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The Place of the Free Trade Zone in Economic Development the Example of the United Arab Emirates

by

Mohammed A. Ibrahim

A thesis submitted in fulfilment of the requirements
for the degree of Doctor of Philosophy

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Department of Geography
University of Durham
England
1994



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Abstract.

The Free Trade Zone as a leading factor in changing the economy for the better has become an important issue in many countries, particularly the developing countries. Today there are more than 170 Free Zones worldwide. Many countries have spent millions of dollars to establish Free Zones, but not all of these projects are successful.

Because the United Arab Emirates considers itself one of the newly industrialising countries, it has attempted to attract foreign investment in order to strengthen its economy and develop its local industry to create future diversification away from the oil industry. To provide a strong basis for this development, therefore, Dubai Emirate spent 2.7 billion US\$ to establish a Free Trade Zone and a Jebel Ali Port in Jebel Ali in 1986, consisting of two huge projects, the Jebel Ali Free Zone next to the very large Jebel Ali seaport. They were established here because Dubai is the main trade centre in the region.

Since the Jebel Ali Free Trade Zone (JAFZ) was created, the Free Trade Zone has become a very important issue in the Gulf. Other Gulf states, such as Iran, have established FTZs; others are thinking of establishing one, such as Kuwait.

With three other small zones, the UAE's Free Trade Zones nonetheless represent a new development in the Gulf and it is not yet known whether such a new project is a suitable one to establish in the Gulf or not.

The study focuses on the Jebel Ali Free Zone, as the biggest Free Zone in the Gulf States. The study examines its activities, employment and trading relations in order to make a full evaluation of its success.

This study is thought to be the first comprehensive study as a FTZ of the Jebel Ali Free Zone.

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Declaration

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To the memory of my father

Chapter One

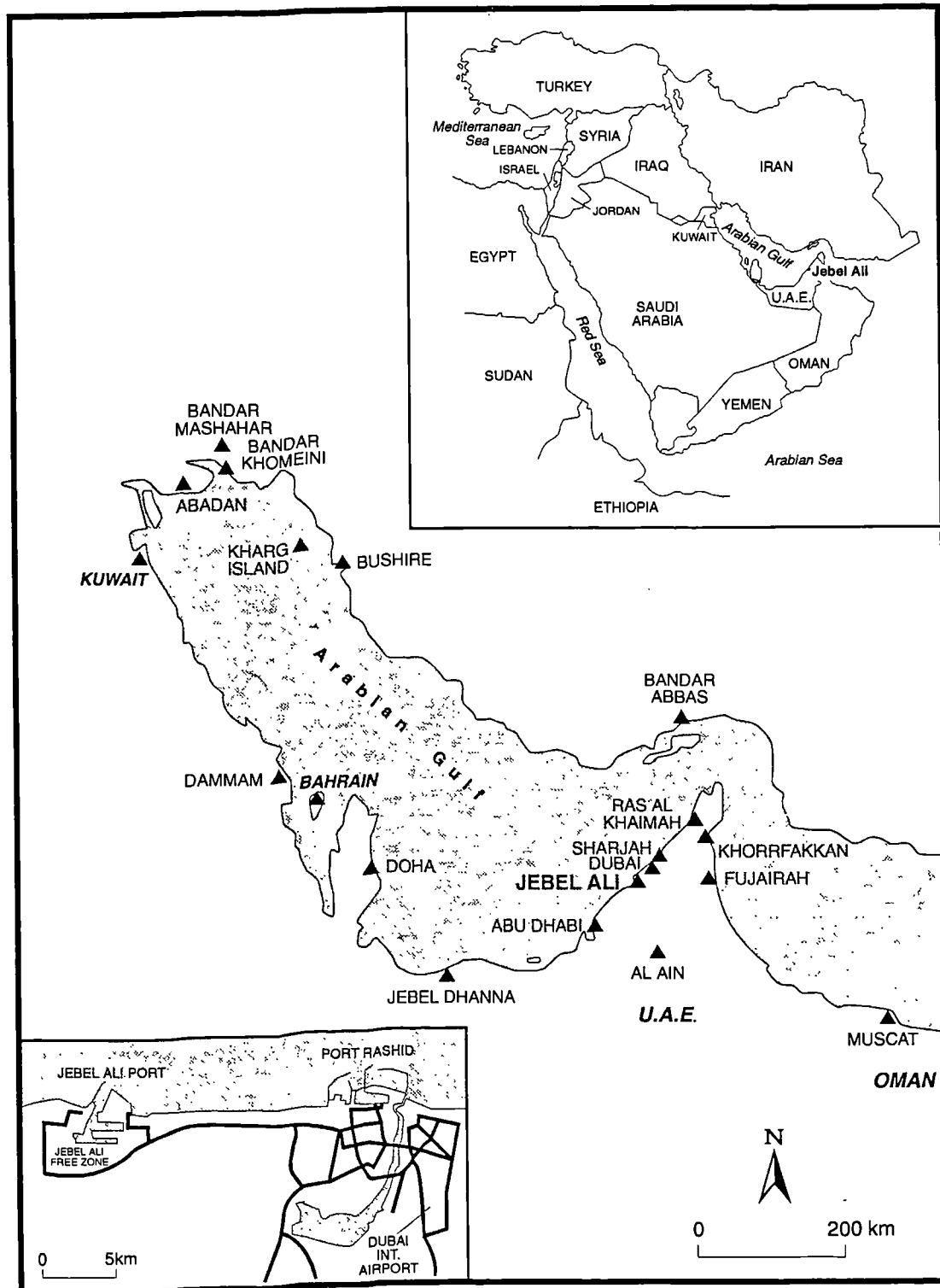
Introduction

1.1 Introduction

The United Arab Emirates (UAE) is located on both the Arabian Gulf and that of Oman (Figure 1.1). It is considered among the oil-rich countries, this being especially true of the Emirate of Abu Dhabi, the largest of the seven Emirates of which it is comprised. The UAE economy was characterized up to the end of the 1950s by the limited exploitation of economic and human resources. The economy was dependent on the fish catch, pearling, and some simple manual crafts in addition to trading and very limited agricultural activities.

Early in the 1960s prospecting for oil began in the UAE and in the same decade in the Emirate of Abu Dhabi, commercial exploitation began. This production was increased after oil was discovered in the Emirate of Dubai. This made the revenues from oil increase in addition to increasing the total economic activities of the country. In the early 1970s the economy of UAE entered upon a rapidly changing stage, which made it highly dependent on oil and trading. This was especially the case with the Emirate of Dubai which had its twin foundations as the basis of its trading fortunes for many decades, of gold and pearls. So it eventually

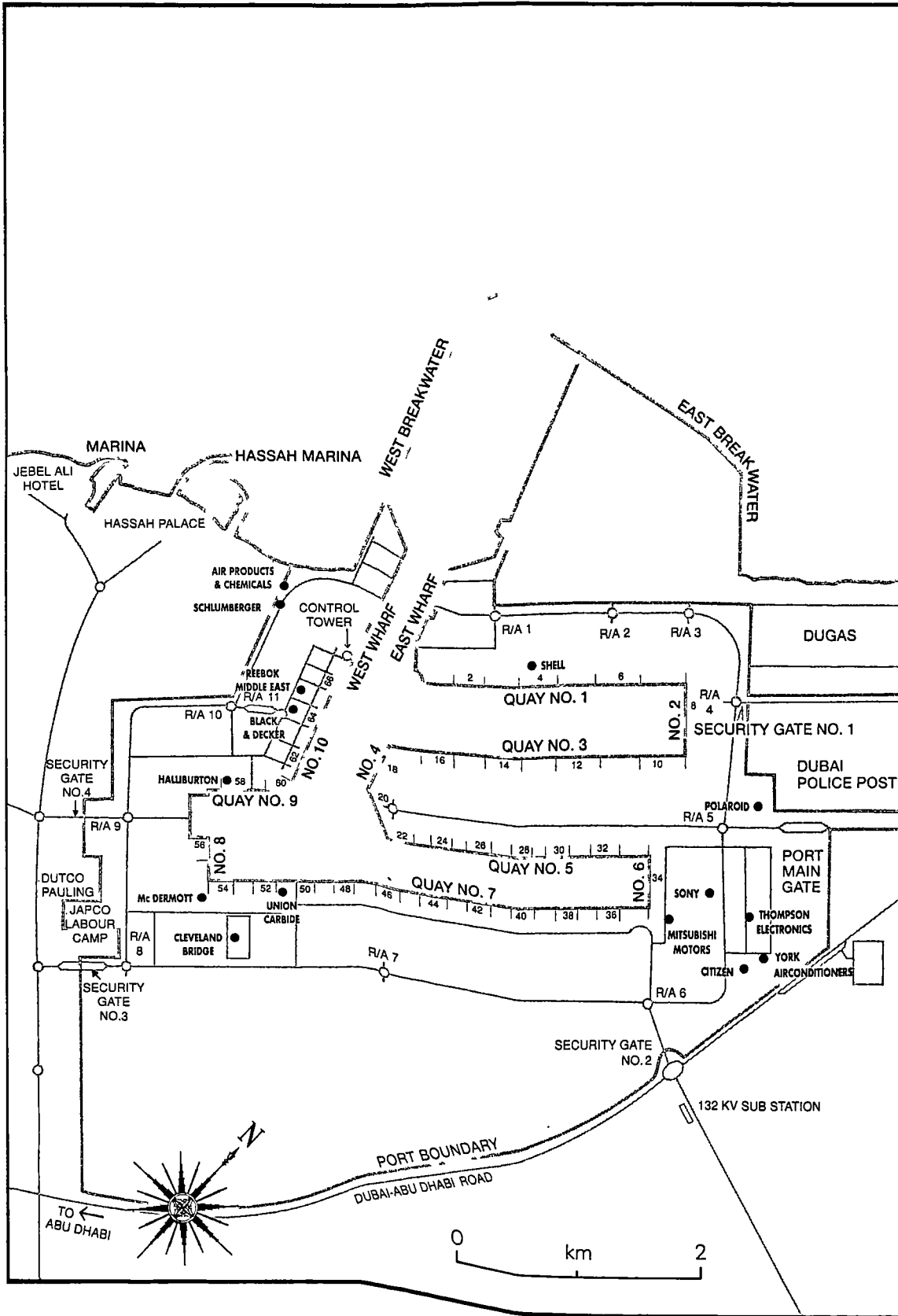
Figure 1.1 LOCATION OF JEBEL ALI



gave serious significance to the trading sector to create future diversification away from the oil production.

Among the projects which Dubai established was the Jebel Ali port and, later, the Free Zone, the key official aim being to attract foreign investment and advanced technology in order to stimulate the local economy. Jebel Ali port (Figure 1.2) was created in 1979 by the order of his highness Sheikh Rashid bin Said al Maktoum, vice president and prime minister of the UAE and ruler of Dubai, to serve the UAE and Gulf area, and to provide the foundation for creating an industrial base. The port has a total of 67 berths, with depths varying between 11.5 metres and 15 metres. The government of Dubai, with the trading mentality of Sheikh Rashid, went on to establish the three biggest projects in the Emirate of Dubai, firstly the Dubai factory for producing Aluminum, secondly DUGAS for producing the gas and water and power plant, and thirdly the Jebel Ali port. To promote the development of the area of Jebel Ali the government of Dubai decided after six years of the existence of Jebel Ali port to establish the Free Zone in 1985. This huge project is located about 193 km from the entrance to the Arabian Gulf, and about 35 km from the commercial and business centre of Dubai. The object of the Free Zone is to provide for a dynamic economic environment; therefore JAFZ gives massive incentives which they think should put it among the world's most successful industrial sites. These include allowing 100 per cent foreign ownership which eliminates the difficulties encountered by foreign companies in having to operate with a local partner, 100 per cent repatriation of capital and profits, remission of currency restrictions, remission of corporate taxes for 15 years from the date that a company arrives, and remission of personal income taxes. Moreover the companies in the Free Zone can employ

Figure 1.2 Plan of Jebel Ali Port



whomever they wish as the Free Zone Authority itself acts as nominal employer of staff the companies wish to hire. Also the companies can recruit their own staff, or if preferred, the JAFZ authority will provide employees to a company's specification.

1.2 Significance of the study

The role of the Free Zone has become an important issue in many countries, particularly the developing countries, as a leading factor in changing the economy, supposedly for the better. Therefore, today there are more than 170 Free Zones spread worldwide in different countries. These countries have spent millions of dollars to establish Free Zones, but not all of these projects are successful, by any criteria, whilst other 'successes' has been at the expense of other forms of regional and national growth.

