rate minimum profit. The flat-rate minimum profit is calculated by taking 5 per cent of all operating costs except:

- the purchase price of the goods purchased (and sold during the tax period)
- the cost price of services provided by third parties to the distribution centre (if these are normal market prices)
- disallowed expenses
- taxable reserves and provisions
- non-deductible Belgium taxes.

The status of the distribution centre is granted for a (renewable) period of five years.

4.7.4 The Port of Antwerp²⁶

The Port of Antwerp is divided by the river Scheldt occupies an area of 13,348 ha, 7,539 ha of which are in use on the Right Bank of the Scheldt and a further 5,809 ha are in the course of phased development on the Left Bank. Of the total area occupied by the port on both banks of the Scheldt, about 2,109 ha is water surface. When both dockside and river berths are included, the overall useful berth length is roughly 130 kilometres. Half of this is suitable for deep-draught ships. 280 kilometres of roads and about 960 kilometres of railway track enable multimodal transport. Every berth is equipped with 2 to 5 rail spurs and most warehouses and sheds close to the docks have direct rail connections.

The Port of Antwerp and its hinterland besides providing the basic service of loading and discharging vessels also provides warehousing, packing and repacking, distribution and forwarding of cargo. This cluster of activities has enabled Antwerp to become an important element of the European Union's import and export trade. Antwerp is far more than a national port since about half of the cargo it handles is either destined for or comes from other European countries.

Presently around 72 per cent of all general cargo is packed in containers. However, Antwerp specialises in the niche area of non-containerised general cargo and is renowned for its considerable warehousing space. Currently the port operators offer a total of more than 4.8 million square metres of covered space.

²⁵ *ibid.*

²⁶ NB. This section has been condensed from the following (Source: <http://www.portofantwerp.be>)

The combination of a cluster of services, warehousing facilities and good land transports links make Antwerp a favourable location for distribution operations.

The bulk of Antwerp's cluster community is either chemical or petrochemical placing it second only to Houston, Texas. Industrial activities in the port generate roughly 23 per cent of maritime goods traffic. In return the port ensures that supplies of the required raw materials are cheap and uninterrupted.

Port traffic. Port traffic is up from 100 million tons in 1990 to around 130 million tons today. This volume of trade makes Antwerp the second largest port in Europe and the fourth largest in the world. The share of cargo is approximately 56 per cent general cargo and 44 per cent bulk. Viewed in terms of imports and exports, 55 per cent relates to imports and 45 per cent exports.

In addition to the petrochemical industry Antwerp plays an important part in the shipment of iron and steel products, wood cellulose and paper, fruit and bagged goods (sugar, flour, grains and fertilisers). The eight million tons of iron and steel Antwerp handles every year are roughly the same as the volume of this product handled by all other North Seaports together.

In 2002 the nine principal ports of the Hamburg – Le Havre range jointly handled 22.6 million TEU, or a total tonnage of 237 million tons. In terms of market share, Antwerp handled approximately 22 per cent making it the third largest container port in the range, after Rotterdam and Hamburg. With a total of 53 million tons, the total container trade by geographical region can be seen in Table 4.14.

Table 4.14 The container trade by geographical region

Destination	%
Europe	20
Near East	17.1
Middle and Far East	18.3
North and Central America	25.9
South America	5.6
Africa	12.4
Other regions	0.7

Fore and hinterland. The Port of Antwerp's immediate hinterland includes the Belgo-Luxembourg Economic Union or BLEU. Roughly half, 65 million tons, of the maritime traffic of the Port of Antwerp is accounted for by the imports and exports of Belgian and Luxembourg companies.

Antwerp's maritime foreland comprises of some 200 countries, lead by the United States of America, the world's largest importer and exporter. Other important trading partners include the United Kingdom, Canada, Brazil, Norway and Finland. Every year roughly 32

different countries route more than 1 million tons of goods via Antwerp. The most important transit countries are Germany, France, the Netherlands, Switzerland, Austria and Italy.

Comparing transit traffic for bulk and general cargo shows that 25 per cent of bulk goods is transit, most of the bulk being intended for the domestic markets whilst about 70 per cent of the general cargo is transit traffic.

Logistics activities. Antwerp offers a large choice of logistic services. With 4.8 million square metres of warehouse space Antwerp has far more covered storage than any other port in Europe (Rotterdam is 1.9 million square metres). Many warehouses have been specially equipped for a specific trade and for storage of cargoes with special temperature and ventilation requirements. Warehouse complexes have been built to meet national and European standards for the warehousing of dangerous products.

Some multinational companies have built warehouses in the port area and launched their own distribution operations. However the majority prefer to find a local partner specialised in contract distribution, offering their customers services like pre-assembly, labelling, quality control and inventory management to after-sales and maintenance services.

Customs arrangements. For customs purposes, the Port of Antwerp is considered as a single large customs zone. Antwerp is equipped with installations for receiving goods in transit and administrative arrangements have been adapted to meet the needs of commerce and the tax authorities. When goods are stored under these arrangements, indirect taxes such as import duties, excise, VAT and so on do not have to be paid. For the completion of customs formalities prior to the discharge of cargoes from ships, the GCA computer system is used, which is an automated system for the general customs declaration by the shipping agent.

Customs formalities following the discharge of cargoes from ships can be made using the SADBEL system. This is a network that connects the declarer with the customs office in the port and the Customs and Excise Administration. Both systems rely on the central customs computer in Brussels.

Port infrastructure. The largest lock in the world was opened in Antwerp in 1989, the Berendrecht Lock. It is with a length of 500 metres between the lock gates, a width of 68 metres and a depth of 13.50 metres, making the sill depth at mean high water 17.75 metres. The opening of this lock has more than doubled the accessibility of the Right Bank docks. Since 1989, the Right Bank has been further developed on the banks of the Scheldt outside the dock complex. Two large new container terminals have been opened there. The first was the Europe Terminal, which started operations in 1990, while the second, the North Sea Terminal, welcomed its first ship in early 1997. More tidal container handling capacity is currently in development on the Left Bank.

The Left Bank has the Vrasene Dock which offers 4.5 kilometres of berths specialising in forest products, fruit juice concentrates, cars and plastic granulates. The annual handling capacity of the Vrasene Dock is of the order of 10 million tons. Other docks include the Verrebroek Dock, which lies parallel to the Vrasene Dock, and the Deurganck Dock (see Figure 4.8).



Figure 4.8 Antwerp's main docks on the left bank²⁷

²⁷ Source: <http://www.skyscrapercity.com>

4.8 Case Study: The Netherlands

Limited, targeted investment incentives have long been a well-publicized tool of Dutch economic policy to facilitate economic restructuring and to promote energy conservation, regional development, environmental protection, R&D, and other national socio-economic goals. Subsidies and incentives are available to foreign and domestic firms alike and are spelled out in detailed regulations. Subsidies are in the form of tax credits that are usually disbursed through corporate tax rebates or direct cash payments in the event of no tax liability.

4.8.1 Foreign trade zones/free ports

As in Belgium, the Netherlands has no free trade zones or free ports in the sense of territorial enclaves where commodities can be processed or reprocessed tax-free. There are, however, a large number of customs warehouses and free warehouses at designated places and international airports where goods in transit may be temporarily stored under Customs supervision. Goods may be repacked, sorted or relabelled.

4.8.2 Tax treatment of distribution activities

The Netherlands is particularly attractive for the establishment of European distribution centres with an estimated 60 per cent of American companies in Europe having located their European Distribution Centres (EDCs) there.

The Netherlands is known for its favourable fiscal climate in which advanced tax rulings (ATR), in combination with advanced pricing agreements (APA), are guarantees given by local tax inspectors with regard to long-term tax commitments for a particular acquisition or green field operation.

Special tax regulations allow distribution centres to define tax obligations in advance using the 'cost-plus' model. In this case the company's profit is calculated as a percentage (5-25 per cent) of operating costs. The exact percentage point is calculated individually on the basis of similar business relationships between independent parties. This fictitious profit is then taxed at the usual tax rate of 35 per cent. Advanced 'bargaining' can be made for four years and in some case longer.

4.8.3 The Port of Rotterdam²⁸

Rotterdam is the largest port in Europe and until recently the world. However Asian ports like Singapore and Hong Kong have taken over its world leading position and in 2005 Rotterdam ranked as the seventh largest port in the world. In 2004, the port of Rotterdam handled more than 350 million tons barrier of cargo, 7 per cent more than in 2003. Container throughput rose by 16 per cent from 7.1 million TEU in 2003, to 8.2 million TEU. Both total bulk cargo (+6 per cent) and total general cargo (+14 per cent) increased. Total imports rose by 6 per cent, 16 million tons, to 271 million tons. Exports increased by 12 per cent to 81 million tons.

Most important for the harbour of Rotterdam are the petrochemical industry and general cargo transshipment handling. The harbour functions as an important transit point for transport of bulk and other goods between the European continent and other parts of the world. From Rotterdam goods are transported by ship, river barge, train or road. In 2006 the Betuweroute, a 160 kilometres long express railway linking Rotterdam to Germany, is expected to be completed. Large oil refineries are located west of the city. The rivers Meuse and Rhine also provide excellent access to the hinterland.

²⁸ NB. This section has been condensed from the following (Sources: <http://en.wikipedia.org> and <http://www.portofrotterdam.com>)

In the first half of the twentieth century the harbour activities moved from the centre of the city along the river towards the North Sea. In 1872 the *Nieuwe Waterweg* canal was dug from Rotterdam to the North Sea to increase the flow of the shallow Rhine and Meuse.

Rotterdam's harbour territory has since been enlarged by the construction of the Europoort (gate to Europe) complex along the mouth of the *Nieuwe Waterweg*, and by the *Maasvlakte phase I and II* in the North Sea near Hoek van Holland.

From the beginnings of containerization in the early 1960s, the Port of Rotterdam invested heavily in handling facilities and equipment for efficient transshipment of containers to inland modes of transport. The key strategic advantage for the Port of Rotterdam is its ability to accommodate the world's largest bulk ships. This has enabled it also to accommodate modern post panamax container vessels and even the theoretical Malacca Max vessels without difficulties. Its maritime infrastructure thus enabled not only the establishment of transshipment points and storage facilities but also the emergence of a chemical cluster around the Port of Rotterdam.

Port traffic. Table 4.15 gives an overview of incoming and outgoing cargo grouped by segment and expressed in gross weight x 1,000 metric tons.

Table 4.15 Port traffic

	Incoming	Outgoing	Total
Agribulk	8 406	2 155	10 561
Ores and scrap	39 496	2 699	42 195
Coal	24 767	560	25 328
Other dry bulk goods	8 760	2 501	11 171
Subtotal dry bulk goods	81 339	7 915	89 254
Crude oil	101 739	343	102 083
Mineral oil products	22 376	10 843	33 219
Other liquid bulk products	15 878	9 741	25 619
Subtotal liquid bulk goods	139 994	20 927	160 920
Total bulk goods	221 333	28 842	250 175
Containers	39 099	43 322	82 421
Roll on/Roll off	4 926	6 027	10 953
Other general cargo	5 654	3 156	8 811
General cargo	49 679	52 506	102 185
Total throughput	271 011	81 348	352 360

Dry bulk. Consists of not only ores, coal, cereals and cattle feeds, but also scrap metal from sizeable loads. The largest bulk ship to put in at Rotterdam is the 500 k DWT Berg Stahl, which brings, per visit, enough iron ore to build 300,000 cars. Many power stations in North-West Europe are powered by coal from Rotterdam. The food industry also imports its raw materials and exports its end products through the Rhine estuary ports.

Wet bulk. Around 140 million tons of crude oil is brought into the harbour every year. Approximately half of this is conveyed by pipeline to Antwerp and the German Ruhrgebiet. The other half is processed in Rotterdam in the manufacture of oil products. The chemical industry in turn uses these to make chemical intermediates. Most oil and oil products leave the port either by ship or by pipeline whereas chemicals are generally transported by ship.

Containers. Rotterdam was the first European port to pass the limit of 7 million TEU in the container sector. The growth of container transshipment and the construction of new container terminals means that this figure is set to increase sharply over the coming years.

Other mixed cargoes. Rotterdam is the largest European centre for the trading and distribution of vegetables, fruit and fruit juices. These activities are concentrated on the north bank of the Maas, right next to the city. The port also handles large volumes of metals, steels and forestry products. The roll-on/roll-off traffic between Rotterdam and the United Kingdom is growing as too is the dispatch of motor cars and heavy rolling stock.

Petrochemicals industry. The Port of Rotterdam accommodates one of the largest petrochemicals clusters in the world. Five refineries process the crude oil into furnace oil, motor spirit, kerosene, LPG, naphtha, etc. Many chemicals firms purchase their starting materials from the refineries for the production of their semi-finished products, such as synthetic fibres and plastics.

Recycling. Rotterdam is Europe's largest scrap iron harbour. For reasons of efficiency, both infrastructurally and operationally, the scrap iron companies are clustered in the Botlek area. For the 'return flow' of other goods, such as car tires and household and industrial waste, the harbour is becoming increasingly attractive as a place where they can be reprocessed to form reusable materials and new products.

Maritime industry. Due to the busy shipping traffic, the harbour and industrial zone are home to a large number of ship repair yards and maritime suppliers. The offshore industry is also well represented because Rotterdam is one of the few harbours that is deep enough for offshore platforms.

The Table 4.16 gives an overview of incoming and outgoing cargo grouped by continent expressed in gross weight x 1,000 metric tons.

Table 4.16 Global cargo flows by continent (Port of Rotterdam, online)

	Incoming	Outgoing	Total	%
Europe	111 610	39 840	151 450	46.3
Africa	45 448	2 876	48 324	14.8
America	54 666	11 337	66 003	20.2
Asia	31 427	18 049	49 476	15.1
Oceania	9 951	733	10 684	3.3
Other	996	25	1 021	0.3
	254 098	72 860	326 958	100

Logistics activities: The Distripark concept. The Port of Rotterdam has established the Distripark concept in order to consolidate cargo flows to the port and create port-related employment. Cargo destined for the Rotterdam Distriparks comes in mainly by container. Therefore, the proximity of a container terminal is an advantage for a distribution centre in Rotterdam. The concept of the Rotterdam Distriparks is just-in-time delivery at lower cost.

To fulfil this mission, the parks:

- have facilities for distribution operations
- are located close to cargo terminals so that the empty container, after stripping, can be taken back into the system

- cheap transport from terminal to warehouse
- are located close to various hinterland transport facilities
- provide value added services
- have the latest in communication technology
- have a highly skilled workforce
- have Customs on site.

A Distripark is a large-scale, advanced, value-added logistics complex with comprehensive facilities for distribution operations at a single location, which is connected directly to container terminals and multimodal transport facilities for transit shipment, employing the latest in information and telecommunication technology. Distriparks provide space for warehousing and forwarding facilities, including the storage and transshipment of cargo and the stuffing and stripping of containers. They also provide a comprehensive range of value-added services, including assembly, labelling, testing/examination, packaging and repackaging, sorting and invoicing. The Port of Rotterdam and the Europe Combined Terminals (ECT) jointly have developed the Delta 2000-2008 Plan: eight Distriparks in the Delta terminal at the Port of Rotterdam (Table 4.17).

Table 4.17 Distriparks in Rotterdam

Distriparks	Starting date of Operations	Land (square metres)
Eemhaven Distripark	1989	237 000
Botlek Distripark	1990	165 000
Maasvalkte Distripark	1 st phase: 1998 2 nd phase: under construction	848 000 1 017 000
Total		2 267 000

At the Distriparks, the land is leased out to private companies, which, in turn, must invest in their own buildings and employ their own people.

Customs arrangements. The European Logistics Centres (ELCs) is a major trend in European logistics, not only for multinationals but also for medium-sized enterprises, many of which are setting up their logistics centres in the European market. They are located throughout the Netherlands, but a lot of them go for sites located near a port.

The core of the concept is a consolidation of pan-European distribution resulting in the reduction of logistics costs, increased sales, improved control, better product availability, enhanced competitive position, faster market response, as well as savings on workforce and infrastructure investment.

A very specific characteristic related to the ELC is that the goods stored in these ELCs are seen as transit goods from the perspective of Customs authorities. Since transit goods are those that have not yet been imported to the Netherlands or Europe, neither imports tariffs nor Customs' procedures are needed. The possibility of easy re-export of these transit goods by container is an important reason for the spatial nearness of ELCs to ports.

Distriparks are not free zones, but each company located in such a park can be considered as such, or a **'free point'**, in and of itself. In the Netherlands there are approximately 1,500 of these free points. The Distriparks can offer freer facilities than a free port. When a company fulfils certain conditions with respect to security, and when it has established an online computer connection meeting certain standards with Customs, it may obtain a license from Customs permitting it to carry out certain basic Customs formalities on itself. Such a system makes the goods flow faster and more efficiently.

Port infrastructure. The total surface area of business premises in the port and industrial area is around 5,036 hectares.

In 1992, due to the continuous growth of container traffic, a new strategic development plan for the Port was drafted: **Havenplan 2010**. The goal of this plan was to stimulate employment and create added value. It also stated that the port should be developed as a main port, because of the large indirect effects related to the port. This new growth was to be achieved through the following:

- new space for large scale container-terminals: further development of the Maasvlakte and its extension further into the North Sea, a project known as Second Maasvlakte.
- new infrastructure, in the port and to and from the port.
- new dedicated distriparks in the port aimed at adding value to the cargo transhipped through the port by value-adding logistic activities.
The goal is to open the containers in the Port of Rotterdam-region, instead of merely transshipping them as fast as possible towards the hinterland.
- strengthening industrial functions in the port, since the massive port industry ties good-flows to the port.
- Rotterdam Mainport Development Project (PMR)
PMR comprises three constituent projects for strengthening the mainport of Rotterdam and improving the quality of the living environment in Rijnmond:
 - land reclamation and compensatory measures: expansion of the Rotterdam port with a new section of land at sea and compensation for damage to the natural environment
 - a 750-hectare wildlife and recreational area: development of new wildlife and recreational areas at Central IJsselmonde and to the north of Rotterdam
 - existing Rotterdam Area: a series of projects designed to make better use of the existing port area and to improve the quality of the living environment.

These constituent projects are currently being implemented or under preparation. Progress reports are available from the following project development authorities:

- the national government and the municipality of Rotterdam for the constituent project, land reclamation and compensatory measures
- the province of South Holland for the constituent project, a 750-hectare wildlife and recreational area.

Maasvlakte 2. Is a 100-hectares land reclamation project which commenced in 2005 and is expected to be by and running by 2012. Situated at the mouth of the entrance to Rotterdam it is closer to the main shipping routes than other terminal.

**Table 4.18 A Comparison of Traffic data – Antwerp versus Rotterdam
Top three of European ports based on seaborne container traffic measured in 1,000 TEU (Port of Rotterdam)**

	2002	2003	%
Rotterdam	6 506	7 107	9.2
Hamburg	5 374	6 138	14.2
Antwerp	4 777	5 445	14.0

Table 4.19 Top three of European ports based on seaborne cargo traffic measured in gross weight times 1 million tons

	2002	2003	%
Rotterdam	321.8	327.8	1.9
Hamburg	131.6	142.9	8.6
Antwerp	97.6	106.3	8.9

5 Implications of WTO's agreement for logistics FTZs²⁹

World Trade Organization (WTO) obligations have direct policy implications for the establishment and design of FTZs. Countries must ensure that whatever financial advantages or manufacturing requirements prescribed within a free trade zone are consistent with the WTO agreements that they have entered into.

To attract companies into their zones, FTZs usually provide several forms of incentives which are often equivalent (in their effect) to direct subsidies. Consequently, as in other areas of trade and investment, such subsidies and incentives must remain within the boundaries of agreements that countries have made in the area of trade more broadly.

In particular, policy makers must remain mindful that conformity to relevant WTO rules should be carefully considered before designing incentive systems.

5.1 Overview of WTO agreements

There are three primary agreements that govern international trade, along with the general 'umbrella' agreement forming the WTO. These three agreements are:

- For trade in goods: the General Agreement on Tariffs and Trade (GATT);
- For trade in services: the General Agreement on Trade in Services (GATS); and
- For intellectual property: the Trade Related Aspects of Intellectual Property (TRIPS).

These agreements set out the broad principles under which international trade is to be conducted. Underneath the GATT and GATS sit additional detail (in the form of further agreements) on specific sectors or issues, and also the individual schedules of commitment of countries³⁰.

<i>Umbrella</i>	AGREEMENT ESTABLISHING WTO		
	Goods	Services	Intellectual property
<i>Basic principles</i>	GATT	GATS	TRIPS
<i>Additional Details</i>	Other goods agreements and annexes	Services annexes	
<i>Market access commitments</i>	Countries' schedules of commitments	Countries' schedules of commitments (and MFN exemptions)	
<i>Dispute settlement</i>	DISPUTE SETTLEMENT		
<i>Transparency</i>	TRADE POLICY REVIEWS		

Figure 5.1 Structure of WTO agreements (WTO, 2003)

²⁹ **Author's Note** – the following discussion of WTO agreements and obligations is intended to be of a general nature only. We are unable to give definitive legal advice on how each country's laws and practices interact with their WTO commitments, and this chapter should be read as such.

³⁰ The TRIPS agreement does not yet have additional parts below the general agreement.

Of particular relevance to the establishment and design of FTZs are the Agreement on Subsidies and Countervailing Measures (SCM) and the Trade Related Investment Measures (TRIMS) Agreement, which expand on several GATT articles. These two agreements are examined below.

5.2 The SCM Agreement (Definition of subsidy)

This agreement addresses two main issues: 1) disciplines the use of subsidies 2) regulates the actions countries can take to counter the adverse effects of subsidies. According to this agreement, a subsidy shall be deemed to exist if the following elements are satisfied at the same time:

- a financial contribution by a government or any public body within the territory of a member country.
- a benefit is conferred.
- a subsidy specific to an enterprise or industry or group of enterprises or industries (certain enterprises) within the jurisdiction of the granting authority.

Financial contribution. The SCM Agreement provides a more detailed definition of financial contributions, which is one of the conditions for a WTO subsidy. Financial contribution means one of the following:

- 1) a direct transfer of funds such as: grants, loans and equity infusion, and potential direct transfers of funds or liabilities such as loan guarantees
- 2) if revenue otherwise due to government is foregone or not collected, i.e. fiscal incentives such as tax credits
- 3) government provides goods or services other than general infrastructure, or purchase goods
- 4) government carries out one of above functions through a private body which would normally be vested in the government.

Benefit. Financial contribution itself is not necessarily regarded as a subsidy. To be considered as a subsidy the financial contribution must confer benefit to the recipient.

Specificity. Even if a measure satisfies the first two conditions, financial contribution and benefit, it should meet the 'specificity condition' in order to be subjected to SCM Agreement disciplines. If a granting authority explicitly limits access to a specific measure to certain enterprises, such a measure is considered as specific. A subsidy which is limited to certain enterprises located within a designated geographical region is specific according to the agreement³¹. The determination of specificity must be clearly substantiated on the basis of evidence.

5.2.1 Types of subsidies

All subsidies under the SCM Agreement are categorized into two types of subsidies which are 'prohibited subsidies'³² and 'actionable subsidies'³³. The main difference between two types of subsidies is as follows:

³¹ Prohibited subsidies are deemed to be specific according to the agreement.

³² Except as provided in the Agreement on Agriculture.

³³ The articles on actionable subsidies do not apply to subsidies for agricultural products as provided Article 13 of the Agreement on Agriculture.

- Prohibited subsidies should not be maintained or granted by a member.
- Actionable subsidies are not prohibited, but are subject to challenge by proof of adverse effects to the interests of other members.

Prohibited subsidies. Prohibited subsidies are basically two types:

- Export subsidies
- Local content subsidies (or import substitution subsidies).

Export subsidies are subsidies contingent, in law or in fact, whether solely or as one of several other conditions, upon export performance. The SCM Agreement shows an illustrative list of export subsidies through Annex I. (For reference this Annex I is attached as Appendix II in this study report.) Local content subsidies are related to import substitution upon the use of domestic over imported goods.

Actionable subsidies. If a subsidy is specific to an enterprise or group of enterprises and satisfies the definition of a subsidy by this agreement it relates to the category of actionable subsidy. As explained above, these subsidies are not prohibited but they are subject to challenge either through dispute settlement mechanism or countervailing measures if adverse effects to other members are proved. There are three types of adverse effects as follows:

- injury to the domestic industry of another member
- nullification or impairment of benefits accruing to other members under the Schedule to GATT 1994³⁴
- serious prejudice to the interests of another member.

The term 'injury' here means material injury to a domestic industry, threat of material injury to a domestic industry or material retardation of the establishment of such an industry. A determination of injury must be based on positive evidence involving an objective examination of both (a) the volume of the subsidized imports and its effect on prices in the domestic market for like products and (b) the consequent impact of these imports on the domestic producers of such products. Determination of a threat of material injury must be based on facts and not merely on allegation, conjecture or remote possibility.

Nullification or impairment of benefits arises typically where improved market access from a bound tariff reduction resulting from a country's schedule of concessions by GATT is undercut by subsidization.

Serious prejudice is deemed to exist in the following case:

- the total *ad valorem* subsidization of a product exceeding 5 per cent
- subsidies to cover operation losses sustained by an industry
- subsidies to cover operating losses sustained by an enterprise, other than one-time measures
- direct forgiveness of debt, i.e. grants to cover debt repayment.

³⁴ According to Article II, GATT 1994, individual countries listed their commitments to cut and 'bind' their customs duty rates on imports of goods in the Schedules annexed to *Marrakesh Protocol to GATT 1994*. This is the legally binding agreement for the reduced tariff rates. The market access schedules are not simply announcements of tariff rates. They represent commitments not to increase tariffs above the listed rates – the rates are 'bound'. For developed countries, the bound rates are generally the rates actually charged. Most developing countries have bound the rates somewhat higher than the actual rates charged, so the bound rates serve as ceilings.

However, a subsidy must have resulted in any of following effects to be regarded as serious prejudice:

- displacement or impeding of the complaining member's export in the market of the subsidizing member or in a third country market
- significant price undercutting or price suppression by the subsidized product
- an increase in the world market share of the subsidized product.

5.2.2 Subsidizing regions to address disadvantage under the SCM

Concessions or subsidies which are sometimes used to achieve regional policy objectives also have implications for the WTO obligations of countries. Situations where policy makers implement FTZ concessions to assist lesser developed or depressed regions of a country must also be consistent with provisions in the SCM.

Under Part IV of the SCM, concessions or subsidies to disadvantaged regions are generally permissible if they are pursuant to a general framework of regional development and are non-specific (that is, they do not go to particular industries or firms). They will generally be considered 'non-actionable' subsidies under Article 8.