The United Arab Emirates considers itself one of the new industrializing countries. As a result it attempts to attract foreign investment in order to strengthen its economy, hopefully having the result, albeit a debatable one, of developing its local industry to create future diversification away from the oil industry. Therefore to clarify this point, the present position in 1992 was that there were 739 factories capable of producing various types of products (see Table 1.1). On the classification used here, UAE factories were dominated by these providing oil, chemicals and raw materials, followed by engineering, textiles and foodstuff, a reflection both of the oil industry of the Gulf and of the basic needs for food and textiles in a developing country. For its own reasons which may have created tensions in UAE, the Emirate of Dubai took the lead and has spent more than \$ 2.7 billion in establishing two huge projects, the Jebel Ali seaport and JAFZ; the first which is claimed to be among the

Table 1.1 Types of industry in the UAE; numbers of industrial establishments by sector.

Types of industry	Number
Foodstuffs, beverages and tobacco.	77
Textiles and clothing.	91
Wood and wooden products industries including furniture.	51
Paper, printing and publishing industries.	41
Chemical products, petrol, rubber and plastic products.	158
Mining and raw materials products excluding petroleum and coal products.	103
Basic steel industry.	8
Machines, engines and metal production industries.	170
Other manufacturing.	40
Total	739
Source. Industrial Directory (1992). Ministry of Finance & Industry in the UAE.	

largest man-made port in the world. To provide a strong basis for development, Dubai Emirate established a specific Free Zone in Jebel Ali. The reasons why the Government of Dubai spent a huge amount of money on infrastructure and establishing projects, lie in the reduction of production of oil and its reserves, and the very old trading history of Dubai, hence to create future diversification away from the oil.

The Free Zone has become a very important issue in the Gulf after the Jebel Ali Free Zone (JAFZ) was established. Some other Gulf states established free zones, notably Iran, whilst others are thinking of establishing one similar to JAFZ, such as Saudi Arabia and Kuwait. This is due to the notable increase in the numbers of

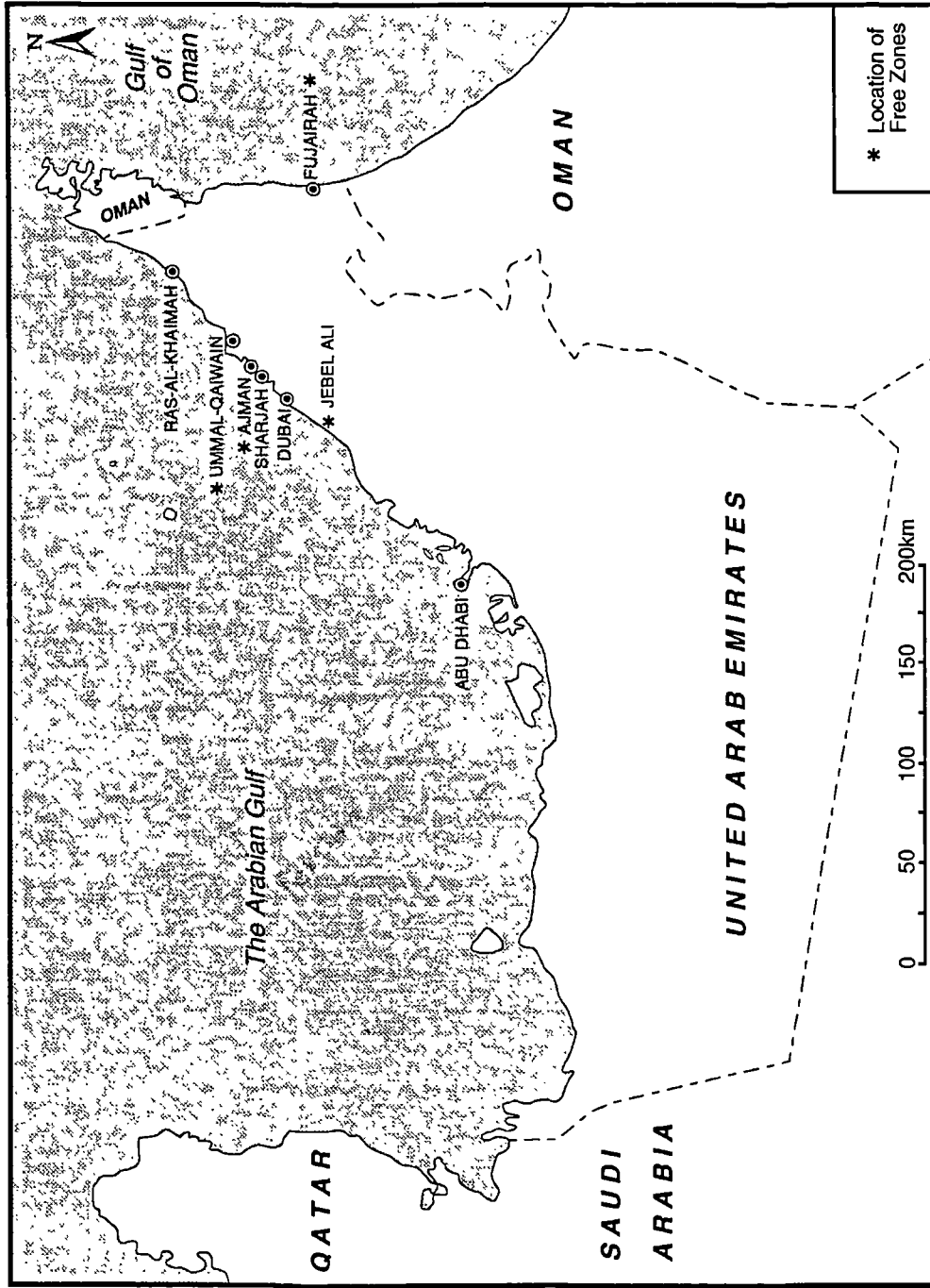
foreign firms, size of investment and bulk of exports during the last eight years. But the Free Zone in the UAE represents a new development in the Gulf, therefore we cannot be sure if this new project is a suitable one to be established in the Gulf. So the other Gulf countries may gain benefit after a period of time from studying the UAE experience, but they must also recognize that the JAFZ may have cornered the regional market.

This study focuses on the Jebel Ali Free Zone, which is considered to be the biggest Free Zone in the Gulf states up to now; it includes reference to the smaller Fujairah, Ajman and Um Al Quwain free zones, (Figure 1.3) which have also merited a small extension of the study. Also we have to take into account the claim of the Emirate of Dubai to be the main trade centre for the Gulf states and the Middle East. Moreover to find out the role of the JAFZ in the economic development of Dubai emirate, we have to consider many ramifications of the investment. There were 441 companies operating in JAFZ in 1992, coming from 35 different countries including 94 firms from the UAE, 104 from India and Pakistan, 99 from developed countries, 48 from Gulf Co-operation Council (GCC) members and the Middle East, 35 joint ventures and 61 others. These included many worldwide household names such as Sony, Reebok, Aiwa and Citizen, whilst the range of different type of activities covered the following: manufacturing and assembly, 88 firms; trading 192; services, 54; mixed, 107.¹

Finally this study is the first comprehensive academic study of the Jebel Ali Free zone in the UAE. That is in spite of the fact that there was a study carried out by Al Badri (1989) initiated to develop a framework for assessing the importance and adequacy of industrial location factors. The framework was applied to the Jebel Ali

THE UAE, WITH LOCATIONS OF ITS FOUR FREE ZONES

Figure 1.3



Industrial Park in Dubai, the United Arab Emirates.

1.3 Aims of the research

The aim of this research is, through the example of the United Arab Emirates, to find out the role of the Free Zone in economic development

The study intends to discuss the following points:

1. What were the reasons for establishing the JAFZ? What is the effect of the regional location of the Free Zone in Jebel Ali, and the significance of the infrastructure in the Emirate of Dubai? Are the companies which operate in JAFZ satisfied with what is offered by the Authority to them? Does the Emirate of Dubai offer a suitable climate for establishing the Free Zone?

2. What type of economic activities are established in the JAFZ? To what extent does the JAFZ benefit from foreign investment and employing local labour, especially as most of the workers in the UAE are foreigners?

3. To what extent does the JAFZ benefit from advanced technology and help to develop the domestic industrial sector of the Free Zone, Dubai and the UAE ?

4. What is the role of the export, import and re-export trade of the JAFZ in the trade balance of the Emirate of Dubai? How are the exports and imports of JAFZ evolving? What is the relation of JAFZ export and import with the local, G.C.C and world wide market? What has been the adverse affect of the JAFZ on the region? What limitations are there on the size of the domestic industries compared with the foreign industries in the Free Zone?

5. What is the role of co-operation between all the UAE Free Zones? What is the impact of the neighbouring Free Zones on the JAFZ?

6. How can the economic activity of the JAFZ be improved? What if any have been the differences between the expectation for the JAFZ and the reality ten years later?.

The study begins by focussing on the development of economic activities in Free Zones generally, for which Jebel Ali Free Zone is an example. A key feature is to evaluate the benefits gained by the Emirate of Dubai in the UAE from the JAFZ.

1.4 Research methods

This study concerned itself mainly with the description and analysis of data obtained from an up-to-date survey carried out by the author in 1993, and from published statistics and writing. This was placed in the context of an evaluation of the relevant written material in Arabic and English which deals with the theories of the place of the Free Zone in economic development. Data collection was based on the following:

1. Written material

Materials, such as books and articles, related to this study were collected from various sources in Arabic and English.

2. Official reports

2.1. These were studied from the Jebel Ali Free Zone authority, Dubai Chamber of Commerce & Industry, Dubai Authority for Electricity & Water supply, Dubai Municipality, Dubai customs, Dubai Cargo Village, Dubai Airport, Rashid Port and the Emirates Institution of Communication.

2.2. Official reports and statistics published by overseas Free Zone authorities, such as: Taiwan and United States of America.

3. Fieldwork

To achieve the main aims of the research, the author carried out two extensive periods of field work in the United Arab Emirates, particularly in Jebel Ali Free Zone, in addition to some interviews in Hong Kong, Taiwan and Singapore.

The two periods of fieldwork were undertaken over a period of six months, from 15/10/1992 to 25/11/1992 and from 25/12/1992 to 5/5/1993. During this period the following occurred:

a. Interviews.

To answer research questions the researcher interviewed several selected officials dealing with these issues such as:

Sultan bin Selayem (General Manager) of JAFZ in addition to other official staff working in JAFZ, Mr Abdul Rahman Al Metawi (Chairman of Dubai Chamber of Commerce & Industry), some Dubai merchants in particular Mr Juma Al Majed and Mr Issa Al Qurk, Mr Hamoodah, the adviser and council administration member of the Futaim group companies, Mr Wong, the General Manager of Taiwan Export Processing Zone, Mr Len Dunning, the director, Far East Office of Dubai Commerce and Tourism Promotion Board (Hong Kong), Mr Mohammed Abdul Razaq the Deputy General Manager of Singapore's customs, and Mr Ngan Wai Yip, Simon (Manager International Affairs) in Hong Kong, Mr Paul Lon, the businessman in Hong Kong. Secondly selected companies were interviewed in the JAFZ. Thirdly questions were raised by letter with some Free Zones in the USA.

b. Activities.

Preliminary field work. A pilot study of ten companies in the JAFZ was carried out; (for questionnaire see Appendix 1); this allowed some of the questions which had more negative reactions, for instance on finance, to be replaced, reordered or removed whilst developing questions in the pilot study, such as how much was your profit in 1991, " why did you chose to locate in JAFZ? please rank the following factors by putting in front of the factor, a (1) meaning the most important and (14) meaning the least important". In the pilot study this question consisted of 12 factors only, but two new factors were added for the main field work. The pilot study also sought the best way to approach companies, in order to have all or most questions answered. For example in the pilot study the questionnaires were sent by fax after speaking with every general manager of each firm, and collected two weeks later, after being supplied either by fax, mail, or in person. This method had some negative effects so that some firms did not answer all the questions, in addition to not understanding some complicated questions. Therefore, it was decided that the general manager of each firm should be interviewed alone and shown the main task of the questionnaire. Most of the questions were answered through the interview except those which related to figures and statistics, in order to give enough time to get the appropriate and accurate numbers.

Main field work. After eliminating unsuccessful aspects of the pilot study, the main field work had been carried out on 83 of the total of 441 companies operating in the JAFZ in 1992, through the questionnaire (Appendix 2) which was distributed in person after meeting the general manager of each company in order to explain the questions and to avoid the identical answers to them.

The operation of choosing firms occurred in two stages. In all 23 firms' replies are missing, principally due to refusals, (Table 1.2) but also due to weaknesses of the sampling frame, such as firms not getting in to production. Details of the stages of sampling, and of non response, including a comparison of the 83 respondents with the full universe, are to be found in chapter four.

Table 1.2 Sample for and response to the main questionnaire study of JAFZ.