Policy makers must ensure, however, that the criteria used to determine a disadvantaged region are neutral and objective, and are verifiable. Disadvantage that is the result of 'temporary circumstances' is generally insufficient.

These criteria must include a measure of economic development that is based on at least one of the following factors³⁵ (or a composite) as measured over a three-year period:

- income per capita or household income per capita, or GDP per capita, which must not be above 85 per cent of the average for the territory concerned; and
- unemployment rate, which must be at least 110 per cent of the average for the territory concerned.

5.2.3 Dispute settlement mechanism and countervailing measures

The complaining member country can take actions to counter the adverse effects of subsidies of another member country by using WTO's dispute settlement mechanism³⁶ to seek the withdrawal of the subsidy or removal of its adverse effects. Or the member country can launch its own investigation and charge extra duty (countervailing duty) on subsidized imports that are found to be hurting domestic producers.

Dispute settlement mechanism for prohibited subsidy. If a member country has reason to believe that a prohibited subsidy is being granted or maintained by another country, the member country should request a consultation with the other country by submitting a statement of available evidence with regard to the existence and nature of the subsidy. If no mutually agreed solution has been reached within 30 days of the request for consultation, any member party to the consultations may refer the matter to the Dispute Settlement Body (DSB). The final report shall be circulated to all member countries within 90 days of the date of the establishment of the DSB panel. If the measure is found to be a prohibited subsidy, it must be withdrawn immediately. Otherwise, the complaining country may take appropriate countermeasures. If a member country grants or maintains a prohibited subsidy, it can be taken to the DSB by any member country without any proof of its adverse effect, unlike the case of actionable subsidy.

³⁵ Other factors may also be included.

³⁶ According to WTO's 'Understanding on Rules and Procedures Governing the Settlement of Disputes (known as 'Dispute Settlement Understanding')' with other relevant agreements such as SCM Agreement.

Dispute settlement mechanism for actionable subsidy. If a member has a reason to believe that any subsidy granted and maintained by another member results in injury to its domestic industry, nullification or impairment or serious prejudice, the member can request consultations with the other member. The request must include a statement of available evidence with regard to (a) the existence and nature of the subsidy, and (b) the injury to the domestic industry, or nullification or impairment, or serious prejudice. If no mutually agreed solution has been reached within 60 days, any member party to the consultations may refer the matter to the DSB for the establishment of a panel.

The final report from the panel will be circulated to all members within 120 days of the date of the establishment of the panel's terms of reference. When it is determined that any subsidy has resulted in adverse effects to the interests of another member, the member granting or maintaining such a subsidy should remove the adverse effects or withdraw the subsidy. Otherwise, the complaining country may take appropriate countermeasures.

Countervailing duty. Countervailing measures are a unilateral remedy applied by a member only after its investigation of the case in accordance with the criteria of the SCM Agreement. The complaining country's investigation is initiated upon a written application by or on behalf of the domestic industry. The application should include sufficient evidence of the existence (a) a subsidy and, if possible, its amount, (b) material injury to the domestic industry, and (c) a causal link between the subsidized imports and the alleged injury.

The complaining member country will conduct an investigation in accordance with provisions of the SCM Agreement if it is determined that the evidence is sufficient to justify the initiation of an investigation. A member country may impose a countervailing duty³⁷ if it determines that there are subsidized imports, injury to a domestic industry, and a causal link between the subsidized imports and the injury. However, no countervailing duty can be levied in excess of the amount of the subsidy calculated in terms of subsidization per unit of the subsidized and exported product.

The dispute settlement mechanism can be invoked in parallel with the countervailing measures, but with regard to the effects of a particular subsidy in the domestic market of the importing member, only one form of relief (either a countervailing duty, if the requirements for countervailing measures in the SCM Agreement are met, or a countermeasure, by dispute settlement mechanism in SCM Agreement) can be available.

³⁷ It means a special duty levied for the purpose of offsetting any subsidy bestowed directly or indirectly upon the manufacture, production or export of any merchandise.

BOX 1 Cases of no subsidies

The exemption of an exported product from duties or taxes borne by the like product when destined for domestic consumption, or the remission of such duties or taxes in amounts not in excess of those which have accrued, is not be deemed to be a subsidy according to the agreement³⁸.

Government provision of equity capital shall not be considered as conferring a benefit, unless the investment decision can be regarded as inconsistent with the usual investment practice (including for the provision of risk capital) of private investors in the territory of that member³⁹.

A loan by a government shall not be considered as conferring a benefit, unless there is a difference between the amount that the firm receiving the loan pays on the government loan and the amount the firm would pay on a comparable commercial loan which the firm could actually obtain on the market. In this case the benefit shall be the difference between these two amounts⁴⁰.

A loan guarantee by a government shall not be considered as conferring a benefit, unless there is a difference between the amount that the firm receiving the guarantee pays on a loan guaranteed by the government and the amount that the firm would pay on a comparable commercial loan absent the government guarantee. In this case the benefit shall be the difference between these two amounts adjusted for any differences in fees⁴¹.

The provision of goods or services or purchase of goods by a government shall not be considered as conferring a benefit unless the provision is made for less than adequate remuneration, or the purchase is made for more than adequate remuneration. The adequacy of remuneration shall be determined in relation to prevailing market conditions for the good or service in question in the country of provision or purchase (including price, quality, availability, marketability, transportation and other conditions of purchase or sale)⁴².

An indirect tax rebate scheme, or a drawback scheme, does not convey a subsidy if there is no rebate or drawback of indirect taxes or import charges in excess of those actually levied on the inputs that are consumed in the production of the exported product⁴³.

Note: also refer to the Annex I of the SCM Agreement

5.2.4 Transition rules and special and differential treatment

Recognizing that subsidies may play an important role in economic development of developing country members, the WTO SCM Agreement grants special and differential treatment for the least developed member countries (LDCs), developing member countries, and member countries in the process of transformation from a centrally-planned into a market economy.

Developed member countries. Member countries not otherwise eligible for special and differential treatment are allowed three years from the date of entry into force of the WTO Agreement (the date of signing of the WTO Agreement for them) to phase out prohibited subsidies. Such subsidies must be notified to the Committee not later than 90 days from the date of entry into force of the WTO Agreement for the notifying member.

³⁸ Footnote 1 in SCM Agreement.

³⁹ Article 14 (a) of SCM Agreement.

⁴⁰ Article 14 (b) of SCM Agreement.

⁴¹ Article 14 (c) of SCM Agreement.

⁴² Article 14 (d) of SCM Agreement.

⁴³ Annex II of SCM Agreement with slight changes.

LDCs and listed developing member countries. *Prohibited subsidies (Export subsidies).* Least-developed member countries⁴⁴ and the developing member countries with GNP per capita of less than \$1,000 per year listed in Annex VII of the SCM Agreement⁴⁵ (Bolivia, Cameroon, Congo, Côte d'Ivoire, Dominican Republic, Egypt, Ghana, Guatemala, Guyana, India, Indonesia, Kenya, Morocco, Nicaragua, Nigeria, Pakistan, Philippines, Senegal, Sri Lanka and Zimbabwe) are exempted from the prohibition on export subsidies. However, when the GNP per capita per year has been reached \$1,000, the listed developing countries will be included into other developing countries.

Prohibited subsidies (Local content subsidies). Least-developed member countries are also exempted from the prohibition on local content subsidies (also known as import substitution subsidies) for eight years from the date of entry into force of the WTO Agreement. However, the listed developing member countries are exempted from these subsidies for five years like other developing countries.

Developing member countries. *Prohibited subsidies (Export subsidies).* Developing members are exempted from the prohibition on the export subsidies for eight years from the date of entry into force of the WTO Agreement. These members must phase out their export subsidies within this eight-year period and must not increase the level of their export subsidies. However, if a developing member needs to maintain such subsidies beyond the eight-year period, the member can consult with the Committee to extend this period. The consultation must start not later than one year before the expiry of this period.

Prohibited subsidies (Local content subsidies). These developing member countries are also exempted from the prohibition on local content subsidies (also known as import substitution subsidies) for five years from the date of entry into force of the WTO Agreement.

Other disciplines for special and differential treatment. When a developing member country has reached export competitiveness in any product⁴⁶, the member must phase out its export subsidies for such product over a period of two years. For the same case of the listed developing countries, the period is eight years.

Even though a developing member country or least-developed country is within the period of exemption from export subsidies, this exemption does not prevent other member countries from initiating dispute settlement mechanism for actionable subsidies or from imposing countervailing duty, if the subsidized exports cause material injury to their domestic industry.

5.2.5 Implication of the SCM Agreement for FTZs

As the SCM Agreement implies, subsidies are not always prohibited or forbidden. For example, refund/remission of duties/taxes are not subsidies if they are not in excess of those which have accrued. Prohibited subsidies such as export subsidies and local content subsidies (import substitution subsidies) are basically forbidden. However, other subsidies can be maintained even though they are subject to challenge from other countries if the subsidies cause an adverse effect to the interest of other countries.

In general most countries party to WTO agreements have showed a tendency to eliminate prohibited subsidies which are clearly deemed to be prohibited subsidies before disputes take place. This research did not identify any cases of disputes related directly to such incentives, especially export subsidies, of

⁴⁴ Least-developed countries designated as such by the United Nations which are members of the WTO.

⁴⁵ Hereinafter 'listed developing countries'.

⁴⁶ Export competitiveness in a product exists if a developing country member's exports of that product have reached a share of at least 3.25 per cent in world trade of that product for two consecutive calendar years. Export competitiveness must exist either (a) on the basis of notification by the developing country member having reached export competitiveness, or (b) on the basis of a computation undertaken by the WTO Secretariat at the request of any member.

these zones⁴⁷. Usually the disputes filed in the WTO are related to a specific product, for example DRAM or sugar, and to indirect export subsidy as the case of Foreign Sales Corporation (FSC)/Extraterritorial Income⁴⁸ (ETI) of the United States which was challenged by the European Union (EU) in 1997.

Manufacturing-oriented FTZs or EPZs basically provide preferential policies including export promotion schemes with a relatively good business environment such as better infrastructure to attract foreign companies. In this aspect, the preferential policies for these zones should be designed and structured both carefully and strategically. Export subsidies contingent upon export performance and local content subsidies must be not maintained except by developing countries qualified for exemption from prohibition of these subsidies. As an example, the subsidies listed below are clearly defined as prohibited subsidies:

- Preferential tax rate at 15 per cent for the year in which export value exceeding 80 per cent.
- Refund in totality of paid income tax for re-investment in case of export oriented enterprises.

The SCM Agreement may cause a FTZ to revoke some incentives if it has forbidden subsidies, causing it to lose the significance of existing incentives⁴⁹. However, an FTZ can still retain efficient administrative procedures and a better infrastructure which will give it an advantage over the competition. In this regard, strategic structure design of incentives is essential to attracting foreign companies which are looking for an appropriate offshoring place.

Unlike manufacturing-oriented FTZs, logistics FTZs or logistics parks do not provide prohibited subsidies in general because the focus of logistics FTZs is on improving efficiency of logistics systems or logistics flows, not on export performances and local content. In this respect, many countries, including advanced countries, have established logistics FTZs to promote international trade. For example, the United States maintains many foreign trade zones and the purpose of these zones is to attract and promote international trade and commerce. They are commercial sites located in or near customs ports of entry at industrial parks or terminal warehouse facilities. Trade zones can be used to store foreign or domestic goods, re-package materials, assemble products, or manufacture or re-export goods without paying customs duties. Merchandise can be held indefinitely within a foreign trade zone without any payment of customs duty. Business can use foreign trade zones to reduce duty payments and streamline supply chain costs to improve their competitive position in domestic and foreign markets. The foreign trade zones in the United States offers tax incentives and tax breaks including: (International Air Cargo Regional Distribution Centre, online)

- exemption from corporate franchise taxes
- exemption from state sales and use tax and any local sales and use taxes on qualifying purchases
- exemption from property tax.

For these reasons, there is little possibility of violating WTO rules in logistics FTZs. However, policy makers should consider their preferential policies to ensure compliance with WTO rules in order to maintain further development through the sustainability and certainty of their policy. The design of preferential policies for logistics FTZs should be done according to the characteristics of international trade, its logistics flow and process within the framework of the WTO SCM Agreement.

⁴⁷ Please refer to WTO web site to see disputes in details.

⁴⁸ Extraterritorial Income Exclusion Act.

⁴⁹ If a country maintains higher tariffs rate while it maintains lower tariffs rate in a special zone, the country must gradually reduce the gap between two tariffs rates after accession to WTO. In this case, the lower tariffs rate applied to a special zone will lose its significance.

6 Strategic practices in business

6.1 Globalization

One of the most far-reaching developments in the world economy has been the process known as globalization. Globalization has been set in motion by the following factors:

- the liberalization of international trade and capital markets
- technical developments in ICT and transportation
- rapid economic development in emerging markets.

Businesses operate in a real-time global marketplace and their focus is upon maximizing comparative advantage through sourcing and supplying products. Maximizing the competitive position of a business requires two seemingly conflicting strategies:

Minimizing cost. Economies of scale can be created by centralizing business activities. Furthermore, standardization in production components, low transportation cost and the revolution of information and communication make it possible for global companies to source raw materials and product components from all over the world and to bring together and assemble raw materials, parts, and semi-finished products at a single or few locations, to reduce the overall cost without any interference in product quality.

Maximizing flexibility. Creating flexibility to respond to customers' demand is achieved by decentralizing business activities. Changes in the cost/quality trade-off from a customer's perspective, reduced lead times and shorter product life cycles require customization and postponement of final assembly in or close to the market.

Economies of scale and the cost of investing in site, plant and equipment favour centralization. Pushing factors to decentralize are transport costs, flexibility and proximity to the customer. Depending on the balance of these two forces, the company will serve markets at regional, national, continental or even at a worldwide level.

In the recent past, corporate decision makers did not face such conflicting choices. Location decisions were a simple trade-off between cost and quality. High quality, high value added goods were manufactured in proximity to the customer. Products produced in larger volumes with a lower added value moved to low cost locations. The relocation of business activities to an offshore location was mainly driven by minimizing investment and operating cost. The 'raison d'être' for the establishment a FTZ has been, and very often still is, to offer business a lower cost manufacturing base.

In this chapter we will see that deciding on a location has become a far more complex process. Old assumptions about locating a business offshore should be set aside as illustrated by Case Study 6.1

Case Study 6.1 When offshore manufacturing doesn't make sense

Ron Ritter and Bob Sternfels of McKinsey's recently investigated the operations and performance of companies in the state of California to gain a better understanding of the complex process they go through when deciding to offshore. Their research indicated that for manufacturers in Europe and the United States, offshoring can make good sense, but that they should look carefully at their economics before they send production overseas. Too many companies overestimate the savings to be had from going abroad and fail to recognize the problems, such as dealing with inventory, obsolescence, and currency exchange rates.

One reason is that for many manufacturers the importance of direct labour is declining rapidly. Since it often accounts for just 7 to 15 per cent of the cost of goods sold, hard-goods and high-tech manufacturers often say that wage rates are hardly the most critical determinants of their overall economic performance.

Examples:

At an apparel company based in Los Angeles labour costs were 3 per cent of the retail price. Moving operations offshore, logistics costs might well swallow up any savings from lower wages. In this industry with its unpredictable demand, the five-month lead times that accompany offshore production can leave manufacturers with excess inventories of fading styles or shortages of hot items. As retailers penalize suppliers for late orders by as much as 2 per cent a day, the cost of miscalculation can be high.

A consumer electronics manufacturer had stripped away roughly 60 per cent of its labour costs from production and reduced lead times from weeks to days. Even if an offshore competitor drove down its own labour costs close to zero, this manufacturer would still have an insurmountable advantage in logistics. Long lead times also stand out in the high-tech electronics industry, where the need to send products by sea can translate into price declines of 2 to 6 per cent. (NB. that this example refers to sectors of industry historically choosing a location in an offshore FTZ.)

(Ritter and Sternfels, 2004)

The response of companies is to redesign supply chain and manufacturing strategies. To remain competitive and keep costs down, they are constantly reviewing and re-evaluating the current business location set-up in search for the best possible location.

This constant reassessment of location has the following impact on business activities:

- There is greater industrial mobility, as firms are more willing to undertake new investment when it is backed by long-term contracts.
- 'Clusters' of economic activity are created around large plants, as suppliers migrate to be close to their main customers.
- There is greater need for local representation in national markets, either on an agency basis or, more commonly, through a regional office, partner firm or franchise.

6.2 Creating competitive advantages: Order qualifiers and winners

Any strategic corporate decision, whether concerning the location or relocation of a plant or the designing or redesigning of the supply chain, needs to result either in the creation of a new or the strengthening of an existing competitive advantage.

Strategic management and survival require the raising of key issues, such as what is it that brings business to the company? Why do customers buy a company's products? How has it succeeded in the past? Order 'winners' and 'qualifiers' focus on those factors that can determine one's competitive advantage.

Order winners. According to the APICS⁵⁰ dictionary (2004), *order winners* are the competitive characteristics that cause customers to choose one firm's goods and services over those of its competitors. Order winners can be considered to be competitive advantages for the firm. Order winners usually focus on the following strategic initiatives:

- price/cost
- quality
- delivery speed
- delivery reliability
- product design
- flexibility
- after-market service
- image.

Order qualifiers. APICS defines *order qualifiers* as the competitive characteristics that a firm must exploit to be a viable competitor in the marketplace. For example, a firm may seek to compete on characteristics other than price, but in order to 'qualify' to compete, its costs and the related price must be within a certain range to be considered by its customers. To provide qualifiers, companies need only to be as good as the competition; whereas to provide order winners, companies need to be better than competitors. Qualifiers are not less important than order winners: they are different and complimentary.

Manufacturing must provide the qualifiers to get into or stay in a marketplace, but these alone will not win orders. They merely prevent a company from losing orders to its competitors. Once the qualifiers have been achieved, manufacturing then has to turn its attention to ways in which orders are won and ideally to provide these better than anyone else.

Historically, for operations locating in a FTZ, low cost was the only order winner. Nowadays, both low cost and quality are required to be competitive in the market. The challenge for the future is that all five factors (Figure 6.1) will become standard. The case studies throughout this chapter illustrate clearly how to create a competitive advantage in a globalized world.

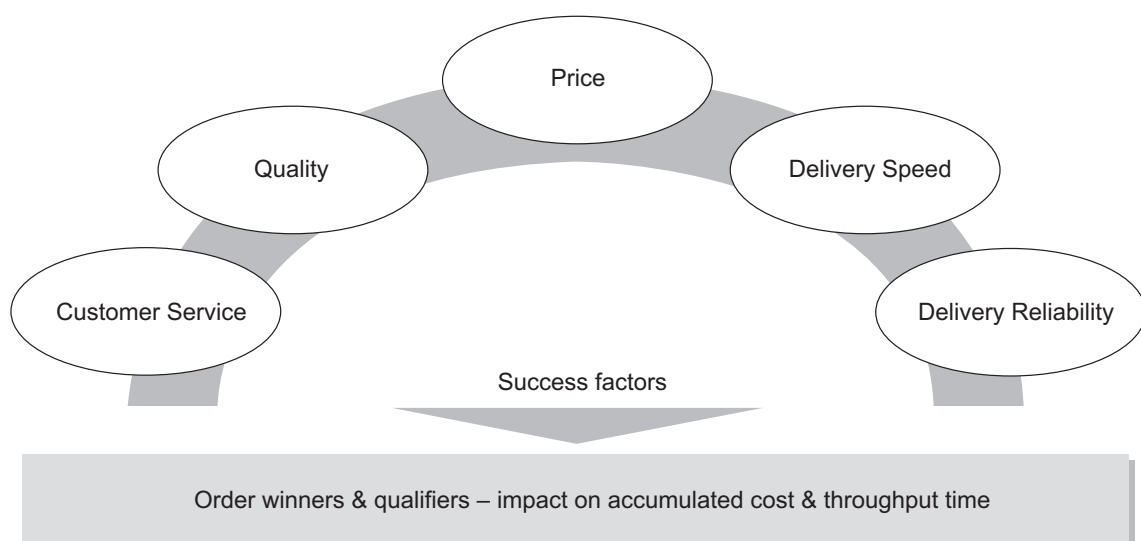


Figure 6.1 Success factors in selling goods (ESCAP secretariat)

⁵⁰ The Association for Operations Management (<http://www.apics.org>)

6.3 Locating businesses

Why do companies move overseas? In 2002, the Multilateral Investment Guarantee Agency (MIGA) organized a survey into the Foreign Direct Investment (FDI) trends and location strategy issues of the world's top companies. The study focused on, amongst other things, key factors and considerations that influence companies' location strategies.

A majority of respondents cited improved market access as the most important objective in their foreign expansion strategies (55 per cent). The next most frequently cited primary objective was reducing operating costs (17 per cent). All other objectives were cited by a relatively few number of respondents (see Table 6.1). A key secondary objective however was consolidating operations (16 per cent).

Table 6.1 The top 20 critical location factors (per cent cited as 'very influential')

Factor	%
Access to customers	77
Stable social and political environment	64
Ease of doing business	54
Reliability and quality of infrastructure and utilities	50
Ability to hire technical professionals	39
Ability to hire management staff	38
Level of corruption	36
Cost of labour	33
Crime and safety	33
Ability to hire skilled labourers	32
National taxes	29
Cost of utilities	28
Roads	26
Access to raw materials	24
Availability and quality of university and technical training	24
Available land with all services in place	24
Local taxes	24
Access to suppliers	23
Labour relations and unionization	23
Air service	23

Source: MIGA, 2002.

Whereas improved market access is rated as the pivotal factor by the majority of companies in both the manufacturing and service sectors, the two sectors have different second and third-level objectives. Manufacturing companies are much more likely to rank reducing operating costs as number two in importance, and cite sourcing raw materials third. Service companies rank developing new products as an important objective in their overseas investments. In manufacturing companies, the goods earn the revenue (produced by employees or machines), but in a service company it is the employees who are the actual earners. Thus, reducing operating costs (salaries) in a service company could prove counter productive.

Companies that have domestic expansion plans are more likely to cite developing new product lines as a key objective; whereas companies with plans to expand abroad are more likely to cite reducing operating costs as a primary objective.

As noted earlier, North American companies rank improved market access as their primary objective for expansion. However, they are less likely to move abroad than their counterparts in Western Europe and the Asia/Pacific Rim, preferring instead to reduce operating costs. North American companies are also more likely than their counterparts to view improved productivity as a key objective.

Western European companies are the most concerned with improved market access, but the least likely to choose reducing operating costs as their primary objective. Among their secondary objectives, Western European companies were most likely to select reducing costs, followed by consolidating operations.

6.3.1 How are location decisions made?

Before making a location decision, a careful assessment of potential risk factors of a location must be made. Indeed, the characteristics of a chosen location are not static but are subject to changes overtime and in an emerging market these changes can be very abrupt.

- **Market demand.** Some countries have more stable markets or are more responsive to demand management techniques than others.
- **Reliability of suppliers.** Reliability is dependent on distance from suppliers, the reliability of suppliers and their transport links, the development of special relationships and the number of alternative suppliers.
- **Economic risks.** Inflation, interest rates and foreign exchange rates all present economic risks to a firm.
- **Labour market risks.** There are labour market risks when there are substantial differences in supply and demand.

Location decisions are made on the basis of a top-down approach starting from a decision on a global level as to where companies want to do business, right down to the selection of a site.

6.3.2 Steps in locating business activities

Step 1. Where does the company want to develop new business activities? On which continent or subcontinent do we expect the economy to grow? At a global level, *strategic location decisions* are driven by market potential and growth of market share. Today companies want to have a presence in Asia – more specifically in China – because there the economy has grown at unprecedented levels consistently since the 1980s.

Step 2. Once strategic decisions on where to do business have been taken, defining the geographical levels of the activities is the next step. What will be the size of the *geographical area* to be served by the new facility? Does the company opt for a larger but centralized operation or will the activities be spread over several decentralised locations?

Step 3. A decision on a new location automatically invokes a *redesign or adaptation in the supply chain* which will have an impact on the location of activities elsewhere in the chain. Setting up an operation in a new location may result in relocation or closure of other business activities.

Step 4. At a national and a regional level a location decision is driven by the proximity to the customer base, the quality and cost of labour, incentives, affinity with the host country, and the quality of transport services. Although current trends may favour positioning a new setup in China due to its expanding economy, a detailed location analysis may lead to choosing a location in a neighbouring country.

Step 5. When selecting a site at a local level, next to incentives, the availability of real estate is the main issue since the sites must meet the technical and logistical needs of the company.

6.3.3 Location factors for manufacturing operations

Numerous studies have been conducted on the pertinent factors contributing to location decisions for firms.

The survey carried out NEI/Ernst & Young (1993) for the European Commission large multi-national companies across Europe were interviewed. Respondents were asked to assess the importance of a range of criteria in location decisions relating to five different types of economic activity manufacturing, offices, distribution, services and research and development.

The survey asked respondents to rank the 'most critical location factors' when locating operations overseas. Access to customers stands out as one of those single factors which was ranked as 'very important' by 77 per cent of the respondents. The next most cited factor is a stable social and political environment, followed by ease of doing business and reliability and quality of utilities (all cited by a majority of respondents).

The results for manufacturing plants are shown in Table 6.2. There are few cases where a single factor stands out as the primary determinant of location because of the considerable diversity in the combination of factors influencing location choice.

Likewise, there is little difference evidenced among the location priorities of manufacturing and service companies, with the exception of the relative importance placed by manufacturing companies upon access to raw materials and service companies upon on national taxes.

When viewed by company size, larger companies are less likely to identify labour relations and unionization as critical location factors, and more likely to focus on labour cost. They are also more likely than smaller companies to select national taxes as a key factor. Smaller companies more often select the ability to hire skilled labourers, technical professionals, and management staff as very important issues. They are also more likely than larger companies to be concerned with the availability of fully serviced land as well as the reliability and quality of utilities.

Table 6.2 Industry preferences on location of a FTZ

	% of companies considering factor important in			
	Choice of country		Choice of region	
	Critical	Important	Critical	Important
Business factors				
Proximity to markets	34	51	19	31
Availability of raw materials	9	23	12	17
Proximity to major customers	17	14	18	6
Availability of suitable sites	5	5	17	17

Table 6.2 (continued)

	% of companies considering factor important in			
	Choice of country		Choice of region	
	Critical	Important	Critical	Important
National and local characteristics				
Financial assistance	11	20	19	20
Promotion/government support	6	19	9	23
Language	15	14	2	2
Corporate taxation	6	15	3	–
Labour				
Availability of general labour	8	26	15	32
Availability of skilled labour	9	19	11	22
Quality	8	22	9	29
Labour relations	6	17	5	6
Labour attitudes	8	14	–	17
Cost factor				
Premises	5	17	11	18
Labour	11	22	9	17
Infrastructure				
Quality of road/rail services	23	20	15	32
Proximity to port	8	11	6	15
Proximity to major airport	9	14	6	31
Quality of telecoms	5	12	2	11
Quality of life and personal factors				
Cultural factors	5	17	–	23
Expatriate schools	2	11	2	9
Educational facilities	–	6	2	12
General attractiveness of area	5	6	6	8

Source: NEI/Ernst & Young, 1993.