Total	Sample	Refused or incomplete	Completed & usable
441	106	23	83

The researcher travelled to three Far East countries, Hong Kong, Taiwan and Singapore, to conduct interviews and to get some data and reports related to the research task. This was undertaken over a period of 12 days from 14/2/1993 to 26/2/1993. The departments which the researcher visited in these countries were the Hong Kong Chamber of Commerce & Industry, the headquarters of Taiwan's Export Processing Zones, the Customs Department and Chamber of Commerce & Industry of Singapore, and Dubai Commerce and Tourism Promotion Board office in Hong Kong.

The reason for choosing these three countries was their degree of experience in the development of Free Zones, in addition to the high level of economic activity in these countries.

1.5 Problems occurring during this study

a. One of the main difficulties which was faced during the phase of collecting data was the finding of updated statistics for FTZs in the world. Most of the figures which

appeared in recent studies extended only up to the 1970's and early 1980's. Although most of the free trade zones in the world had been approached in writing their response was meager with only three of them supplying what they had been asked. Therefore this factor forced the researcher to travel to some of the FTZs in Asia seeking their cooperation in this matter.

b. Identification of companies.

The researcher faced some practical difficulties when visiting the JAFZ companies which were chosen for the survey. Some companies have two names: the name by which they are registered in the official papers of JAFZ authority was sometimes different than from that which was written on the sign board of the companies. Therefore the name on the board was not identical to that registered on the official guide map which shows the location of each company.

c. Company location

There are some companies with names registered in the Free Zone, and appearing on the guide map of the Free Zone. But on site they were not yet in existence, having purchased or leased land but not having been established yet or started building. Moreover there are some companies in JAFZ without a sign board or with a sign board not agreeing with the official map.

d. The rejected questions

Following corrections made from the pilot study, relatively few questions were unanswered or poorly answered. There are some companies which refused to answer some questions which related to financial affairs, particularly American companies. On the other hand there are a few companies whose writing was not clear, and we faced difficulties in meeting the director in order to make clear his writing where we

could not otherwise understand the answers.

e. Meeting general directors

There are some companies with offices outside the Free Zone. Therefore their general director spent most of his time outside the Free Zone and they were quite busy. For that reason the researcher faced some difficulties in meeting them.

f. Non observance of appointments

For collecting forms a second meeting proved most efficient. However, the majority of the companies which were under survey did not observe the second date, some taking one month till they answered and involving the researcher in repeated visits.

g. New companies

Some companies to which the study applied were established recently. Therefore, understandably, they did not have the yearly figures or statistics about their exports, imports, income and so on. Therefore they were not able to answer most questions in the questionnaire.

h. On more general approaches, some government departments refused to give some statistics and figures which were related to the research subject.

I. In Singapore the authority of FTZ did not co-operate with the researcher, since the researcher did not know anybody at the Singapore FTZ and he was not provided with a recommendation letter from the authority of JAFZ. The authority of Singapore FTZ found it rather difficult to provide him with much or sufficient information during a fairly short visit.

1.6 Structure of the thesis

The thesis has been divided into eight chapters. Two of these (chapters two, three) are concerned with aims behind the establishing of FTZs and their requirements in general. The next four chapters concentrate on the field work done in the JAFZ including comparison with FTZs or Export Processing Zones (EPZs) in UAE and the world. Chapter eight is given over to recommendations and conclusions.

Chapter one gives a first idea of the significance, purpose and methodology of the study, as well as a brief economic picture of the UAE.

A more theoretical Chapter two deals with the different definitions of Free Trade Zones and Export Processing Zones (FTZs & EPZs); the historical development of the FTZ on a global basis; the aims of establishing FTZs; and the extent to which FTZs have met the expectations of their host countries regarding investment by foreign companies.

In Chapter three, more practically, the global dimension of the FTZ is investigated and the characteristics discussed, the aim being to give a general idea about the contemporary state of FTZs, such as their number and location.

With Chapter four the detailed study of JAFZ begins. Chapter four focuses on the overall type of economic activities operating in JAFZ, looking at the nationalities involved and their industrial classification. In addition, the factors which attracted these activities to operate in the JAFZ are considered.

Chapter five attempts to study the employment and the employees in the JAFZ in different ways. The main aim of this chapter is to indicate the role of the UAE and foreign workers in the JAFZ, and the extent to which the JAFZ has managed to create jobs for the UAE workers.

Chapter six evaluates the impact of the JAFZ on exports and imports, through classification by activities, sectors and nationality. The intention is to determine the value and volume of imports and exports and their distribution both locally and abroad. Moreover the chapter explains to what extent other UAE ports have significant relations with the JAFZ.

Chapter seven deals with the place of the JAFZ in economic development of Dubai and the UAE in terms of stimulus to other economic activities.

Chapter eight includes the conclusion and closes with the main recommendations for the development of the JAFZ in Dubai and the UAE economy.

1.7 Literature review

There are many studies concerning the Free Trade Zones or Export Processing Zones in the world, particularly in the third world. Many of these studies have been undertaken through the United Nations in the last 25 years, and especially in the 1970s. Most of them did not consider the Free Zone in the Gulf area, because the United Nations studies were made before its establishment. Among those studies, opinions about the FTZs differ. Some support foreign investment believing that this investment will benefit the local economy, and will more generally play an important role in the economies of developing countries. Among supporters of this view is Rebuer (1973) who believes that Transnational Corporations (TNCs) help to transfer and develop technology, create jobs, and increase wages, in addition to diminishing the cost of production; also that foreign private investment has played a main role in the economy of developing countries².

Some specialists are strongly against this idea. Among them are Frobel et al.

(1980) who state that the foreign companies do not improve the economic situation in developing countries, but worsen the problem; they exploit labour seriously by giving them reduced wages, with increased work hours, a limited health service, and low social insurance; and in addition, they dominate the economy of developing countries³.

Also, Lall (1977) indicates that the technology which is transferred from the developed industrial countries to the developing countries is not developed and complete. He adds that the stock of foreign capital seems in general to exert a clear and significant negative impact on growth (though this relation does not hold for different regions taken separately).

"The interpretation advanced is that foreign capital inflows generally help growth, but the structural effects of direct foreign investment tend to retard it⁴".

Dicken's (1988) viewpoint is among those who take the intermediate view that TNCs have both a positive and a negative role. He attempts to be objective in his analysis of TNCs. He is neither absolutely for nor against them, but believes that TNCs have their advantages and disadvantages depending on the circumstances of each economy. He believes that it is impossible to arrive at general conclusions regarding TNCs, whether they are good or bad.

Several authors have criticised the role of employment. Mario (1987) explains the employment aspects of multinational enterprises in Export Processing Zones, in addition to the financial affairs and economic activities. The Manaus Free Zone (Brazil) has demonstrated its significance as an important generator of employment

for low-skilled females only. Long, (1986) discusses critically the employment effects of foreign firms in export processing zones in the Caribbean; he cover three countries, namely Barbados, Jamaica and Trinidad and Tobago.

Currie (1980) deals with general information on EPZs in developing countries such as characteristics of individual zones and their administration. The main alternative to an EPZ is a drawback system whereby import duty is reimbursed on the raw material or component when the finished product is subsequently exported. Access to international trade routes must be good and cheap transport links provided with the market either locally or internationally. Political stability, from the viewpoint of the firms, may be more important than tax holidays and the provision of loan finance at moderate interest rates. The country which wants to establish an EPZ should make a balance between providing sufficient inducements to attract firms and minimizing the cost in terms of revenue foregone. The book concentrates on labour costs in EPZ in developing countries, which are almost universally lower than in developed. On the other hand the EPZs of the early of 1970s have attracted much investment from electronic firms.

Reporte by the United Nations (1985) focuses on two points, the characteristics of EPZs and the role of EPZs in economic development. The contribution of EPZs to the further economic development of the host economies has so far been disappointing. To prove this point the study depended on the point that foreign companies did not import advanced technology to EPZs in developing countries, particularly the activities which require complex production structures dealing with assembly not manufacture. In most developing countries the share of EPZ exports in the total manufactured goods is below five per cent; the contribution

of Value Added in EPZ exports does not exceed 25 percent. The role of foreign investment in the capital stock of host economies in EPZs has been a weakness and the general feature appears to be that EPZ operations do not normally have significant external economies, and, due to the low investment, with simple equipment and small plant, they are mobile. The proportion of the labour force employed in all EPZs in developing countries represents 2.6 per cent of the total workers employees in manufacturing industries in developing countries.

The Inter-Arab Investment Guarantee Corporation (1987) concentrates on the FTZs located in six Arabic countries (Jordan, Tunisia, Syria, Egypt, Morocco, Yemen). The first part discusses the general characteristics of practice in the Arab world such as the incentives which these FTZs offer to the foreign firms like duty free facilities, remittance of administrative restrictions, settlement of disputes through the arbitral tribunal, remittance of restrictions on foreign exchange, and a commitment against nationalization of enterprises. The most important activities in these FTZs are warehousing, distribution, manufacturing, services and trading. Despite the above there are many problems and hindrances which face the FTZ in these Arabic countries, such as bureaucratic problems and, complicated legislation, in addition to other problems such as poorly equipped infrastructure, the small areas specified for FTZ use and the low ability to attract Arab and foreign investment. Non co-operation between Arab FTZs is accompanied by poor coordination in promoting them.

The second part discusses the evaluation of these FTZs. According to the information available, it is possible to say that the economic effect of these FTZs is very limited, for instance, the trading and economic result of Morocco's FTZ is very

poor and in Yemen the impact of the FTZ on the national income is absent. The estimated labour force employed in these FTZs, and the importation of technology through the foreign firms operating in these FTZs, are also limited. It may be the position in the case of Egypt is different compared with other Arab FTZs, because they were able to import technology as a form of equipment.

Kelleher (1976) emphasizes general characteristics of the Export Free Zone (EFZ) as well as location requirements. The book explains that Export Free Zones (EFZs) are a suitable way to develop the skill and knowledge of domestic employees, and that it can play a significant role in the process of regional development. The EFZ helps to attract foreign investment to areas outside the EFZ and provides local enterprise and businessmen. The book mentions also that the EFZ can improve the range and quality of support services available to industry.

An assessment of industrial location factors: the case of Jebel Ali industrial park, by Al Badri, M, A (1989), discusses the significance of industrial location. The framework was applied to the Jebel Ali industrial park, though the study included four groups of firms, one of them firms which located in Jebel Ali, the other three groups being the firms which considered Jebel Ali for a possible site but did not locate there; the third group includes the firms located in industrial parks in other locations and the last group is linked with Dubai community leaders. The study concluded that the five significant factors which were adequately satisfied in Jebel Ali were its regulations regarding transfer of earnings out of the country, the non existence of unions, the cost of fuel, tax free operations and industrial property tax rates. Also the study found that there was not a significant correlation between the three manufacturing groups and the community leaders' group over their ranking of

industrial location factors, which means the latter do not have adequate knowledge of what factors are important to manufactures. The above information indicates that the thesis focuses on the Jebel Ali as an industrial site and not, as here, as a Free Zone. Further comment on the international literature is adduced in chapter 2 and 3.

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Chapter Two

Aims of Establishing Free Trade Zones

2.1 Introduction

This chapter will discuss different definitions of free trade zones (FTZs); the historical development of the FTZ on a global basis; the aims of establishing FTZs; and the extent to which FTZs have met the expectations of their host countries regarding investment by foreign companies. The following points are also examined: the effect of FTZs on a host country's balance of trade; do they create jobs or destroy them? do they allow the transfer of new technology to a host country? do they help develop the host country's industrial sector? do they provide the host country with a competitive advantage over neighboring countries?

It is difficult to assess the benefits and the successes of the FTZs, especially in the relatively short time of their existence, because every zone has its own conditions. Although FTZs are far from identical the world over, common features led to the establishment of these zones, and they provide similar facilities and infrastructure. This chapter will give examples to illustrate these points.

Host countries can be categorized under two heads: countries which have achieved few if any of their goals as a result of the establishment of their FTZs are countries which have clearly achieved most of their goals as a result of the establishment of their FTZs.

Definitions of FTZs

There are more than 170 free ports, free trade zones, or similar customs-privileged facilities operating around the world, the preferred location being at the approach to seaports.

The main aim of these customs-privileged facilities is to avoid the restrictions which are imposed by many nations, and to facilitate the transfer, exchange, and movement of goods and services, for the mutual benefit of the state in which they are located and the companies which operate from them. These facilities can be divided into the six following basic types:

- Free Trade Zones.
- Free Ports.
- Transit Zones.
- Free Perimeters.
- Export Processing Zones.
- Special Customs-Privileged Facilities.