6.3.4 Degree of mobility of manufacturing operations

Attracting business to invest and setup operation in an area such as a FTZ is the first step in managing that service. The next key task of FTZ-management is aftercare: how to keep the businesses that are already located in the FTZ? An important issue is to understand to what extent business activities are mobile or, in other words, what is the degree of complexity involved in the relocation of a manufacturing plant, distribution centre or any other facility?

Three factors have an impact on the degree of mobility of a manufacturing plant:

- **the cost of relocation**

Closing and relocating a plant generates several costs: potential losses from selling real estate, moving equipment and stocks, the cost associated with relocating people and redundancy payments.

- **skill level and the learning curve**

Accumulated know-how and specialised experience are difficult and costly to replace. However, when the required skill levels for a particular job are low, retraining new employees takes little effort.

- **strategic importance of the facility**

The role operation plays in the supply chain and the weight it has in strategic decision-making can be strong influencing factors.

Specifically for manufacturing plants, an *offshore factory*, a low-cost production site where management has limited impact on strategic decision-making is far more mobile than a *contributor factory*. A contributor factory is aimed at regional markets, but its management has some competence concerning local product and process development. The least mobile is the *lead factory*. Lead factories have full strategic competence for the product chain for which they create new products, processes and technologies; these facilities are located near technological sources and have a close relationship with customers, suppliers and research institutes.

Generally activities at the start and end of the supply chain are less mobile than those more in the middle:

- At the **start** of the supply chain activities are 'source-related'. They are linked to a source or sources of unique or specific resources.
- In the **middle** of the supply chain activities are related to production and logistics and these can be relocated easily.
- At the **end** of the supply chain activities are 'market-related' and these are more difficult to relocate because of links with the all-important customer base.

Another factor to consider when analysing the mobility of a manufacturing plant is the location of the client order decoupling point in the supply chain. The client order decoupling point is the point in the supply chain which provides a buffer between the customer order driven (customise-to-order, CTO) goods flow and the production or distribution forecast driven (make-to-stock, MTS) goods flow. CTO-plants are more mobile because the product supply chain after the client order decoupling point is much more dynamic because it is more sensitive to logistic changes in the product chain.

6.4 Managing the modern supply chain

6.4.1 The complexity of making supply chain management decisions

Making supply chain decisions is a complex matter since decisions to optimise the supply chain are concerned with:

- the structure of the entire supply chain including the location and size of production or processing plants, or storage sites
- the alignment of the supply chain by breaking down the chain into different processing segments, the number and location of supplies and ultimate destination of the product
- the scheduling of the product flow, including the frequency of delivery, the mode of ordering and delivery
- the management of logistics resources, such as the size of vehicles used, types of handling and storage systems and their effectiveness of use
- the product configuration, as changes in the design of a product can mean that the relationship between the value of a product and its weight may change due to technological or consumer response.

Optimising the supply chain requires finding the right balance between several and often conflicting considerations, for example:

- management of **raw materials and supply sources** where the objectives are to guarantee adequate capacity, reduced cost and sufficiently reliable
- management of **production** which involves planning the inputs and fine tuning/adjusting the processes (capacity)
- decisions on **outsourcing** involve the question of 'make-or-buy' decisions based on cost of an activity, focus on core competency, displacement of financial risk, service levels and reliability of operations
- **transportation and consolidation** in function of the distance between sources, manufacturing operations, distribution facilities and the market
- Reducing **inventory** costs through coordination and timing of the different flows is an important element in the design and management of the supply chain.

According to a Deloitte & Touche study, supply chains are becoming increasingly complex at a time of shorter product life cycles and ever-rising customer demands. In addition there is the increasing spread of distribution, manufacturing, sourcing and engineering operations around the globe making it ever more difficult to synchronise all the pieces. In their study Deloitte & Touche identified three critical trends that act to pull apart supply chains and make them more difficult to manage:

- **the pressure to drive down supply chain costs**
To reduce costs companies are forced to relocate and outsource pieces of the supply chain. The customers have amassed huge buying power through the emergence of mega stores and submarkets resulting in immense pressures to cut costs.
- **the pursuit of new lucrative markets**
Companies increasingly look at the whole world as their market.
- **the quickening pace of product innovation**
Marketing products worldwide requires products adapted to local tastes. Product life cycles are getting shorter and shorter, forcing companies to design supply chains that can effectively deliver suitable products on time, in the right quantity and quality at the right cost.

6.4.2 New trends in supply chain management

As can be seen, the environment in which businesses operate and compete is subject to continuous and accelerating change. In order to remain competitive, to attract new investors and to retain current investment, management of FTZs must have detailed insight into modern supply chain management. The way the supply chain is managed has a big impact on a company's location strategy.

Supply chain decisions are no longer taken on location at every step of the supply chain, companies now take a global perspective on supply chain management and the same decisions are now made on a worldwide scale. This will have a huge impact on, amongst others, the choice of a location for a manufacturing plant or a distribution centre and will only increase the degree of business mobility. Relationships between local companies servicing each other may be harder to maintain as decisions move beyond the control of the local parties.

When designing the supply chain from a global perspective, a company configures factories, warehouses, engineering activities, transportation routes, marketing, sales, headquarters, R&D facilities and other operations in a way that maximises the value of the network as a whole. Plants may serve multiple

markets, distribution routes may carry multiple product lines, and product development, production, distribution and marketing capabilities may be shared with other companies, even competitors (Deloitte Touche Tohmatsu, 2003).

Decisions to locate an operation in a FTZ will be taken from completely different perspectives and the typical drivers behind the decision to locate in a FTZ will change. In this context, the design and optimisation of supply chains will require:

- **an integrated approach to costs**, focusing on reducing total costs for the whole supply chain leading the relocation of individual activities, outsourcing to specialist suppliers and changes to business processes.
- **an emphasis on reliability**, which leads to the development of risk management strategies resulting in closer and stronger relationships with customers and suppliers, reducing the supplier base and contingency plans for the replacement of non-performing partners or unsatisfactory transport and communications links.
- **visibility in the supply chain**, meaning that 21st century supply chain managers want to manage the supply chain as a single virtual entity across the world, in real time, end-to-end and in concert across technology platforms. This has resulted, and will further increase, the need for information and requires evermore analytical and data processing skills. The multiple dimensions of a decision, such as location, size, timing, process or linkages can be considered simultaneously instead of in isolation. Thereby the decision-making process becomes depersonalised.

Recent developments in supply chain management techniques include:

No waste in the supply chain. A lot of focus goes to streamlining the supply chain by eliminating waste. Waste is defined as any activity that does not add value for the customer. It is the use of resources in excess of the theoretical minimum required (manpower, equipment, time, space, energy). Waste can be excess inventory, setup times, inspection, material movement, transactions or rejects. Essentially, any resource that is not actively involved in a process that adds value is in a waste.

The famous seven wastes according to Shigeo Shingo are:

- waste of overproduction
- waste of waiting
- waste of transportation
- waste of stocks
- waste of motion
- waste of making defects
- waste of processing itself (when the product should not be made or the process not be used).

Accumulating capital costs in the supply chain. While goods are moving through the supply chain, they are incurring capital costs that are a function of transportation time, the value of the goods and considerations related to the production planning.

New logistical concepts, like *merge-in-transit*, make use of this by not only finding a balance between transportation, consolidation and keeping inventory, but even integrating them into one concept. Merge-in-transit is a service that collects shipments from multiple origin points and consolidates them, in transit, into a single delivery to the customer. The logistics concept optimises the flows of components or products. The components or products are put together to an order just-in-time en route to the

destination. Specific merge-in-transit processes direct the interrelated component flows in such a manner that the flows converge at the same place at the same time.

Postponement in manufacturing. The application of postponement allows for some activities nominally associated with production to be performed downstream in the supply chain, delaying the point in time when goods become dedicated to particular markets or customers. Postponed manufacturing is a specific combination of the three generic types of postponement:

- **Form postponement** refers to the postponement of final manufacturing or processing activities.
- **Time postponement** refers to the delaying of the forward movement of goods until customer orders have been received.
- **Place postponement** refers to the positioning of inventories upstream in centralized manufacturing or distribution operations to postpone the forward or downstream movement of goods.

Postponed manufacturing combines these types: final assembly and manufacturing activities are postponed until customer orders have been received (time postponement) and are performed from central operations in the international supply chain (place postponement), to include customer and country-specific characteristics in the finished product (form postponement), frequently followed by direct delivery to retailers or customers. The combination of three areas of postponement often allows for customer service enhancements through customization and operating cost savings through lowered inventory carrying costs.

Value added logistics. Value added logistics (VAL) is a combination of logistics and industrial activities whereby in order to meet customer requirements operations are carried out as much as possible downstream in the supply chain. The objectives of VAL are to increase the manufacturer's flexibility and reduce logistics costs, obsolescence risks and import duties. VAL encompasses the following activities: product configuration, blending and mixing, adding parts, packaging, labelling, sterilising, preparing documentation, billing customers, customer service by phone, quality control, repairs and the handling of returned goods.

6.5 21st Century taxation and supply chain management

Reorganising the supply chain has generated substantial savings. However, opportunities for further savings exist when considering the tax implications of supply-chain decisions.

According to tax experts at Ernst & Young, supply-chain improvements alone result in a 40 per cent increase in earnings, but the company actually nets less as these savings are subject to corporate taxes. Optimising corporate taxation increases profitability by 10 per cent. Combining supply-chain optimization with tax planning creates a multiplier effect that results in far greater benefits than either of these strategies separately by boosting net profits with as much as 87 per cent (NEI/Ernst & Young, 1993).

The tax rules that determine how much profit has to be reported in a given country are based on the location of assets, functions and risks. In order to reduce the worldwide effective tax rate functions, risks and income must move into tax jurisdictions with a lower tax rate. By shifting risks and minimizing some of the functions that a manufacturing facility performs, it is possible to realize significant tax savings without relinquishing operating flexibility.

A method for doing this is *contract manufacturing* whereby a factory does not need to be located in low tax location. The selection of a location can be done independently from tax considerations and focused on operational and cost considerations only. The risk associated with the manufacturing activity is transferred to another company in the group, usually a centralized trading company, which purchases the

products from the factory. The manufacturing facility never becomes the owner of the products. It becomes a provider of processing services and, as a result, the factory will generate much less revenue. The key is to put the trading company in a low-tax country because it will realize most of the profit from the manufacturing activity.

6.6 Reverse logistics

Reverse logistics covers all the activities associated with the return of **goods**, regardless of condition and the reason for return, as well as **packaging materials** for the purpose of extracting value and ensuring proper disposal. The wide range of return options creates a unique set of challenges and opportunities. Pressures to improve customer service satisfaction and demands from environmental groups are just a few of the factors pushing reverse logistics higher up on the supply chain agenda.

The characteristics of the reverse supply chain are:

- unpredictable demand; little advance notice of return quantities, quality and routing
- non uniform product quality and packaging; often returned individually instead of on pallets
- many choices of product routing; including return to stock, return to vendor, repair, recycle, scrap
- difficulty in determining profit maximising methodologies
- negotiations involving more details and contingencies than for forward supply chain logistics
- typically no one department taking responsibility for reverse logistics
- often an ad-hoc process with little budget and attention.

The growth of reverse logistics is further illustrated by the emergence of third party reverse logistics solutions and the development of technologies to better track returns and enhance reverse logistics capabilities.

Typically, when a customer returns an item, it does not just retrace its steps back home. Rather, the return is treated as a special item that can travel along numerous routes depending on a variety of factors, including return reason and timing. Some of these channels may be identical to the forward chain, but many require new paths. Determining the optimum path for returns is a complex and resource intensive effort that must consider numerous factors including economics, speed, safety and environmental impact.

Efficient reverse supply chain management can mean happier customers and higher profits. According to Gartner, reverse logistics is estimated to consume 4 per cent of overall logistics cost in the United States and to destroy 35 per cent of profits.

6.7 Conclusions

Which trends and developments form threats to FTZ, which ones present new opportunities? In order to assess the impact on managing a FTZ, the point of departure is the definition of a free trade zone. In Chapter 2 free trade zones were defined as a business estate that offers investors:

- an offshore location
- above average business infrastructure
- flexible business regulations
- attractive tax incentives and lower investment and operating cost.

Are these characteristics still relevant in the business world of the 21st century? Do they allow the FTZ to create a competitive advantage in comparison to industrial estates without the status of a free zone? Some of these issues will be analysed here.

Increased mobility. Increased mobility means that management is less reluctant to relocate operations from one location to more attractive locations allowing increased returns. FTZ will be forced to carefully, proactively and continuously analyse and strengthen their competitive position. Aftercare strategies to secure existing business will be needed.

Cost-quality trade-off. The changing cost-quality trade-off is both an opportunity and a threat. Nowadays, it is required to combine, in one location both low cost and high quality. Most FTZs started out as low-cost manufacturing sites shipping products to overseas markets. FTZs will be forced to develop into sophisticated logistics zones to remain competitive, attract new investment and secure existing operations from relocation. Case Study 6.2 illustrates this very clearly.

Tax incentives. Due to sophisticated tax management techniques, the tax benefits no longer create a competitive advantage for a FTZ. Smart global tax planning allows the reduction of tax liability without the need for locating manufacturing or distribution activities in a tax free zone. This is not to say that they will or have become irrelevant. Tax incentives are no longer a feature that can be used by a FTZ to create a unique selling proposition.

Lean manufacturing and the 'no waste' approach pose a threat to many FTZs. Limiting waste in the supply chain means that the number of locations where goods are stored and the number of transshipments must be kept to a minimum. Ideally, manufacturing, or at least final assembly of goods, takes place in the marketplace or, if technically required, near the sources of raw materials. Many FTZs are located at an intermediate point in the supply chain. Low operating and investment cost no longer compensate for the cost of capital added to goods when they are not moving or going through a value adding process. Plenty of decisions to move operations offshore are, in a rather static way, based on a simple comparison of local investment and operating cost. The point-to-point analysis of cost structures in the supply chain gives way to a calculation of landed cost spanning the entire supply chain. This takes the focus away from low cost/low taxation at one point in the supply chain.

The importance of reverse logistics and the pressures to return packaging are serious threats to FTZs that are not serving the host country or nearby markets. Both will have a very substantial impact on total cost to the customer and profitability. The impact can only be kept to a minimum when the manufacturing plant is located in the market it ships its goods to.

Case Study 6.1 Rapid-fire fulfilment

Kasra Ferdows, Michael A. Lewis, José A.D. Machuca

Harvard Business Review, November 2004

Zara is a Spanish clothing company with over 650 stores in some 50 countries. From 1991 to 2003, sales grew more than 12-fold from €367 million to €4.6 billion, and net profits ballooned 14-fold from €31 million to €447 million.

Zara has developed a super-responsive supply chain focusing on controlling what happens to products until the customer buys them. The company can design, produce, and deliver a new garment and put it on display in its stores worldwide in a mere 15 days. As a result, it achieves a substantially higher net margin on sales than its competitors.

Unlike so many of its competitors choosing to outsource, Zara keeps almost half of its production in-house. Far from pushing its factories to maximize their output, the company intentionally leaves extra capacity. Rather than chase economies of scale, Zara manufactures and distributes products in small batches instead of relying on outside partners, the company manages all design, warehousing, distribution, and logistics functions itself.

Rapid transfer of information from shoppers to designers and production staff such hard data as orders and sales trends and such soft data as customer reactions and the 'buzz' around a new style. Zara's organization, operational procedures, performance measures, and even its office layouts are all designed to make information transfer easy.

Zara's designers sit right in the midst of the production process and work next to the market specialists and procurement and production planners which increases the speed and the quality of the design process.

Zara has an informal policy of moving unsold items after two or three weeks. This can be an expensive practice for a typical store, but since Zara stores receive small shipments and carry little inventory, the risks are small; unsold items account for less than 10 per cent of stock, compared with the industry average of 17 per cent to 20 per cent.

Zara relinquishes control over very little in its supply chain – much less than its competitors. It designs and distributes all its products, out-sources a smaller portion of its manufacturing than its peers, and owns nearly all its retail shops.

Against conventional wisdom Zara produces roughly half of its products in its own factories and has a high degree of vertical integration. This leads to a level of control impossible when outsourcing or offshoring.

Thanks to the responsiveness of its factories and distribution centres, Zara has dramatically reduced its need for working capital. Because the company can sell its products just a few days after they're made, it can operate with negative working capital.

7 Best practices and policy guidelines

7.1 Introduction

By many, a FTZ is seen as an instrument for expanding and modernising an economy through the attraction of foreign investment, the transfer of technology and employment generation. The actual impact of FTZs on national economic development has been studied frequently. However, many of these studies are out-of-date, and country-specific. Like any snap-shot in time, a picture only tells of the present; whereas history may tell us of the past nothing can predict the future. What may not be classified a success today may be different tomorrow and vice versa. Some FTZs have been real engines of outward-oriented economic growth and have had a considerable impact on industrial development. Examples are Singapore, the Republic of Korea and Mauritius. Others, however, have failed to boost economic development. In this chapter will highlight two opposing FTZ experiences: Mauritius and Senegal studied in detail by Madani (1999).

This chapter stems from a thorough literature review which encompasses, but is not limited to, the following sources:

Kusago, T and Tzannatos, Z. (1998). Export Processing Zones: A Review in Need of an Update, SP Discussion Paper No. 9802, The World Bank.

Madani, D. (1999). A Review of the Role and Impact of Export Processing Zones, Policy Research Working Paper 2238, The World Bank.

7.2 Some arguments used against FTZs

- The impact of the FTZs on the local economy is limited.
- FTZ cannot compensate for failed economic reform.
- FTZs account for only a small share of the host country's investment.
- A FTZs is only a second-best policy to develop the economy of a region. A first-best policy would be to provide an optimum enabling environment.

Senegal: A case example highlighted

The Dakar EPZ established in 1974 is an example of an unsuccessful zone. The Dakar zone became operational in 1976 but did not achieve its goals in creating employment, foreign exchange or attracting FDI. Employment reached a high of 1,200 in 1986 to drop back down to 600 in 1990. Some 10 firms exported a meagre 4 million FCFA⁵¹ (approx. US\$ 14.7m) out of the zone despite a relatively stable political environment and advantageous financial promotions.

The Senegalese taxes and customs incentives matched those of its neighbours and competitors. They included: exemption from taxes on corporate income and dividends; exemptions from customs duties and taxes on machinery, inputs and semi-finished and finished goods; and unrestricted repatriation of capital and profits.

⁵¹ The Senegal belongs to the African Financial Community (CFA). The franc CFA had a fixed parity with the French franc (100 FCFA = 1 FF) and now with the euro (1000 FCFA = 1,524 euros, 1 euro = 655,957 FCFA).

There are several reasons for the zone's failure.

- red tape
- minimum employment and investment floors
- government mandated labour market rigidities
- low productivity of the labour force
- no standard rental factory space available
- high utilities and transportation costs.

7.3 Arguments in favour of FTZs

- A FTZ can act as a driver to open up an economy, spreading reforms to the rest of the host country and are an import tool to promote diversification.
- Among all least developed countries (LDCs) the highest incidence of poverty occurred in mineral exporting LDCs, with 80 per cent of the population living in extreme poverty. Service exporting LDCs, mostly those that earned foreign exchange from tourism, had a 43 per cent incidence of extreme poverty. But in LDCs that were heavily engaged in export manufacturing, typically through FTZs the incidence dropped to 25 per cent.
- WEPZA's 1997 Edition of the International Directory of Free Zones and Export Processing Zones contains information on 847 zones in 102 countries. The study showed, amongst others things, that countries with FTZs gained significantly in exports to the United States of America and the European Union.

7.3.1 Job creation and human capital

Job creation is probably the first and foremost goal of a FTZ. FTZs have created jobs and, in some cases, a remarkably high number of them. But what has been the impact on the unemployment at a national level? In many cases the jobs created in FTZs are compensated by population growth and an expanding labour force. Only in Mauritius did the FTZ result in attaining almost full employment. In many other countries, the impact has been negligible.

Mexico. In 1966, one year after establishing the FTZ-programme, 24 enterprises were located there employing 6,107, growing to over 2,000 plants with staffs totalling over 600,000 jobs in 1994.

Mauritius. In 1971, the first nine EPZ firms employed 600 people, growing to a maximum of 91,000 in 1991. This represented approximately one third of total employment and 80 per cent of all jobs in industry.

Philippines. Whereas workers in the four regular zones in the Philippines numbered 23,651 in 1986, eight years later, there were about 70,000. In **Malaysia**, where seven zones were created between 1972 and 1990, jobs grew from 21,000 in 1973 to some 123,000 in 1994, while the workforce in **Sri Lanka's** three zones multiplied eight-fold over the period 1980-1994.

7.3.2 Export performance

As the examples below illustrate, FTZs have played an important role in the export performance of many countries.

- Taiwan Province of China and the Republic of Korea: almost 100 per cent of manufactured exports.

- Mauritius: 95 per cent manufactured exports are produced in FTZs.
- Kenya: 75 per cent of manufactured exports, with the vast majority depending on the duty exemption system.
- Mexico: over 50 per cent of total manufactured exports originate from the maquiladoras.
- The Dominican Republic: 80 per cent of all exports, and almost a 100 per cent of manufactured exports.

7.3.3 Foreign exchange

For many countries, especially low income countries, foreign exchange earnings are a prime target as they serve to finance import and the development of the local economy. Experience shows that FTZs can be successful in earning foreign exchange, increasing employment and developing export competitiveness. For example:

- Mauritius: saw FTZ *gross exports* earnings grow from 3 per cent of total export earnings in 1971 to 52.6 per cent in 1986 and 68.7 per cent in 1994.
- Indonesia, the Republic of Korea and Taiwan managed a high *ratio of net to gross exports* from 49 to 63 per cent in the mid-1980s.

The real impact on the economy should be measured on the basis of gross versus net exports. Zones where firms are obliged to import raw materials and other supplies from abroad obviously have a much smaller impact on domestic markets.

7.3.4 Tax revenue versus tax losses

Tax incentives are a prime characteristic of FTZs. When establishing a FTZ, governments hope that the potential tax revenue losses – as a result of offer tax incentives – are outweighed by gains accrued in terms of employment creation (i.e. the removal of people from a country's liability column in the balance sheet to the asset column through personal taxation) and provision of foreign exchange earnings. In this calculation, the cost of establishing the FTZ must be included as well since it requires substantial investment in real estate, transportation infrastructure, utilities, communications facilities and administrative support.

7.3.5 Backward linkages

Businesses that operate from FTZs can create linkages between themselves and the rest of the economy. Backward linkages are supposed to boost economic growth in the host country by fostering investment in non-traditional goods and efficiency gains in the production processes of the traditional ones. As a result, local firms become more internationally more competitive. Linkages can take two forms: FTZ firms sourcing domestic raw material inputs or subcontracting supplies with domestic firms. Failure to establish linkages is often the result of non-availability of materials and supplies, quality or pricing issues and problems with the speed of delivery.

An example of a successful FTZ is the situation at the Masan Zone in the Republic of Korea in 1988. A total of 56 of the 73 zone firms had engaged 525 domestic firms for outsourcing processes. These 525 employed 16,686 workers, equivalent to half of the entire Masan zone work force. In the maquiladoras in Mexico, while successful in terms of creating jobs, backward linkages failed to realise as almost all inputs were imported from the United States.

According to Madani (1999), overall the goal of fostering backward linkages and technological transfers has not lived up to its promise. The results of linkage-building are, in most cases, still below expectations. Their success hinges upon the impact of the regulatory environment, on potential suppliers and the

organization of international production by export enterprises. Finally, the pace at which linkages develop depends to a large extent on the ability of local firms to become efficient as regards the cost, quality and delivery of raw material, intermediate goods and producer services.

In their World Bank discussion paper, Kusago and Tzannatos (1998) have conducted research into the evolution over time of backward linkages at selected FTZs. At some of the FTZs, they observed a positive trend towards increased local sourcing of inputs (Table 7.1).

Table 7.1 Backward linkages (Kusago and Tzannatos, 1998)

Country	Zone	Industry	Local sourcing of inputs				Subcontracting
				%		%	
Malaysia	Penang	All	1976	0.2	1987	17.7	Very Limited
Republic of Korea	Masan	Electronics	1976	2.8	1987	17.9	Very Limited
		All	1971	3.3	1985	32.3	Very Active
Taiwan Province of China		All	1967	2.1	1979	28.3	
Sri Lanka		All	1979	0	1991	3.8	Non-Existent
Mauritius		Garment	1982	41	N/A	N/A	

7.3.6 Technology transfer

What was the impact of the FTZ on the skill levels of the local workforce? A substantial percentage of production in FTZs requires low skills and low technology. As shown in Table 7.2, in the case of Malaysia the share of factory workers to total workers in FTZs has declined. This is the result of changing from labour-intensive to more capital-intensive industries.

7.3.7 Upgrading of physical capital

FTZs may lead to upgrading of physical capital. Successful zones are those for which governments have created an efficient and competitive industrial transport and logistics infrastructure. A successful and well-integrated zone can also be considered a laboratory for, and a spur to, policy reform. As confidence is gained, the zone framework can be replicated in other parts of the country and the early investors start to move out of the original zone.

Table 7.2 Ratio of factory workers to total workers in FTZ (Kusago and Tzannatos, 1998)

	1997 (%)	1990 (%)
Managerial & professional	1	4.7
Clerical	5.4	8.1
Supervisory & skilled	12.6	20.3
Semi-skilled & unskilled	81	66.9

Among the most advanced of the new kinds of zones is the one in Kaohsiung, Taiwan Province of China. It began with simple sewing in 1967, expanded to fashion garments, then to electronics assembly and then to electronic design, testing and R&D, and is now moving into the business of hosting corporate headquarters and global logistics centres.

Case Study 7.1 EPZs and the 'race to the bottom'

As EPZs have become an important part of export-oriented industrialization, critics have charged that competition for export-oriented FDI using EPZs contributes to a 'race to the bottom', as it involves a deliberate lowering of social and environmental standards. More specifically, along with incentives such as tax holidays, dutyfree imports and good infrastructure, EPZs offer abundant and relatively cheap labour, sometimes with exemptions from national regulation on labour protection. Substandard labour conditions can emerge from the repression of rights such as freedom of association and collective bargaining, and from unregulated terms and conditions of employment. These situations in the zones may result from a lack of enforcement by Governments of labour laws or regulations that, in principle, apply in the zones as well as in the rest of the country, or from exemptions or variances in labour laws or regulations applicable in the zones compared with those applied elsewhere (ILO, 2001, Part I, paras. 151-155). Responses from a sample of 125 Governments, workers and employers' organizations reported that many countries apply the same labour laws in EPZs as elsewhere (ILO, 2001); another report found, however that, in practice there were severe restrictions on rights to organize in EPZs (ILO, 2000).