All of them demarcate specific, limited areas, usually within a tariff fence - except the last one which is a more general classification, encompassing countries where liberal and flexible customs procedures have been so systematized that they offer privileges comparable to the specific customs-exempt areas of the first five categories.

It is possible to find 19 different definitions of the term FTZ, or Export Processing Zone (EPZ). The terminology has changed rapidly over the past 15 years (see Table 2.1). The term EPZ has at least 12 important uses, as against three for the next most widely used term "Foreign Trade Zone".

Despite the plethora of definitions of FTZs, they show many similarities. Here

Table 2.1 A glossary of terminology of the free trade zone.

Term	Main users and date of first use
Free trade zone	Traditional term since nineteenth century; ILO (1982)
Foreign trade zone	Individual authors (R.S Toman, 1956; W. Dymsha, 1964), India (1983)
Industrial free zone	Ireland (pre-1970), UNIDO (1971), Liberia (1975)
Free zone	UNCTAD (1973), USAID (1982), United Arab Emirates (1985)
Export processing zone	Ireland (1975), UNIDO (1976)
Duty free export processing zone	Republic of Korea (1975)
Export processing free zone	UNIDO (1976), UNCTAD (1983)
Free production zone	Sternberg Institute (1977)
Export processing zone	Philippines (1977), Harvard University (1977), APO (1977), WEPZA (1978), UNIDO (1978), World Bank (1978), The Economist (1977), Malaysia (1980), Pakistan (1980), Singapore (1982), UNCTC (1982), ILO (1983)
Special economic zone	China (1979)
Tax free zone	Individual authors (W.H and D.B Diamond, 1980)
Tax free trade zone	Individual author (D.B Diamond, 1980)
Investment promotion zone	Sri Lanka (1981)
Free economic zone	Individual author (H. Gruble, 1982)
Free export zone	Republic of Korea (1983)
Free export processing zone	OECD (1984)
Privileged export zone	Individual author (N.N. Sachitanand, 1984)
Industrial export processing zone	Individual author (P. Ryan, 1985)
Source: ILO, (1988) <u>Economic and Social Effects of Multinational Enterprises in Export Processing Zones</u> , ILO, Geneva, p. 5.	

below are some definitions given from different points of view.

"An EPZ could be defined here as a clearly delineated industrial estate which constitutes a free trade enclave in the customs and trade region of a country, and where foreign manufacturing firms producing mainly for export benefit from a certain number of fiscal and financial incentives¹"

According to World Export Processing Zones Association (WEZA), EPZs means:

"All government authorized areas such as free ports, free trade zones, industrial free zones or foreign trade zones, or any other type of zone as the Council may from time to time decide to include²"

"The free trade zone is like a country within a country. Cut off by barbed wire or concrete walls from the rest of the country and guarded in some cases by 'zone police' the zone is an enclave in terms of customs-territorial aspect and possibly other aspects such as total or partial exemption from laws and decrees of the country concerned³"

"EPZs are, in effect, export enclaves within which special concessions apply, including an extensive package of incentives and, very often, exemption from certain kinds of legislation, which do not apply outside the zones⁴"

"The word 'free' in a 'free trade zone' indicates freedom from customs duties and import taxes besides the import controls normally imposed by customs laws. The word 'trade' indicates all types of commercial activities, including entrepot trade, transit trade, storage, and distribution, besides the manufacturing activity allowed in the zone. The word 'zone' indicates an enclosed area segregated from the customs territories and declared open for carrying out such 'free trade' activities⁵"

These definitions are similar, even if the terms differ (EPZ, FTZ, FZ, etc.), because their aims and characteristics are similar, as well as the range of economic activities they support. Therefore, the terms are effectively interchangeable.

Some opinion is against using the term EPZ, because of its partial inadequacy

in view of the fact that, in some EPZs, some part of their output is sold on the local market. However, this highlights the point about EPZs. Selling some part of their output on the 'local' market still, legalistically, entails 'exporting' goods to another 'country', albeit locally. There are still duties to pay on the sale or export. Moreover, those sales and exports are performed under specific conditions. Most definitions agree that an FTZ or EPZ is like a country within a country. For this reason, goods from EPZs sold on the local market are effectively coming from abroad.

Other commentators object to the use of the terms "free trade zone" and "foreign trade zone" because some countries impose neither tariffs, duties nor restrictions on imports, and the entire state territory might therefore be considered an EPZ. This is the case in Singapore, Hong Kong, Mauritius and Macau. However, the economic policies of these countries need not mean changing the term FTZ, nor even impact on its meaning. What happens in these countries is in accordance with their economic beliefs, which is also the essence of FTZs. They exist to provide freedom from customs duties and tax. There is access to other commercial activities within the zone. The zone which encloses the area segregates these businesses from the customs and duty-levying territories.

What takes place within the zone is industrial activity including distribution and some other services. However, this is not reflected in the term FTZ. It may be appropriate, therefore, to use a new term which reflects the inclusion of all commercial and industrial activities in the zone: "Industrial Free Trade Zone" (IFTZ). However, the study will continue to use the various terms as used by each individual country.

2.2 The historical development of FTZs

The concept of the free trade zone goes back in history for several centuries, and was originally limited to transshipment, storage and re-export of goods. This was practised by some trading cities in the Mediterranean which used free zones in the Middle Ages. This idea was extended, such that a number of smaller European states established free cities and ports. During the trade between the colonial powers and the colonies, in order to attract trade for themselves places such as Gibraltar (1704), Singapore (1819) and Hong Kong (1824)⁶ in effect became free zones as a whole. After this idea became successful, it was extended to that of the Industrial Free Zone in which the government dedicates land to allow the storage and manufacture of foreign commodities without imposing duty or tax, provided the commodity is re-exported.

The 1930s of this century saw the modern actual beginning of the history of the Free Trade Zone in the world. After the depression of 1929-32 which overtook the USA, the theory of national self-sufficiency gained ground. That implied that a country should rely on its own commodities and not on commodities produced by other countries, and was associated in independent countries in Latin America with the import substitution approach to economic development. In fact this principle would have many negative effects on the economy such as constriction of market size and increased cost of some commodities, particularly for countries which are unable to provide suitable facilities for industrialization and production.

In contrast, associated with the growing importance of the export promotion approach, the idea of the Free Trade Zone was to allow customs-free access to and from international markets. One main reason for establishing the Free Trade Zone has

been to allow small countries to establish an economic size of international production unit.

However the first free trade zone established according to this notion was the Shannon Free Trade Zone in Ireland in 1959.⁷

2.3 The aims of the FTZ

As mentioned in section 1.7, opinions about the aims of FTZs differ. Some support foreign investment believing that this investment will benefit the local economy, and will more generally play an important role in the economies of developing countries. Some specialists are strongly against this idea.

TNCs may have enormous effects on the host economy through the channelling of their investments, and have an immense effect on employment. A question remains: if TNCs did not invest overseas, what would be the effects on the host and home economies? Whatever the answer, it is clear that TNCs have tied national and local economies closer to the global economy. However, Dicken warns that a high level of penetration by TNCs in a host economy may have negative effects on the economy in the long run⁸.

Most FTZs in the world have more or less the same objectives, which are as follows:

1. Attracting foreign investment, especially foreign capital.
2. Promotion of export trade.
3. Importing advanced technology.
4. Creating job opportunities for local labour.
5. Development of backward regions.

6. Exploitation of local raw-materials.

However, these different aims occur with varying relative weight and success in different cases. In India the objectives of establishing the first FTZ at Kandla (near Bombay) in 1965 were as follows:

1. Promoting the Indian export trade and earning more foreign exchange.
2. Creating job opportunities or increasing the employment potential of Kandla-Gandhidham area.
3. To import goods for the fuller utilization of the facilities developed at Kandla⁹.

In Taiwan and South Korea the objectives for establishing their FTZs were based on the following reasons: attracting industrial investment, increasing the size of export trade, creating job opportunities for domestic labour and enhancing technology.

2.4 Financial aspects

There are different opinions about the use of foreign capital as a leading factor in the development of an economy. Few countries in 1994 are completely closed to foreign capital are such as being North Korea, although levels of openness vary considerably. Other countries believe that foreign capital has played a major role in stimulating the local economy, as in the four "tigers" of East Asia, South Korea, Taiwan, Hong Kong and Singapore.

Foreign investment can be divided into two types: outward investment by domestic firms; and inward investment by foreign firms. There are more countries concerned with inward investment than concerned with outward investment¹⁰. Even so, the former may well place restrictions on the import of capital for investment,

such as the Latin American New Industrial Countries; particularly the member states of the Andean Pact particularly Colombia, Ecuador, Peru and Venezuela, have been more restrictive toward foreign investment in comparison with Asian NICs. In these countries, foreign ownership cannot officially exceed 49 per cent and they have complicated regulations controlling the remittance of profits.

2.4.1 Taxation

National taxation policies can be divided into two categories: policies in support of reductions in taxation; and policies in support of increases in taxation. In the FTZs, however, the situation is totally different. Commercial businesses are tax-exempt for the first five or ten years of their operation depending on FTZ policy. Even after that period, the host country may impose taxes only at a very low rate.

An important reason for the industrial supremacy of Britain, USA and Germany in the late nineteenth century was a strongly anti-protectionist trade policy adopted by these nations. Equally, however, the recession which ravaged much of the world in the 1930s was also characterized by a national retreat behind trade barriers¹¹. A new wave against protectionism which started in the late 1970s is the focus of both the General Agreement on Tariffs & Trade (GATT), and the United Nations Conference on Trade and Development (UNCTAD).

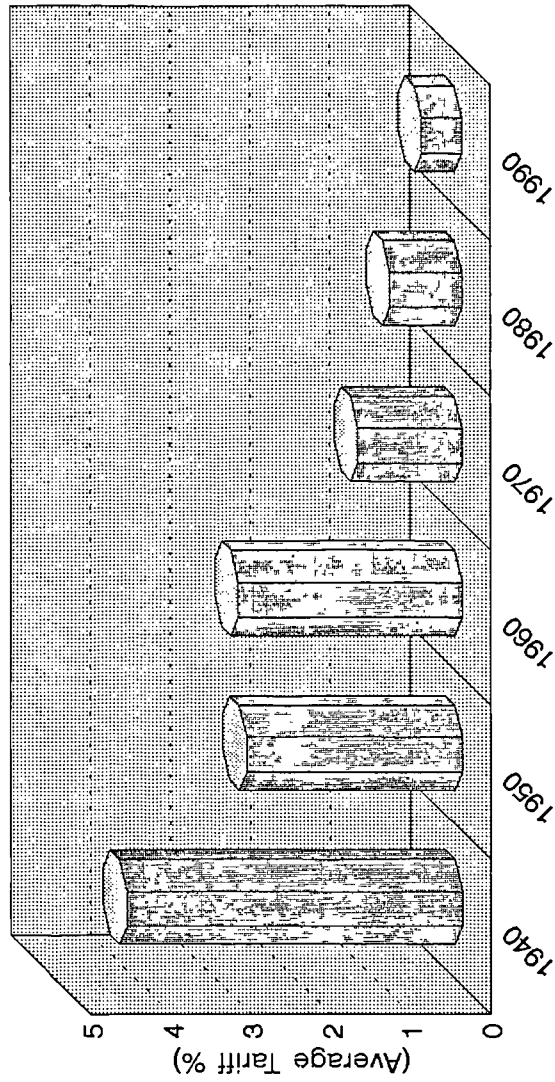
The main aims of GATT are:

1. The reduction of tariffs.
2. The prohibition of quantitative restrictions, through rules agreed between nations.
3. The removal of other non-tariff barriers to trade.¹²

Figure 2.1 shows the reduction in tariffs and the sequence of GATT

Reduction in tariffs and the sequence of GATT negotiating rounds

Figure 2.1



Dicken, P. Global Shift The Internationalization of Economic Activity, Second Edition, Paul Chapman, London, p. 153.

negotiating rounds. The average of tariffs in 1940 was 40 per cent, but this average was reduced to five per cent by 1990 in the Uruguay 'Round' and the average has continued to decline. This does not mean that nations have abided precisely by the rules of GATT. But it does show that there are international pressures on national governments in their pursuit of trade policies, even when this pressure is not direct.¹³ In the Uruguay round, GATT aimed to remove import restrictions affecting a host of new products and to encourage trade in services, including financial services, tourism and shipping. The aim was to create parity for exporters in markets that had previously been subject to government regulation and protection. As the negotiations developed, an even more ambitious objective emerged. This was set up a new international body empowered to supervise and regulate the rules established by the Uruguay round.

GATT is more beneficial for the exporting countries rather than the importing countries. The Gulf Cooperation Council (GCC) states in general have been affected negatively more than positively, due to the fact that they import more than they export particularly when we exclude crude oil which is not included in the GATT.