The issue of practices in EPZs was recently covered in the ILO Seventh Survey on the Effect Given to the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (ILO, 2001). In one Latin American country, workers reported that enterprises in EPZs have destroyed ecosystems and lowered relative wages. In general, worker views were that there has been no transfer of skills from foreign affiliates operating in the country. The ILO's Committee on Freedom of Association has also examined cases involving blacklisting and massive dismissals that highlight the unwritten understanding that unionization is unacceptable in zones. The country has since set up a specialized Labour Inspectorate to protect freedom of association in the zones. In one African country, government views were that foreign enterprises have taken advantage of the weak enforcement of safety and health regulations to operate at a much lower level of standards. EPZs in the country were granted exemptions from health and safety (which are due to be removed) and this acted as an incentive to investors. In another African country, government views were that workers in EPZs receive less favourable treatment than elsewhere and that women working in these zones had to work overtime and at night (ILO, 2001).

By contrast, the views of an Asian Government were that foreign investors played a key role in identifying skills needed so that these could be developed through training programmes. There has also been a skills transfer between foreign affiliates and domestic industry in that country. Foreign affiliates have initiated measures to improve existing practices in EPZs, for example through a gains-sharing programme that provides benchmarks for foreign and local companies operating in the same industry line (ILO, 2001). The fact that some countries view limiting labour and environment standards as an incentive to FDI in EPZs may indicate a need for collective action involving a variety of actors to limit the risk of a possible 'race to the bottom'.

(Source: UNCTAD, 2002)

7.3.8 Contribution of Logistics FTZs

The contribution of specialized logistics zones or logistics oriented FTZs is similar to traditional or manufacturing oriented FTZs. Logistics zones originally are aimed at promoting efficient logistics system by establishing or integrating logistics cluster around port or inland area.

Logistics zones around port areas contribute to develop efficient domestic logistics activities resulting in logistics cost and time savings at a national level. This enhancement to the import and export sectors leads to competitiveness and aids in attracting foreign direct investment into this logistics area in a reciprocal approach.

Globalization of production, consumption and services in block economies such as the European Union, NAFTA and ASEAN together with bilateral trade agreements has created the needs for distribution centres covering a single market of several countries. As a strategy, some countries with a location advantage (i.e. located close to raw material or consumption point) may attract regional or global distribution centres for manufacturing through logistics processes to help develop its economy.

Mauritius: A case example highlighted

The FTZ in Mauritius is considered a success because it achieved the goals of employment creation, export diversification, gross and net export increase, attracting FDI and being on the receiving end of some demonstration effect and human capital build-up. The EPZ was established in 1971 as a response to a rapidly growing population and exports focused on one commodity, sugar. By 1976, 84 firms had started production. In 1983, 129 firms employed 23,424 workers. This number peaked in 1991 at 586 firms employing 90,861 workers. By 1995 the number of firms had dropped back to 481 and employment stood at 80,466 workers or 17.10 per cent of the national labour force. Some 50 per cent of these firms are engaged in garment making, employing 82 per cent of the zone workers.

Export-oriented factories – more than half of which are locally owned – account for at least 10 per cent of GDP and over three-quarters of the country's total exports. Textiles, knitwear and other apparel are the main products and they make up at least 80 per cent of all exports from the zone. Linkages with local suppliers of intermediate goods are being strengthened through the granting of incentives for exporting to zone enterprises and developing textile plants. A vertically integrated textile industry now exists, with raw cotton being imported to make cloth that is exported from Mauritius.

The Mauritian success is due to the coming together of all the necessary elements and policies required (and described above) for the flourishing of EPZs.

- political stability
- the infrastructure of the zone
- a large pool of educated labour
- a productive labour force
- an attractive incentive package
- limited bureaucracy and minimal interference.

Last but not least, according to Madani (1999) the Mauritians hit upon idea of setting up EPZs 'at the right time'. Mauritius was one of the first countries to implement the EPZ concept in modern times. It provided an economically attractive environment and was fortunate not to have many other developing country zones to compete with unlike many newly established EPZs.

7.4 Planning for success – policy guidelines

Logistics FTZs have evolved from traditional or manufacturing oriented FTZs. In this regard, policy guidelines for traditional FTZs are addressed first and will be useful as reference for policy makers. Policy guidelines for successful establishment of logistics FTZs or logistics special zones are also addressed from the specific point of view of logistics. Regardless of the terminology used the concept of logistics FTZ, logistics parks or logistics zones are still in a development stage. This concept is applied differently by countries depending upon several country-specific conditions and situations.

Why do some zones succeed where others fail? According to an unnamed UN study cited by WEPZA, there are two major causes of FTZ failure: the lack of government commitment and operational reasons. Lack of government commitment can be illustrated by protracted policy formulation, overregulation and rigid rules, a predatory business environment, the ineffective implementation of laws and the lack of follow-up. The prime operational causes of the failure of FTZs are cited as poor location, inadequate promotion and poor FTZ management.

According to a World Bank study on export processing zones, experience suggests that certain policies at the macroeconomic level and policies specifically affecting EPZs are important for EPZ success.

7.4.1 Macroeconomic factors

At a macroeconomic level a realistic exchange rate and a stable macroeconomic environment are a must. For policies affecting firms in the EPZ, key factors are:

- a clear foreign investment policy regime
- restriction-free and duty-free access to imported inputs and capital goods
- rapid, low-cost customs clearance for imports and exports
- a completely liberalized foreign exchange regime for EPZ firms' export-oriented international transactions
- speedy responses to uncomplicated investment applications
- minimal regulatory control of actions and transactions within the zone, including freedom to hire and fire workers at low transaction costs
- an extension of free trade status to EPZ estate development and management.

7.4.2 Location and operational factors

- appropriate site selection and location, generally in a major urban area, well provided with suitable low-cost labour
- good road infrastructure and availability and proximity to a major port and an international airport
- availability and good quality utilities (electricity, water, sewerage, and reliable telecommunications) and services (maintenance, security, banking)
- good zone administration and management (including phased construction of suitable factory spaces for rent as well as complementary facilities)
- appropriate promotional efforts.

Madani (1999) makes the following recommendations for the successful establishment of free trade zones:

- Perform a careful analysis of incentives offered, their costs to the country, and the type of industries and investment packages (e.g. short or long term) they attract.
- Incentives need to concur with the WTO rules and time-lines on export promotion instruments.
- Permit locationally diverse zones and export processing firms.
- Ensure adequate infrastructure (roads, ports, electricity, water, sewage disposal or treatment).
- Provide efficient, streamlined and prompt government for the establishment and running of an EPZ (approval of firm applications; customs and other supervisory institutions).
- Encourage establishment of privately owned and run zones.
- If interested in establishing and running public zones, ensure minimal bureaucratic red tape by providing the zones with a large degree of autonomy from the central government.
- Geographical location of the country (e.g. land locked) together with distance and access to firms' targeted markets and communications and transportation sophistication and cost have a material influence on the attractiveness of the zone.

- Preferential trade arrangements influence a country's attractiveness because of the potential enlarged size of the market and lower barriers to entry.

7.4.3 Developing and positioning a free trade zone

Establishing, developing and promoting a free trade zone requires the same approach, methodologies and techniques as designing and marketing any other product. It starts with defining the strategic objectives by asking the question: what do we want to accomplish with the establishment of a free trade zone? As we have seen in the preceding sections, several national or regional development objectives are possible, from creating jobs to generating port traffic.

Once these broad economic and social goals have been defined, it is necessary to define the nature of the economic activities that will be attracted and that will maximise the chances that those objectives are indeed attained.

Once the type of economic activity, the industrial sectors and the geographical origins have been identified, a critical step is to analyze and identify what the target activity or sector really needs, and which locational requirements need to be met in order to make the location an attractive destination for the target investors. From the investors' standpoint 'attractive' simply means that all locational elements are in place – that there is a locational fit.

This section is based on MIGA's Foreign Direct Investment Promotion Centre web site, which provides excellent Toolkits for attracting FDI⁵². A major step in the process is to develop a picture of where the FTZ currently stands by answering the following questions:

- What are current foreign direct investment (FDI) trends and how do they affect the FTZs ability to attract investment?
- What do we want to achieve by attracting foreign investment to the FTZ and what types of investment will best serve those needs?
- What are the characteristics of the FTZ, what are its strengths and weaknesses as an investment site?
- What is the competitive position of the FTZ and what are the characteristics of competing locations?

7.4.4 Mapping and understanding trends in global trade and foreign direct investment

Understanding global FDI tendencies, including global and regional trade flows, helps in understanding who is investing, where they are investing, and why. This is an essential starting point in identifying industries that are likely to be attracted to the FTZ. This requires that the planners of the FTZ compare each country, region and location's share of inward investment and determine the evolution of market share in order to get some idea of the FTZs competitive position.

Moreover, external elements that can affect the success of the FTZ should be acknowledged. Independent of the global or regional FDI, short-term external developments can disrupt investment flows. While it is not possible to systematically identify these unpredictable elements, awareness of their disruptive potential must be created.

⁵² <http://www.fdicenter.com/>

7.4.5 Identify national development goals

Developing a FTZ should take into account the larger objectives of the regional or national development plan. The goal of attracting FDI is to achieve certain development goals as the creation of employment, technology transfer, or increased foreign exchange earnings and these set the framework for the strategy.

These goals establish the framework for the strategy and if the strategy is linked to the regional or national development plan, the promotional efforts will produce better returns for the location. A reinforcing relationship will also provide a concrete justification for the financing the FTZ.

It is important to understand the context within which the FTZ operates and tries to attract investment. In countries with detailed national development plans, this will be easy. These plans often specify the goals to be achieved over specific time periods. From that point, it is relatively easy to understand how attracting FDI can help the location. The next step is to devise a set of FDI-related goals that flow directly from these national goals. These will then become the general goals for the FTZ.

The result of this preliminary stage in the strategy process should be:

- a list of national development goals
- a list of FDI-related goals that are based upon these national goals
- a policy statement summarizing the relationship between the mandate of the agency, the FDI-related goals and the national development goals.

7.4.6 Establish regional development goals and the role of FTZs

Next is an analysis of FDI with a more regional focus. Questions to be answered are:

- What investment has the FTZ attracted in the past and why?
- What is needed to keep that investment in the FTZ?
- What projects chose a site in a competing FTZ and why?

There are three elements involved in analyzing regional foreign investment trends:

- **Gather data on projects** in your location and competing locations
- **Organize a survey** into why locations were chosen and measure the degree of locational satisfaction
- **Analyze industries** and investor groups.

7.4.7 Undertake a SWOT analysis

Once FDI trends have been mapped and analyzed, the locational profile and investment characteristics of the FTZ and its hinterland need to be analyzed.

The best way to do this is by systematically conducting a SWOT analysis. This analysis – also known as a 'location audit' – will foster understanding of the positive and negative aspects of the FTZ as an investment site. It will also provide the basis for competitive benchmarking.

Identifying weaknesses in the investment environment also serves as the basis for developing or adapting regional development strategies and for advocating further policy and regulatory changes.

The key advantage to a SWOT analysis is that it is a dynamic assessment of the FTZ. Unlike the analysis of FDI trends, which is essentially backward looking and focuses on trends over the last several years, the SWOT analysis incorporates upcoming developments – the opportunities and threats – that will affect a location's future competitiveness.

- STEP 1** *Identify your location's strengths and weaknesses.* A location's strengths and weaknesses need to be assessed from the prospective investors' point-of-view: why is a location attractive as a potential investment site? Compiling this information is done on the basis of a location questionnaire, listing criteria that drive the choice for a location (technical, market, financial and intangible factors).
- STEP 2** *Identify opportunities and threats.* What are the key trends and developments that are emerging? These may be either positive (opportunities) or negative (threats), and may be internal or external in origin, but they have the potential to affect the FTZ's current strengths and weaknesses.

The SWOT analysis:

- spells out in detail the location's strengths and weaknesses, and opportunities and threats. This assessment should distinguish between internal and external opportunities and threats
- explains the specific industry or economic dynamics underlying external opportunities and threats and the implications of these factors
- identifies key weaknesses that need to be addressed
These may be policy or regulatory impediments that need to be eliminated through an on-going dialogue with government advocating improvements in the investment climate.

7.4.8 Undertake a logical framework analysis

Subsequent or as an alternative to the SWOT analysis further analysis can be conducted to narrow down the key issues. A logical framework analysis is an analytical management tool which can help planners to: analyze the existing situation during project preparation; establish a logical hierarchy of means by which objectives will be reached; identify the potential risks to sustainable outcomes; establish how outputs and outcomes might be monitored and evaluated; present a summary of the project in a standard format; monitor and review projects during implementation. This technique is more commonly abbreviated to 'Logframe'.

This tool comes in two parts, first is the approach which involves a problem analysis, stakeholder analysis, development of a hierarchy of objectives and then selecting an appropriate strategy. The results are then placed in a matrix (the Logframe), which summarises what the project intends to do and how, what the key assumptions are, and how outputs and outcomes will be monitored and evaluated.