Since Saudi Arabia and the UAE have joined the GATT, they are less negatively affected by it than is the case with the GCC. The reason for this is that Saudi Arabia exports petrochemicals, which is included in the GATT, to the USA and Europe. JAFZ is similar to any other free zone in getting more benefit from the GATT, because both the two systems stimulate free trade. One of the basic principle for establishing a free zone is to increase the amount of exports. GATT allows companies in these free zones to increase their exports to the GATT members particularly USA and Europe.

GATT has encouraged economic development in JAFZ because countries such as Sri Lanka, Pakistan and India have a limited quota for exporting textile and clothing to the USA and the Europe. The GATT members have a set quota for exports. Since the UAE is a member of the GATT, whereas the three mentioned countries are not, so companies in the free zone can increase their exports to the USA. This will also motivate other companies from the GCC or elsewhere to establish new factories in JAFZ in order to seize the chance of having the facilities offered in JAFZ.

Policies on imports fall into two categories: tariffs and non-tariff barriers. The imposition of tariffs is one way to protect local goods from foreign competition. A tariff imposed on imports will increase the cost of foreign goods and usually make imported goods less competitively priced than domestic goods. Tariffs imposed on raw materials tend to be lower than tariffs imposed on finished goods. Tariffs are also used to protect domestic and infant industries from external competition. In spite of the foregoing, non-tariff barriers (NTBs) have increased more rapidly in comparison with imposing tariffs. Governments may apply specific tax and tariff concessions, export earnings may attract lower direct taxes or even be tax-free, and imports on goods for export may attract concessionary tariffs. This is what happens in free trade zones. Developing countries need to attract foreign investment to stimulate their national economies, and in order to increase exports. On the other hand there are some countries strongly against this idea such as North Korea. NTBs have encouraged firms in developed countries to establish their capacity in developing countries, particularly in the FTZs. Also NTBs on export goods help to increase the rate of production, and therefore improve the balance of trade figures regardless of whether

the firm is domestic or foreign.

"lowers direct taxes on earnings may be interpreted as an incentive for the workers to produce, for the entrepreneurs to use their skills" ¹⁴

The taxation of profits is zero or very low in FTZs. For example, in El Salvador, foreign firms in its privileged zones can remit home all their profits, under a ten year tax holiday. In the Netherlands Antilles a 27-34 per cent profits tax prevails, but the situation is different in the FTZ where the export profits generated are assessed at a mere 2 per cent¹⁵. In the Philippines, imports and exports are exempt of customs duties and taxes. In UAE FTZs, firms are exempted from paying import and export duties and corporation tax for a minimum of 15 years, and above all the firms and their employees are not subject to any income tax or local taxes ¹⁶. Table 2.2 shows the tax rate inside and outside Korea's FTZs: exemption for five years and reducible for the following three years for the first four taxes (income tax, corporation tax, property tax and acquisition tax); goods imported as capital goods are free from tax; textiles imported as capital goods are tax exempt; business tax, salary and wage income tax are permanently exempt particularly on foreign exchange earning business.

These examples of taxes show that the rate of tax is similar between FTZs. Most FTZs have a policy of tax exemption. Every FTZ wants to attract as much foreign investment as possible, and therefore there are minor tax differences between FTZs in respect of the period or rate of tax exemption. Most try to offer the most attractive tax rates at the beginning, increasing only after a period of time. For example, in Haiti (Table 2.3) there is an exemption on revenue tax for the first five

years, after which, as shown, there is a rapid rise over six years to full taxation levels.

Table 2.2 Tax exemption and reduction for occupant firms in South Korea's FTZs.

Tax	Tax basis	Tax rate
1. Income tax	Amount of income receipts	16.5%-60.5%
2. Corporation tax	1)Income of each business year 2)Liquidation income	1)Open corporation 16.5%-27.5% 2)Closed corporation 27.5%-49.5%
3. Property tax	Value of land, building	1)Land:0.2% 2)Building:0.3%
4. Acquisition tax	Acquisition value of real estate, motor vehicles, building	1)1% 2)2% in Seoul and Pusan
5. Commodity tax	1)Delivery price and quantity at manufacturing plant 2)Import declared value and quantity 3)Other sales price and quantity	5 to 100% of 66 items
6. Textile tax	10 items	10 to 100%
7. Business tax	Amount of receipts	0.5 to 3%
8. Salary and wage income tax	Salaries and wages paid to foreigners engaged in a foreign invested firm	7.7 to 55%
Source: Vital. N, <i>Export Processing Zones in Asia: some Dimensions</i> , Asian Productivity Organization, Tokyo, p.69-70.		

Table 2.3 Percent of taxable income in Haiti.

Years	Per cent of taxable income
1-5	0
6	15
7	30
8	40
9	60
10	80
11	Normal rates

Source: Currie, J. (1980) *Export Processing Zones in the 1980s*, The Economist Publication Ltd. London, No. 190.

2.4.2 Wages

Wage averages reveal the same characteristics from one FTZ to another in developing countries. However, there may be sectoral differentials in the same FTZ, e.g. between textiles industries and electronics industries. Levels are partly dependent on the level of education and experience of the workers, and partly on type of work, thus electronics industries are considered more sophisticated, productive and profitable in comparison with textiles.

Wage levels in FTZs in developing countries may be considered to be low, in comparison with other industrial areas:

"One might expect wages in export processing zones to be lower than prevailing wages outside the zones, because of the concentration of newly-established firms and of export factories employing predominantly a young and relatively cheap, female work force¹⁷.

It is not necessary for this to be correct fact everywhere. For instance in the UAE the average of wages paid in free zones is nearly the same as wages in rest of the UAE, except that Japanese companies pay wages higher than the average in border areas. Moreover the average pay for Maquiladora workers in Mexico was higher than the minimum wage in border areas.¹⁸ One reason for the high wages paid through the foreign firms is partly due to the massive incentives offered by the host country which can be used to pay high wages in their own country. Wage levels have quite an impact on the international competitiveness of FTZ industries. Where wages form a significant part of an industry's costs, low wage bills allow the manufactured materials to compete with international prices. Therefore, manufactured materials in developing countries are cheaper than developed countries. This is the main reason why industrial countries invest overseas, and particularly in FTZs. Whilst the figures are not always consistent, some referring to minimum wages, others to average wages, they provide a basis for some general observations, in the absence of more recent available data. Table 2.4 shows that average wages in FTZs are low in comparison with wages in developed countries. In most of the FTZs mentioned in the table, wages did not exceed \$0.50 per hour for unskilled workers, except in two countries: Nicaragua and Hong Kong. In the former, wages averaged about 65 cents per hour, and in the latter between \$0.62 and \$1.32.

Average wages for skilled work are also low. For example, in only three of the six countries mentioned in the table did skilled wages exceed \$ 1 per hour: Nicaragua, Brazil and Hong Kong. In Hong Kong, skilled wages were high in comparison with other countries, averaging \$2.03 for skilled labour. All this suggests that average wage rates are at a similar low level among most FTZs.

Table 2.4 Average of hourly rates of labour costs (\$, including fringe benefits) in 1983 in FTZs.

Countries	Unskilled	Semi-skilled	Skilled
Pakistan (1984)	0.31	0.38	0.47
El Salvador	0.31-0.58	-	0.41-0.86
Guatemala	0.30	-	-
Nicaragua	0.65-0.72	-	0.96-1.4
Brazil	0.40-0.50	-	1.25-1.50
Hong Kong	0.62-1.32	0.80-1.54	0.92-2.03
Source: Currie, J. (1980) <i>Export Processing Zones in the 1980s</i> , The Economist Intelligence Unit Ltd, No. 190, London			

"Average hourly wage costs for unskilled female labour in the UK were \$3.97, in West Germany \$7.39, in Australia \$6.5 and in the USA \$9.0. Wage costs in the UK then were 8 to 28 times higher than in most of the countries reviewed here, and in the USA they were 16 to 57 times greater"¹⁹.

Wage averages differ between sectors. For example, the electronics and electrical sectors generally pay higher wages than textiles, leather goods and other sectors. This is partly because the former requires more complicated processing production than the latter, and partly because their value is greater. A skilled labour force with professional experience, demands high wages.

Certainly in the first half of the 1980s wage averages in FTZs in developing countries were low in both textile and electronic sectors, as shown Table 2.5, particularly when compared with wages in FTZs in developed countries. For example, the highest developing country wage shown in Table 2.5 is in the Barbados electronics sector: \$1.15 per hour, but this was less than in Japan and USA by five times and six times respectively. The same pattern in wages is observed in the textile

Table 2.5 Estimated average hourly earnings in textile, clothing and electronics manufacturing in the FTZs of the developing countries and in the United States and Japan (US\$).

Developing countries	Year	Electronics	Textiles
Hong Kong	1980	0.97	1.03
Dominican Republic	1984	0.30	0.17
Malaysia	1980	0.42	-
Jamaica	1984	-	0.26
Barbados	1984	1.15	1.05
Indonesia	1982	-	0.13
Industrialized countries	Year	Electronics	Textiles
Japan	1980	5.97	3.56
United States	1980	6.96	4.57

Sources: 1. Maex, R. (1983) Employment and Multinationals in Asian Export Processing Zones, International Labour Office, ILO, Geneva, p.53.

2. International Labour Office (1988) Economic and Social Effects of Multinational Enterprises in Export Processing Zones, ILO, Geneva, p. 92.

industries. For instance in Barbados the wage averaged \$1.05 per hour, but this was less than in Japan and USA by three times and 4.5 times respectively. The contrast between wages in industrialized countries and those in the FTZs of developing countries is more starkly shown in the poorer countries of the Dominican Republic and Indonesia. A point which is important in this discussion is the effective purchasing power of the average wage in each country.

2.4.3 Balance of trade

The contribution of FTZs to the balance of trade of a host country is difficult to prove. Most of the firms which have been operating in the FTZs are foreign. In

addition their contribution of domestic value added is low. Table 2.6 shows the contribution of FTZs to the balance of trade of several host countries, including the foreign firms.

Export revenue exceeds import costs in FTZs. This is simply because the foreign firms which represent a majority in the FTZs are there in order to export, although they belong to the developed countries. The contribution of the FTZs to the national balance of trade is different from country to country, some of their contributions being quite poor. It all depends on the activity of the zone and scale of production.

All the countries mentioned in Table 2.6 export more than they import, except Sri Lanka. This latter case may be because its FTZ was established only in 1978, 5 years before this data was collected. That means it was still in the early stage of its establishment, requiring the purchase of machinery, thus increasing the cost of imports. The trade deficit in their FTZ was about \$1.28 million in 1983. Others made little positive impact on the balance of the trade: Jamaica's FTZ contributed about \$5.5 million, which was a poor contribution, although it played its part in reducing the size of Jamaica's trade deficit.

By way of contrast, the contribution made by Taiwan's FTZs to the trade balance of the state was significant. The aggregate export value of the three zones in September 1991 alone amounted to US\$ 2.93 billion which accounted for 5.27 per cent of the total exports of the country and surpassed by almost 16 times the planned export goal of US\$ 222 million²⁰. In Malaysia in 1979, FTZ exports accounted for 40.9 per cent of total exports of its manufactures²¹.

Table 2.6 Export and import of firms in selected FTZs in 1983.

Country	Export of (FTZs)	Import of (FTZs)	Balance of trade of (FTZs)	Total export	Total import	FTZs exports as a percentage of total country exports
Taiwan (*)	35,340	17,910	17,430	-	-	-
Sri Lanka	67.45	98.56	-31.11	1,066	1,820	6.3
Jamaica	14.7	9.2	5.5	718	1,494	2.0
Philippines	250.9	185.1	65.80	4,890	7,976	5.1

Source: 1. Currie, J. Export Processing Zones in the 1980s, The Economist Publications, London, No. 190.
2. Financial Times, 12 Aug 1983, London.
3. Export Processing Administration, (1991) Export Processing Zone on its 25th Anniversary, Taiwan, p. 42.

Note. 1. (*) The accumulated export value since the establishment of the FTZs until September 1991.
2. The rate has been converted to American dollars based on "Financial Times".

Exports from the FTZs of the Republic of South Korea and of Mauritius in 1979 were respectively 4.0 and 24.9 per cent of total exports from the states²². Obviously the FTZs of Mauritius made a significant contribution to the state's trade balance. This may be because most of the state's exporting took place through the FTZs (for more details see the section on employment).

2.5 Employment

The labour force of an FTZ may be of paramount importance both to the host country and to the investing country. The employment merits of an FTZ, from the perspective of the host country, may include: the creation of jobs for the local labour market, to reduce unemployment and underemployment and to achieve the transfer of skills and technical know how. The investing country may take advantage of a search for cheap labour and favourable conditions for industrial location.

The general characteristics of the structure of employment in most FTZs are:

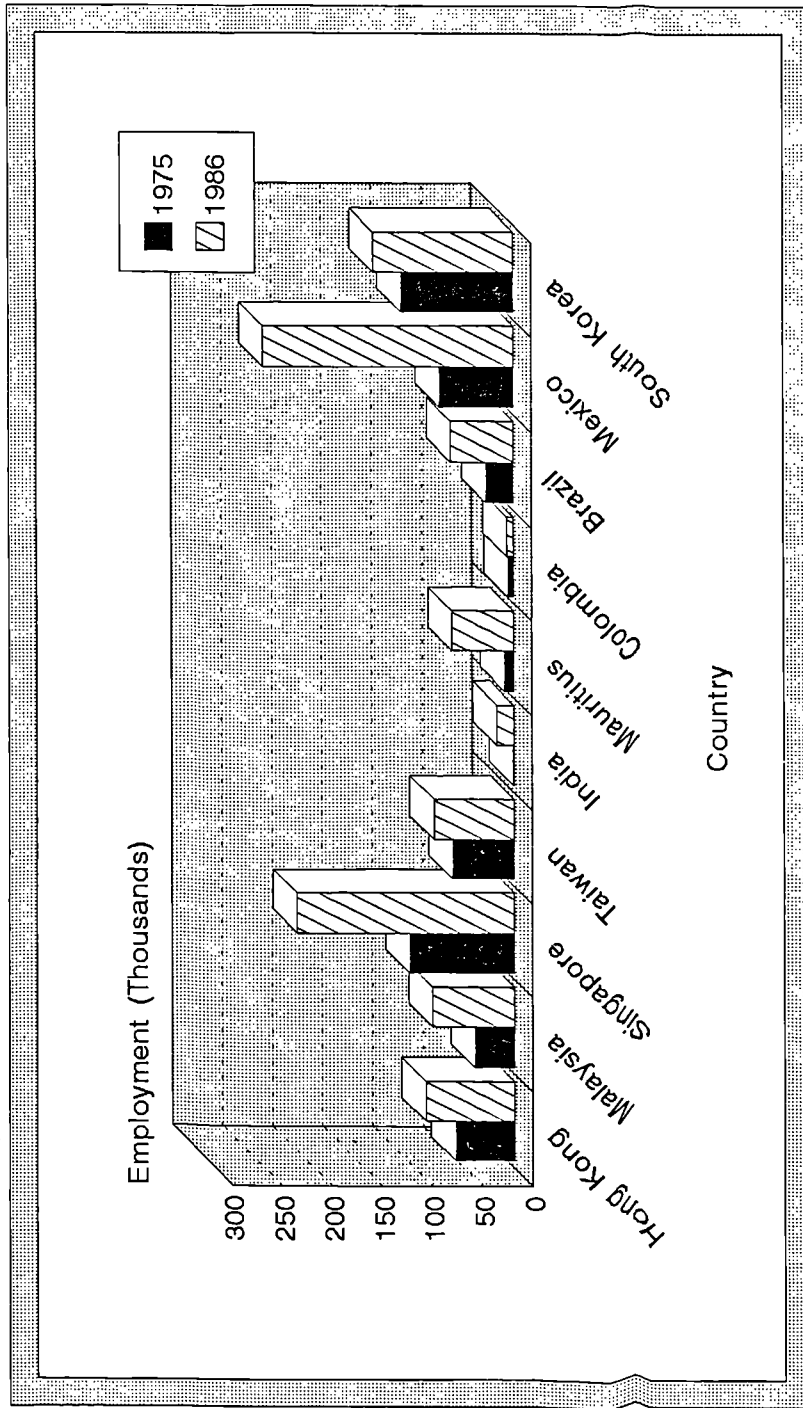
1. The majority of workers in FTZs in developing countries are women.
2. Most workers in FTZs are employed as production workers.
3. Most workers in FTZs are between 25-60 years old²³.
4. Most employment in FTZs is unskilled or semi-skilled.
5. Wage averages are relatively low in comparison with the sectors outside of the FTZ.

The number of jobs created through the FTZs to 1986 was approximately 1.3 million (Figure 2.2), some 95 per cent being created after 1970. Of these, 500,000 jobs were created between 1970 and 1975, and around 750,000 between 1975 and 1986.

Foreign enterprises account for the creation of approximately 900,000 of the new jobs since 1970, or close to 72 per cent²⁴. Cheap labour has played a major role in attracting foreign investment to FTZs in developing countries, particularly female workers who accept very poorly paid work in developing countries. Frobel et al (1980) state that cheap labour has played a major role in the structure of production in FTZs in the context of the transnational organization of capitalist production, and the relocation of production for the markets of developed countries from these countries to the FTZs²⁵.

Employment has increased in all FTZs in Figure 2.2. In most FTZs the percentage increase in employment was very high between 1975 and 1986. For instance, out of the ten countries listed, in six the percentage increase in employment exceeded 100 per cent: in Malaysia, Singapore, Brazil, Mexico, India and Mauritius. On the other hand, in the other four countries the percentage increases in employment

Figure 2.2 Employment in FTZs in 1975 and 1986



Source: International Labour Organization, Economic and Social Effects of Multinational Enterprises In Export Processing Zones, Geneva, p. 162-163.

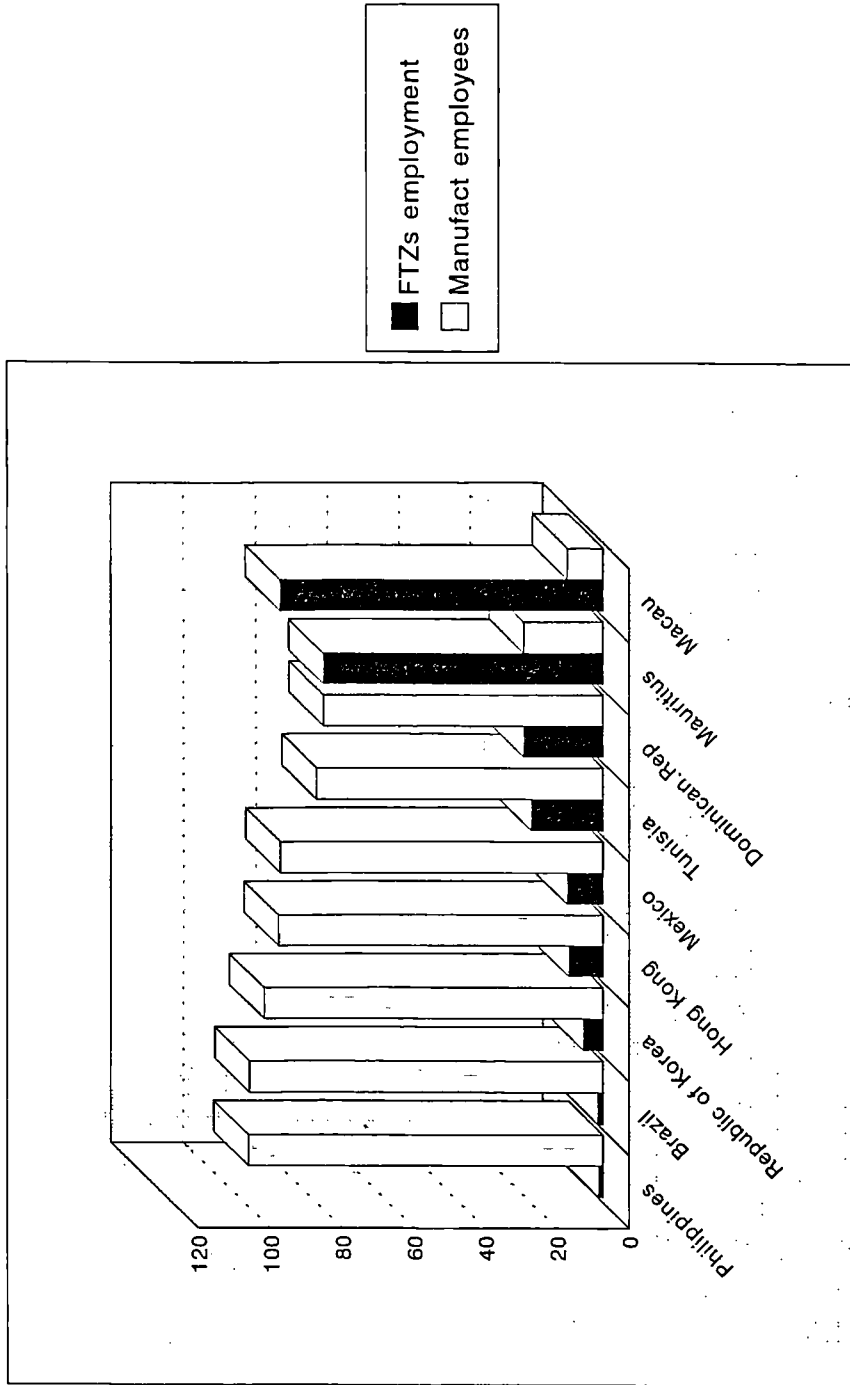
in FTZs over the same eleven years varied between 19 and 50 per cent: Hong Kong, Taiwan, Colombia and South Korea.

Employment figures in FTZs differ from country to country in relation to total employment in the whole country. Although the absolute employment figures may look substantial, they represent only small fractions of total employment in most countries. Nor does this understate the general importance of FTZs in developing countries such as Mauritius, Singapore, Mexico, and Hong Kong. Even in these countries the employment impact of FTZs is small in relation to other total employment, except for Mauritius which has created a significant proportion of jobs for its population: around 25.9 per cent. Equivalent figures for other countries include: Singapore, 18.9 per cent; Mexico, 3.6 per cent; Hong Kong, 3.4 per cent. In the other countries, percentage employment in FTZs in comparison with total employment is poor: their contribution does not exceed 1.5 per cent.

The reason for the varying contributions to total employment may be due to their economic systems which have played a major role in the growth in numbers of employees in FTZs. These countries it is argued now have faith in the free economic system, and it may follow that the number of FTZs in these four countries (Singapore, Mauritius, Mexico and Hong Kong) is high in comparison with the other countries located in the same continent. For example in Singapore in 1986 there were 22 FTZs, Mexico had 23, Mauritius had 7, and Hong Kong had 14.

The percentage of FTZs' employment in selected countries in comparison with total manufacturing employment, as shown in Figure 2.3, differed from country to country in the 1980s. For example, the proportion of employment in manufacturing in FTZs in Philippines and Brazil was low: 1.2 per cent and 1.5 per cent respectively.

The employment in FTZs as a percentage of total manufacturing employment in the mid-1980s
Figure 2 . 3



Source: International Labour Organisation, (1988) Economic and Social Effects of Multinational Enterprises in Export Processing Zones, ILO, Geneva, p. 21-23.

In Tunisia and the Dominican Republic, however, the respective percentages of their employment in manufacturing in the FTZ was 20 and 22 per cent. A third group consists of countries whose FTZ contribution to manufacturing employment was high, such as Mauritius and Macau: 78 per cent and 90 per cent respectively, both employing about the same number in FTZs (61,700 and 62,500 respectively). This implies that these two countries depend on the FTZs to a high degree, and is largely explained because, in practical terms, both countries function as a free trade zone as a whole.

The situation is different in Brazil, the Philippines and the Republic of South Korea. In these countries, the relation between FTZs and manufacturing is weak, as the contribution of FTZs in respect of total manufacturing employment is small. This implies that these countries are not dependent on FTZs to a high degree, and may depend on industries located outside the FTZs.

The figure also shows that though some FTZs may employ similar numbers, the percentage is totally different. Taking the cases of Macau and Brazil, the first employs 62,500, and the second employs about 63,000, but their respective percentages of total employment of manufacturing are completely different, thus FTZs in Macau employed about 90 per cent of the total manufacturing employment in the country. This indicated the role of FTZs in this country is to provide a very important share of industrial jobs. But in Brazil (Table 2.7) the position is completely different, and the role of the FTZ is of rather marginal importance, because it accounted for only 1.5 per cent of the total manufacturing employment in the country.

Although the proportion of the labour force in manufacturing FTZs in many countries is low, this does not mean that great reliance is not placed on foreign

Table 2.7 Employment in FTZs compared with total employment in selected developing countries in 1986.

Country	Total employment in FTZs in 1986	Total employment in 1986
Hong Kong	89 000	2 625 400
Singapore	217 000	1 149 000
Taiwan	80 469	-
Malaysia	81 688	5 760 100
South Korea	140 000	15 505 000
Philippines	39 000	20 926 000
Brazil	63 000	55 436 000
Mexico	250 000	6 884 000
Colombia	6 700	3 247 600
Macau	62 000	-
Mauritius	61 690	238 285
Dominican Rep	36 000	-
Source:1. ILO (1988), Table 19		

investment. FTZs are a major channel for foreign investment, the best example being Hong Kong.