Below is a hypothetical example of how Logframe analysis can be applied to a FTZ project (Table 7.1). A more detailed analysis will have lead to the formulation of the matrix so thus whilst at first sight it may appear simple, this infact the desires result after what should be a thorough analysis.

Table 7.3 A simplified logical framework analysis for a hypothetical FTZ (ESCAP secretariat)

Category	Results	Indicators and performance measures (baseline & targets)	Means of verification (data sources, collection methods, periodicity)	Assumptions (external factors)
Impact (10 year timeframe)	National sustainable economic growth & poverty reduction			
Objective (4 year timeframe)	Increased participation in international trade	Number of FTZ National GDP increased Volume of traffic/trade has increased	Yearly National Statistics Collated by national bureau Tax declarations of companies (even if no tax is payable due to 'free' nature of zone) Number of employees	Data is already collected Actual FTZ contribution can be isolated from collective data
Expected accomplishment (2 year timeframe)	The establishment of a FTZ	Number of Companies located in FTZ GDP in region increased Volume of traffic/trade has increased baseline	Yearly National Statistics Collated by national bureau Number of employees	Demand for a FTZ exists Relevant laws are in place to facilitate implementation

7.4.9 Analyze competing FTZs

The next step is to compare the FTZ's locational profile to those of its chief competitors. Comparative 'benchmarking' is a widely used tool in both industry and government to measure the relative competitiveness or performance of competing organizations. Benchmarking a location's characteristics will help determine its competitiveness as an investment destination.

Benchmarking is important because a thorough understanding of a location's attributes highlights the strengths to emphasise when targeting investors. Also important is knowing which weaknesses need improvement and to what extent improving a weakness or turning it into a strength will impact on a location's competitive advantage. Benchmarking enables an evaluation of relative strengths and weaknesses; it is these that will determine whether or not an investor decides to select a location and sheds light on why some FTZ's figure on an investor's short list and others do not.

There are four elements involved in conducting a benchmarking analysis:

- **Determine the factors to be compared.** In order to effectively benchmark a location, the perspective of a potential investor needs to be adopted. Comparative data across a wide number of categories needs to be collected, and the data collected within each of these categories need to be fairly specific.
- **Determine competing locations and collect data.** A list of competitors needs to be compiled using a more formal process that begins by drawing up a list of countries with the following characteristics:
 - FTZs that are regional or international competitors in some or most industries
 - FTZs that have been highly successful in attracting investment
 - FTZs in countries with similarities in terms of economic structure, industrial base or geographic advantage.
- Once the short list of competitor locations has been identified, the data across the categories discussed above need to be processed.
- **Compare your location to your competitors' locations.** To rank and compare the FTZ with its competitors is the next thing to do. Note, however, that not all factors have equal weight from an investor's perspective and the each industry will have assigned different priorities to different factors, depending on its specific requirements.

7.4.10 Determine the FTZ's unique selling proposition

Once a comparison has been made with competing FTZs a clearer picture of the FTZs relative strengths and weaknesses will emerge. This information can be used to revise the strengths and weaknesses contained in the SWOT analysis. It can also be used to identify the FTZ's unique selling leading to a concentration of resources and a focused marketing strategy attracting FDI.

7.5 Strategy for establishing government policy on logistics FTZs

There are many critical factors that policy makers must keep in mind when attempting to establish successful logistics centres: the political situation, labour flexibility and logistics-oriented factors, such as infrastructure. Figure 7.1 shows that, of the other many important elements, six factors are critical.

In addition to these critical factors, policy makers in charge of FTZs and the port industry need to consider the following strategic means carefully when designing policies for a logistics hub:

A. Secure political support

Policy makers should win and lead the national consensus on the economic importance and benefits of logistics FTZ and port hinterland development. Identify and secure continuous support from all parties involved which might include key personnel, other relevant government organizations, media, scholars and business sectors. FTZs must work closely with political parties, especially those who hold political power. Very often the failure of management to win the political support of a country is often cited as the chief reason for the failure of a FTZ.

B. Location

All ports cannot be international logistics hubs at the same time. Select one or two strategic locations based on national and international points of view, not on the local or the balanced regional development standpoint. In this regard, geographical locations such as closeness to international main routes of logistics flows or the possibility of entry into the main route or the distance from the main route should

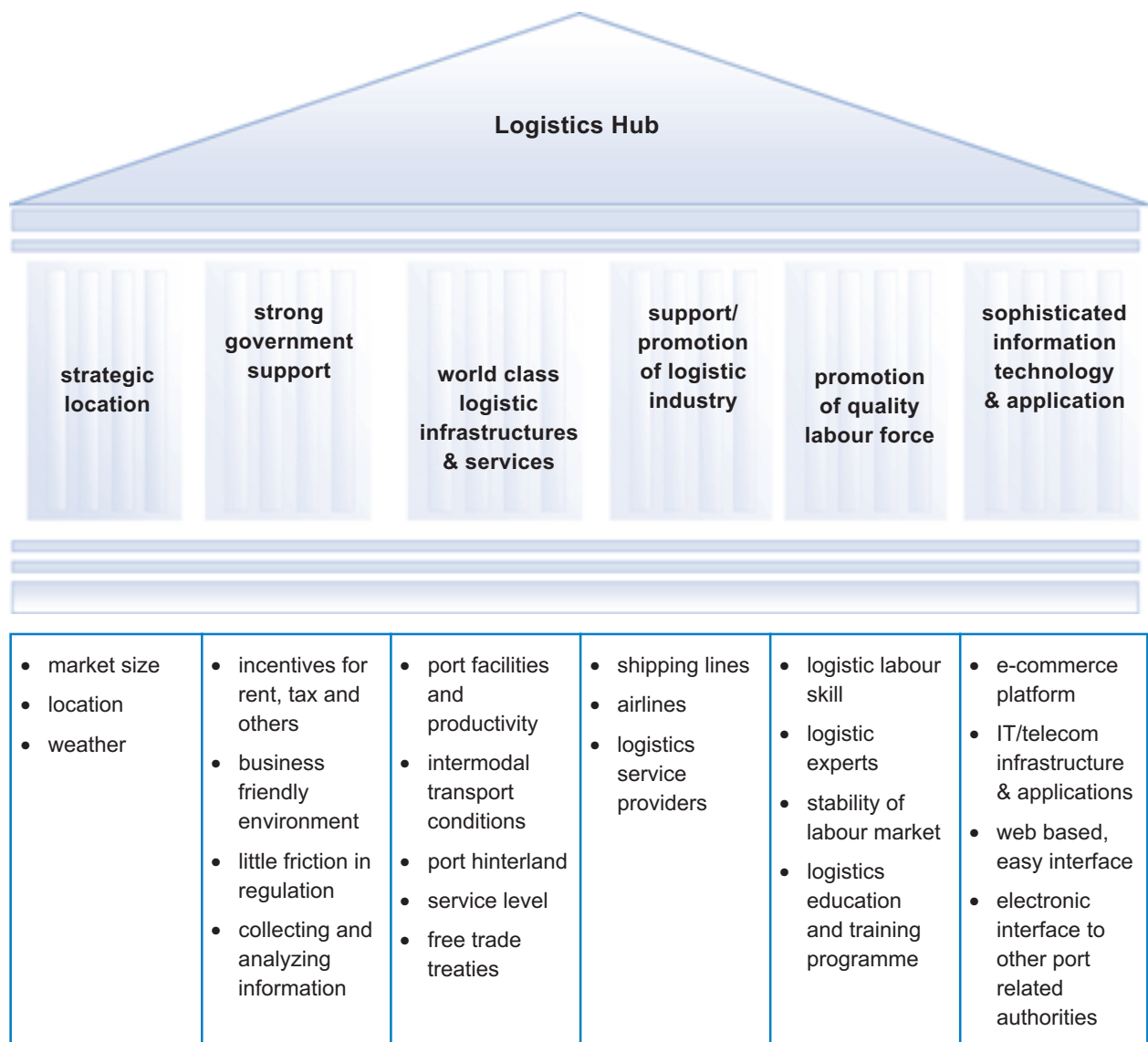


Figure 7.1 Critical factors for international logistics hub (Arthur D. Little 2003)

have priority. Market size is also an important element for selection of a port with growth potential for markets in the region or nearby. Selection and concentration is a good policy with limited resources.

C. Intergrated approach

Policy makers should not develop ports, FTZs or port hinterlands separately. Ports, port hinterlands and FTZs should be developed together with master plan including transportation facilities, IT infrastructures, and industry complexes (e.g. industrial parks, EPZs or FEZs) from the outset. Policy makers should also put efforts into promoting the domestic logistics industry, including third party logistics providers (3 PL) through deregulation, M&A, and incentives for logistics companies and the logistics outsourcing companies. A reserve of land to meet future demand for expansion should also be made.

D. Clear structures of organizations involved

Institutional structures should be established with clear authority, responsibilities and roles identified for the organizations involved. The organizations should be closely linked to each other in order to avoid confusion and also to enhance cooperation and efficiency.

E. Simple customs formalities based on IT applications

Time and reliability are major concerns of logistics companies. Many developing countries suffer from a complexity and quantity of documentations including repeated submission of similar documents to different authorities combined with the absence of a 'service mind' and sometime even a demand for 'tea money'. These inefficient formalities cause time consuming and unreliability concerns among international clients. Government should pay special attention to addressing these soft issues. Integrating IT platforms to clients, and neighbouring countries allows for a smooth and speedy flow of information.

F. Development of logistics industry

The presence of a highly developed national logistics industry is often one of the major successful factors for logistics zones or logistics centres. An advanced logistics industry which reduces logistics time and costs is essential to enhance a country's competitiveness overseas. To this end some countries such as the Republic of Korea have introduced incentive system for the companies which are outsourcing their logistics management and operation to specialized logistics service providers such as 3 PL in order to promote an advanced logistics industry and to strengthen the country's competitiveness in the logistics area.

G. Collaboration with stakeholders and clients

Mutual understandings among stakeholders are one of critical factors for a successful logistics zone. Close collaboration not only with port authorities and other CIQ (Customs, Inspection, and Quarantine) authorities but also with clients is essential. In order to meet client's needs, flexibility must be made with regard to regulations and policies to maintain a national competitive position. Showing continuous support and concern for the established clients within logistics zone is a good way to attracting more customers.

H. Interconnectivity with intermodal system

Modal choice and smooth connectivity between nodal points are important issues to in guaranteeing a seamless flow of goods between points. Consequently the role of the port sector has expanded to include inland areas in order to integrated services. Ensuring fluent and efficient movements of goods into and out of a ports hinterland enables an increase in capacity.

I. Marketing efforts and strategies

Policy makers should pay special attention to its strategies for penetrating its marketing sector. First policy makers should evaluate its current position in several aspects compared to its traditional competitors. These include; advantages and disadvantages of its location; market hinterland; infrastructure and superstructure; diversity and quality of services provided in terms of global or regional logistics flows. There are many companies whose investment strategy is decided upon where their competitors are weakest.

J. Free trade treaties

Low trade barriers both in physical and non-physical aspects should be negotiated with as many as countries as possible to build the foundations of a logistics hub. Increasing the number of countries which can do business in a free trade environment is one of the first steps towards creating a logistics hub. This means that the products from the FTZ can easily enter into the markets of collaborating countries by means of free trade treaties, which will result in increased opportunities to attract logistics companies into the FTZ.

7.6 Conclusion

The traditional FTZ and logistics FTZ maybe different in several aspects but they share one key common purpose, to attract FDI. FTZ are however not a panacea for creating nationwide economic development since they cover only relatively small amount of territory. FTZs remain one of several possible options among many policy tools for a country to adopt for its economic development.

There is no doubt that economic development can be achieved by improving a country's business environment. However, it takes relatively long period for a country to achieve a developed business environment. A country should continue to improve its business environment for the whole country whilst developing a FTZ. FTZ policy would be more useful tool when combined with a sustainable economic development policy.

There is no significant accomplishment to be achieved by creating a FTZ without continuous efforts to improve the whole country's business environment. In this aspect, successful FTZs depend upon the strategic policy of a host country, in positioning FTZs in relation to the nationwide economic development policy. The FTZ can however serve as a model to which policy makers envision the rest of the country participating in.

Most countries have been aware of the importance of attracting FDI for national economic development and have been competing in the 'global race' for FDI. FDI is drawn to countries for different reasons, viz. resource seeking (natural or human resources); market seeking; efficiency seeking or strategic-asset seeking (UNESCAP, 2005).

A key opportunity for a country to develop its economy is through the provision of logistics cluster platforms around sea/airports: thereby attracting regional logistics centres or distribution centres of both manufacturing and logistics enterprises. A logistics cluster zone, whether or not it is designated as special zone by specific regulation, is a basic and minimum requirement for establishing international or regional logistics centre. Asia and the Pacific region is witnessing a number of significant changes such as the proliferation of RTAs, economic growth along the coastal regions, international cooperation in transport such as Asian Highways and Trans Asian Railways.

The Euroasian land mass is seeing increased regional and international cooperation in trade and transport facilitations⁵³ that set out to eliminate physical and non-physical barriers among countries. This trend will lead to rising demands for logistics cluster platforms covering a single market encompassing several countries. In this regard, policy guidelines addressing the issues mentioned in the chapter will be a cornerstone for the successful establishment of an optimum enabling environment and logistics platform.

⁵³ In 2005 ESCAP launched a project to promote transport and trade facilitation in ESCAP region. For more information, please refer to ESCAP web site (<http://www.unescap.org>)

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