One of the main aims of establishing FTZs in Malaysia was to reduce the rate of unemployment, and the government was particularly anxious to find more urban, nonagricultural jobs for its workers.²⁶ But FTZs cannot redress total unemployment, even in Malaysia. For instance, total recorded unemployment in Mauritius and Singapore stood in 1986 at 54,600 and 79,600 respectively. In Hong Kong and Malaysia the figures were 76,100 and 86,900 respectively²⁷. The reason for this may be partly because the FTZs provide specialized types of work, meaning that they cannot provide all types of work to match the skills of those who are unemployed,

from agriculture, education, administration, etc.. Therefore, even if the FTZs were able to provide more employment, the unemployment problem would not be solved directly. A point of note is that most unemployment is male, not female. Most FTZs try to employ female workers more than male workers. For example, in 1985 in Barbados and Jamaica's FTZs, female workers were estimated to make up 95 and 94 per cent respectively of the total FTZ work force.²⁸ FTZs have little effect on reducing male unemployment, in spite of providing jobs to male groups. A third aspect is that some workers avoid working in FTZs because of the low wages. They would prefer to find a job outside the FTZ.

"EPZs have contributed primarily to increasing the participation rate of women in industry, and have provided relatively few jobs for unemployed male workers²⁹"

2.5.1 Female workers

The average proportion of female workers in industries in FTZs is higher in comparison with the average proportion of female workers in industries outside FTZs. In most countries listed in Table 2.8, the average female work force in industries in FTZs in the 1980s well exceeded 50 per cent. In India, Sri Lanka and Jamaica the average exceeded 70 per cent. However, in Trinidad and Tobago the average female participation both in FTZ industries and in non-FTZ industries was low, although their average in non-FTZ industries is higher. The high participation rate of women workers in India, Sri Lanka and Jamaica in FTZs may be due to the poor availability of work (for women) outside the FTZ. In other words, the meager wages of the FTZs are better than nothing.

Table 2.8 The predominance of young female workers in FTZs in the 1980s; women as % of total.

Country	FTZ industries	non-FTZ industries	% of women FTZ workers in specified age group (years)
Hong Kong	60	49	85(20-30)
India	80	9	83(below 26)
Indonesia	90	47	83(below 26)
Korea	75	37	85(20-30)
Malaysia	85	32	(Average:21.7)
Philippines	74	48	88(below 29)
Singapore	60	44	78(below 27)
Sri Lanka	88	17	83(below 26)
Mexico	77	24	78(below 27)
Jamaica	95	19	(Average:early20)
Tunisia	90	48	70(below 25)
Trinidad and Tobago	10	28	

Source: International Labour Office. (1988) Economic and Social Effects of Multinational Enterprises in Export Processing Zones, ILO, Geneva.

The average proportion of female workers in most FTZs is high in comparison with male workers because of the concentration in particular industries, connected with the fact that women are paid less than men. In Malaysia, female factory workers receive approximately \$1.50 a day³⁰. Women have even less opportunity than men to change their living conditions, and this is one of the reasons why they are considered therefore a more stable work force. Women are also considered to be docile labour. The average proportion of female workers in FTZs may well increase where they are not exempted from night shift work.

The demands of industries in FTZs are appropriate to the nature of women: such as electronics, electrical and textiles³¹. Textiles require only a low level of skill, but some views persist that this type of job required a manual dexterity which many women have more than men.

" Women's wages are frequently half of the male wage. Women have to sell their labour-power at the lowest possible price because under the conditions of underdevelopment women have even less possibility than men to change their living conditions: or to put it more bluntly, they have fewer possibilities of guaranteeing their day to day physical survival. In addition to the great wage differentials another major reason for the employment of women is the higher intensity at which they will work in manufacturing"³².

Most female labourers working in the industries sector of the FTZs are about the same ages: most below 25 years. FTZs prefer to employ young females, because they are thought to be productive and concentrate well, though this point cannot be shown to be correct always. The period which young women workers spend in FTZs is not long: between five and eight years. As a result, employee turnover is high.

Table 2.9 shows that most industries have a much higher proportion of women than men in the Dominican Republic. This may be because these industries suit women for the reasons mentioned above, in addition to their low wage costs. In most industries, the proportion exceeds 50 per cent, except for two sectors, jewellery and leather products. The reason for these exceptions may be that jewellery commands higher wages and that leather working produces bad smells in its early stages, which may not suit women. The proportions of women in electronics and textiles are 67.4 per cent and 72.9 per cent respectively. In some FTZs electronics enterprises have had the largest contribution of employed persons in the FTZs, while others have

Table 2.9 Share of women workers in the main industries of the Dominican Republic's FTZs (1985).

Industry	Percentage of women workers
Textiles and clothing	72.9
Footwear	66.4
Leather products	31.4
Tobacco products	73.9
Jewellery	23.1
Electronics/electrical machinery	67.4
Instruments and optical products	52.2
Food and beverages	70.3
Plastic products	77.4
Other industries	71.3
Average all industries	67.7
Source: International Labour Office, <u>Economic and social effects of multinational enterprises in export processing zones</u> , Geneva, P. 66.	

shown a heavy employment concentration in clothing or textiles. In the mid 1980s, the electronics industries played a major role in attracting employment, accounting for 42.5 per cent of total EPZ employment in the developing countries and areas, as against some 26.5 per cent for textile and garment industries, and 30-31 per cent for other industries³³.

2.5.2 Employment by category of industry

The distribution of workers by category of industry in FTZs differs from one country to another. Table 2.10 shows this difference of distribution among three different countries: Taiwan, Mauritius and the Dominican Republic. The traditional

Table 2.10 Sectoral distribution of employment in selected Export Processing Zones.

Sector	Taiwan (1991)	Mauritius (1985)	Dominican-R (1985)
Electronics/electrical machinery	64.7	1.2	4.5
Textiles and clothing	11.0	86.6	61.3
Footwear and leather products	1.6	-	12.3
Tobacco products	-	-	6.9
Jewellery	-	2.1	5.2
Instruments and optical products	4.9	-	2.7
Food and beverages	-	-	2.1
Plastic products	2.5	-	1.6
Precision and manufacturing machinery	4.0	-	-
Furniture and wood products	1.9	2.6	-
Other industries	9.0	7.5	3.6
Total	100.0	100.0	100.0

Sources: 1. Export Processing Administration (1991) Export Processing Zone on its 25th Anniversary, Taiwan.

2. International Labour Office (1988) Economic and Social Effects of Multinational Enterprises in Export Processing Zones, ILO, Geneva.

explanation may be that the low labour costs in FTZs are the reason to attract industries, such as electronics or textiles.

In Taiwan, electronics enterprises had the largest share of employed persons in the FTZs accounting in 1991 for 64.7 per cent, and clothing represented only 11 per cent. In Mauritius and the Dominican Republic the clothing enterprises had the largest share of employed persons in the FTZs accounting in 1985 for 86.6 per cent and 61.3 per cent respectively. The situation is reversed in respect of electronics and

electrical goods as the above table shows: less than 2 per cent of total production and about 5 per cent respectively. The reason for this different share of each sector may be due to levels of education for labourers in each country. For example, the education and experience level of labour in Taiwan is higher than in Mauritius and the Dominican Republic. In addition there is an effect of national economic policies. These two industries (electronics and textiles) in Taiwan and Mauritius account for more than 75 per cent of the total employment in its EPZs. The Dominican Republic has a more diversified industrial structure in its FTZs, therefore its proportion of employment in these two industries is lower than in Mauritius and Taiwan: about 65.8 per cent of the total employees.

Frobel et al (1980) state that most employment in FTZs is semiskilled or unskilled and involves the execution of highly subdivided tasks and decomposed manufacturing processes; these, with few exceptions, require a relatively small capital investment (machines and equipment) per worker. Long enhanced this view that most workers in FTZs are unskilled workers³⁴.

Hours of work and overtime

Working hours in FTZs are long. In the FTZ of the Dominican Republic, for instance, the number of working hours per week is about 44, which is the lowest among the FTZs. On the other hand, the Republic of South Korea and the Philippines have the highest working hours among the FTZs: about 54. This number is very high compared with the industrialized countries with their normal working hours around 40 or less³⁵. That means the working time in developing countries exceeds the places of production in developed countries by at least 20-30 per cent³⁶. Frobel et al (1980)

state that the conditions for workers in FTZs in developing countries are the following: at least 48 hours work per week, at least 50 weeks per year; the proportion of holidays is very low and compulsory overtime is normal. In most developing countries the number of working hours is not very different as between the FTZs and other manufacturing industries. Where there are big differences in working hours in manufacturing industries, this may be due to the high levels of overtime work. Some FTZs require their workers to work after ten at night and from five in the morning, even women, as in Malaysia and Mauritius. In Thailand, female shift work is not required, and women do not work between the 00:00 and 06:00. Although it may be thought that compulsory female night shift work is a form of exploitation peculiar to FTZs, there are other forms of employment that require women to work night shifts, such as receptionists in hotels, telephone operators, airport workers, nurses in hospital and so on, especially where it pays at a higher rate than normal working hours. Some female workers except single women who prefer to avoid night shift prefer to work night shifts in order to devote time to their house and children during the day. Others want to increase the level of wage.

Employees working in multinational factories do not normally work longer hours than employees in domestic factories; the reverse is probably true, as in the Hong Kong clothing sectors especially in the rush periods. But in the Philippines one study found that the women factory workers who worked in the domestic and government firms may work longer than others in the multinational firm³⁷. To some extent it is possible to argue that multinational factories show some respect for workers' power. In spite of this there are many reports which have shown the disadvantages of the foreign firm in developing countries.

2.6 Technology

Developing countries are attempting to import advanced technology in order to develop their national industrial sectors, reduce payments and increase local benefits from the suppliers of imported technology. There are different opinions about the transfer of technology through the FTZs to host countries, particularly those which are developing countries. Before discussing these opinions, it is appropriate to make clear what is meant by the transfer of technology.

Transfer of technology includes administration and management as well as technological matters. Most FTZs achieve the former more than the latter, because the former does not require technical skills, which are more complex than administration skills such as fixed working hours, and organizational discipline; strict attention to every movement is very different from work in the informal industrial sector. In addition it changes the administrative structure of the work in the FTZ.

Dicken (1992) believes that the trans-national corporations (TNCs) have played a major role in the transfer of technology world wide. For example, in the 1960s United States firms played a main role in transferring semiconductor and microelectronic technology to Europe. On the other hand the TNCs may well prevent the spread of proprietary technology beyond their own organization's boundaries. The exploitation of technology is a diagnostic feature of TNCs³⁸.

Lall (1977) is against the idea that TNCs have a role in transferring technology on the basis that: high and modern technology cannot be changed to suit less developing countries; therefore low technologies prove more adaptable for use, and as far as adaptation of foreign technology goes, the bulk of basic or core production technology transferred by TNCs is not adapted in any significant way to low wage

conditions³⁹.

Frobel et al (1980) state that the training of skilled workers and the transfer of modern technology through foreign firms to the FTZs is very limited in scale. The point which proves this issue is the data on skill structure which shows that the labour force is predominantly unskilled and has been trained only to carry out specific operations. The training of workers is restricted to a few relatively limited tasks.⁴⁰

Reubers (1973) is from the group who support the idea of transferring technology through the TNCs. The concept that a limited degree of adaptation takes place in the technology transferred by TNCs to developing countries is shown by Reubers study; in 1973 empirical support confirmed that most firms' production technology was transferred intact with no modification⁴¹.

There are some problems in transferring technology within a TNC because of the cost of technology. But there are some alternatives: to buy or license the technology alone from its owner and to produce the technology domestically.

Maex (1983) mentioned that the transfer of skills and technology to the FTZs are usually thought to be limited. Because the FTZs' workers are thus engaged in simple routine operations, staff can learn them in a few weeks, in spite of the fact that the greater number of those workers, particularly young women workers, have had no experience in industrial work.

Theoretically, the way skills and technology may be learned through the foreign firms may be very important and may serve different objectives such as technology acquisition, industrial management, design and product development, etc. Particularly the foreign workers can adapt to work in a modern industrial context, in spite of the lack of previous industrial work experience among the local workers.

Therefore the host country can benefit from the experience of foreign firms to improve their industrial sector.

In the textile and clothing technology the situation is quite different in comparison with the electronic. This sector is not very important in comparison with the electronic sector, because the domestic firms in the developing host country may compete efficiently with the foreign firms in the FTZs, particularly after quotas became a constraint from the industrialized countries for enterprise expansion in the developing countries. This is what happened in Sri Lanka.⁴²

Kelleher (1976) said that host countries should believe that technology and management know-how are very necessary to develop the industrial sector. There are two ways to transfer technology, firstly, to buy it, as some of the oil countries are doing. However, most developing countries are poor, and unable to afford it. Secondly, FTZs are one method of proven practicability which has gained widespread acceptance in recent years.⁴³

Baranson, J. mentioned in 1970, " has found out that transfer of technology depends on the following factors: "(1) The complexity of the product and production techniques being transferred, (2) the transfer environment in the donor and recipient countries, (3) the absorptive capabilities of the recipient firm, and (4) the transfer capability and profit-maximizing strategy of the donor firm".⁴⁴

In fact the transfer of technology through the foreign firms to the FTZs is different from country to country, and depends on particular conditions in each FTZ, such as the following points:

1. Planning: whether the FTZ authority attends to or takes into account the aim of technology transfer or not. Some FTZs are interested only in production, without giving consideration to the type of production or quality. Thus some FTZs

are involved in the textile or clothing sector, the others in electronics, electrical, and machinery sector.

2. The availability of skilled workers may help to transfer technology more quickly. This point may provide a suitable atmosphere which encourages foreign firms to export their advanced technology to these FTZs, skills implying availability of persons who can handle the technology. Non-availability of skilled workers may lead to the very slow transfer of technology, that means it will take a long time.

On the other hand there are some FTZs which have sent their labour abroad for training, as happens in Malaysia. So specialized and advanced are the Penang engineers said to be in the areas of assembly and testing that they are often sent back to the US for training by Americans -an interesting case of reverse technology transfer.

" The Malaysian American Electronics Industries (MAEI) expects to spend \$200 million ringgit per year for the next few years in training." ⁴⁵

3. The availability of local labour. Some FTZs import foreign workers from abroad in view of the shortage of local workers. In this case the host country will benefit less from the technology in view of non-availability of local workers. Therefore the operation of transfer technology may happen, but utilization does not happen unless the country has forward planning to employ local workers over the long term.

4. The presence of electronics industries in most of the FTZs in the world may be considered only a doubtful indicator for the transfer of technology through the FTZs to the host country. We should also take into account that there are other

industries operating in FTZs using technologies that may not appear as advanced as electronics but they are considered as a technology.

5. The host country should supervise the activities and movement of the foreign firms to fulfill the aims of establishing the FTZs, among them transfer of technology. This may happen in some countries which have a high level of infrastructure, trading location, good reputation, political stability and so on. Otherwise it may be difficult to control the foreign firms because "you need them more than they need you", especially as FTZs are spread everywhere in the world. For example a high proportion of Malaysia's manufacturing industry is exclusively foreign-controlled.

6. Thus the host countries attempt to provide financial facilities to attract foreign semiconductors capital, such as advantageous tariff regulations, cheap workers' housing and tax holidays. Therefore also the host countries attempt to provide cheap labour in order to attract foreign firms; this may encourage the foreign firms to employ local workers, but this issue does not encourage foreign firms to import their advanced technology to developing countries for the following two reasons. Firstly, most workers in developing countries are considered as unskilled and semiskilled workers, therefore the foreign firms try to send them to their parent countries for only a few weeks in order to get essential information. This information does not help to transfer the technology because training is very simple. Secondly foreign firms are unwilling to spend much money to give those workers a deep technical education, as most will work for only a short period in the company. The availability of schools near the FTZs may promote the education of labour which may help workers to assimilate technology quickly, also to promote the quality of

production which we consider as a part of technology. Taiwan is considered as one of the countries which has already established these schools. 9,828 persons having benefitted from education program through 238 such classes in 1991.⁴⁶

7. Some countries have promoted the electronic and electrical sectors through a policy of increasing investment and the number of firms in these sectors, for instance Taiwan and South Korea and Singapore. Most work in the electronics sector in FTZs however involves assembly (radios, tape records, televisions and computers) not manufacturing. Table 2.11 shows that the percentage of capital investment in electronics and electrical goods was nonetheless high in comparison with other industries in Taiwan and South Korea. In the first it represented about 59 per cent and

Table 2.11 Capital investment of electronic and electrical industries in Taiwan and South Korea in FTZs. Units \$ million dollars.

Country	Capital investment	Percentage of total investment	Total Investment
Taiwan (a)	178.0	59.0	302.6
South Korea (b)	48.0	42.5	112.9

Source: Currie, J. (1980) Export Processing Zones in the 1980s, The Economist Publication Ltd, London, No. 190.
 (a)1983.
 (b)1978.

in the latter about 42 per cent. The percentage share of the electronics sector in Singapore and Taiwan is high in comparison with other industrial sectors where they represent about 33 per cent of the total. In the Philippines, they represent about 17.5 per cent; on the other hand there are two countries in which the share of electronics in FTZ firms is low in comparison with other countries: Sri Lanka and Philippines

(see Table 2.12).

It may be that heavier investment and education in Singapore and Taiwan has led on to indigenous skills and R & D. In Taiwan as of 1991, the approved technological cooperation programs in the FTZs numbered 103 cases, and the employed technicians and management personnel from abroad numbered 743 persons,

Table 2.12 Number of firms operating in textile and clothing, electronics and other industries in some selected Asian Zones in 1983.

Country	Textile and clothing	Electronics	Other industries	Total	Percentage of electronics
Philippines	15	10	32	57	17.5
Singapore	4	169	340	513	32.9
Sri Lanka	34	2	28	64	3.1
Taiwan	47	92	124	281	32.7

Sources: 1. Currie, J. (1980) *Export Processing Zones in the 1980s*, The Economist Publications Ltd, No. 190.

with the accumulated employment of foreign technicians and management personnel at 3,704 persons. Over the years these foreign technicians and management personnel have made definite contributions to upgrading the country's technology and enhancing the local standards of industries as well as production technology.⁴⁷

(On the other hand it should be taken into account that other sections of industries also deal with technology, but the technology of electronics may be more advanced. For example, the textile and clothing industries especially use technologies that are widely accessible to firms in the Third World and are now dispersing to China and other parts of South East Asia.)

In view of the increasing automation of assembly processes, the demand for labour has been pushed significantly downwards. However, automation also requires

skilled technicians to service the complex machinery and equipment. Unskilled labour and skilled technicians can be available easily at many overseas production sites at cheap cost⁴⁸.

The important point here is whether the local employees benefit from technology, imported or not. The foreign firms may transfer their technology, but the extent of benefit may be small in the case of foreign firms which use the local labour in order to fulfil only the simple operations and reserve specialized complex parts in industries for their own (foreign) labour. That means that these foreign firms came only to exploit the labour without giving any consideration to promoting its technical level. This condition may happen in some FTZs where the seven aspects mentioned above do not combine to lift development beyond a simple level.

2.7 Political aspects

2.7.1 Competition with nearby states

Competition in attracting foreign industries is fierce between FTZs because of the large number which have been established. Each tries to offer the best facilities and services possible. All FTZs can offer some of these facilities to their customer such as exemption from tax and duties, a lack of restrictions on remittance of money, freedom to export 100 per cent of production, a lack of complex administrative procedures in the zone, availability of cheap and productive labour, the low investment cost per work place, and so on. On the other hand there are some other facilities which cannot be offered in all zones because of financial restrictions, such as the level of infrastructure. Apart from these two groups, there are some features that distinguish FTZs, for instance the natural location and its proximity to the centre

of gravity of world trade. Some of these FTZs are located next to 'open' seas without natural or man made obstacles. Therefore there is competition between FTZs in attracting foreign firms in order to increase the rate of investment and export.

Developing countries always try to provide the best deal for foreign firms, particularly cheap labour. A clear example is Mauritius which provides cheaper and more productive labour than many developing countries⁴⁹. Competition increases between neighbouring states because of their proximity to each other. For example, there is considerable competition between Malaysia, Sri Lanka, Singapore and Hong Kong; and between Caribbean countries and so on.

2.7.2 International political strategy

Most FTZs are located on the coast to be close to a seaport. Where there is no coast, the FTZ is close to an airport to facilitate the operation of export and import (see Chapter three). Not all coasts have the same strategic significance. For example the FTZs which are located by the open sea or ocean are more advantaged in their location than others which are located in a gulf or semi-closed sea or near a man-made canal. The reason for this is because in the case of war or political instability of neighbouring countries, the locations far from a semi-closed sea gulf are more likely to avoid these problems. Foreign firms may take into consideration this point, before choosing a location. FTZs located beside a canal may pay transit duties for moving through the channel. The UAE has two coasts (the Arabian Gulf and Gulf of Oman) the JAFZ lies on a semi-closed sea (the Arabian Gulf), and therefore seems to be more vulnerable than Fujairah Free Zone (FFZ) which lies on an open sea (Gulf of Oman).

An important point is political stability. Foreign firms are not eager to establish their firms in places threatened with problems of political instability, because these definitely have an impact on their production and may lead to loss. Many places in developing countries suffer from internal problems, especially with the government, or external problems, such as boundary disputes. Among these places are some Latin American, Caribbean and most African countries. In El Salvador in 1985, the number of FTZ enterprises was only eight, four of them being foreign owned. In Ghana the number of firms were six in 1980, two of them owned by foreign firms. In certain situations, even the domestic enterprises prefer to establish outside of their own countries. On the other hand, there are places in the world in developing countries which have a political stability and the number of firms in their FTZs is high and increasing yearly because of political and economic stability. The best examples are some Asian countries such as Hong Kong in the past, Singapore, Malaysia and Taiwan. In Malaysia in 1979, the number of the firms operating in their FTZs was around 74, 64 per cent of them owned by foreign firms; in the Republic of South Korea in 1980 the number of firms was 94, 72 per cent owned by foreign firms; in Mexico the number of firms operating in their FTZs in 1984 was 672, 34 per cent owned by foreign firms, and 38 per cent joint ventures⁵⁰. The number of FTZs in these countries is also high in comparison with other countries, for example in 1986, Mexico had 23 FTZs, Singapore and Hong Kong 22 and 14 respectively.

In addition to political and economic stability, the economic system of the state needs to be considered. For example, some capitalist states have tended to avoid dealing with communist states, and vice versa. This may impact on the establishing of FTZs and choice of countries which have FTZs. The number of FTZs in recently

communist countries has been smaller than in capitalist countries for reasons of their ideological approach to market processes. The best example of FTZs in a communist country is Shenzhen FTZ in China, which with many imitations, has broken foreign firms' preference to establish their plants in capitalist countries/enclaves. The capitalist system has offered greater economic freedom and fewer restrictions than the communist system. However, some firms are now leaving Hong Kong, in order to tap cheaper labour in China.

Political and economic relations between countries also have an impact on the continuation of the economic activity of FTZs. This means that the stronger the relations between the host country and the investing country, the greater the number of firms of the investing country in the FTZ of the host country. For example, as we shall see in the UAE Jebel Ali Free Zone, the majority of firms are Indian and U.K. owned, because of the strength of relations between the Emirate of Dubai, the U.K. and India.

2.8 Indigenous industrial effects

The effects of FTZs on domestic-based industry in operation inside the FTZs is larger than on industry outside it. The reason for this may be because inside the FTZs the potential relation between the domestic and foreign firm is direct and strong, and therefore co-operation between each other may be strong. This cooperation may be represented by joint venture enterprises. The number of joint ventures differs from one country to another. For instance, in Mexico and Mauritius in 1984 the percentage of joint ventures was about 38 and 35 per cent of the total firms respectively, in Jamaica it was 41 per cent, but in Barbados was it lower than

in other countries: about 9 per cent in 1985. The reason which led Mexico to require 50 per cent national ownership of firms was that the government wished to reduce foreign influence and ownership in the country after the Revolution of 1910, partly because Mexicans believed there was excessive foreign control and ownership. More recently, foreign ownership has become more welcome in Mexico in general, except in areas which were reserved only for Mexicans. These industries are under the control of the government.⁵¹

FTZs have played a role in relation to domestic owned enterprises in the host country, and encouraged the domestic investors to invest in the industrial sector, in view of availability of facilities inside the FTZ. For instance as shown in Table 2.13, 24.8 per cent of the firms which were already operating in the FTZs in 13 countries belonged to domestic enterprises in 1988, in addition to 38.3 per cent which were joint ventures, which means over 60 per cent of them belonged to the group of domestically owned enterprises, or rather domestic investors in FTZs. Where the number of domestic enterprises in FTZs increases this may lead to improvement in the level of industrial Also it has the effect of increasing the size of exports from the

Table 2.13 Representation of foreign-owned enterprises, domestically owned enterprises and joint ventures in FTZs of 13 countries.

Ownership of enterprises	Absolute	Percentage
Foreign enterprises	468	36.8
Domestic enterprises	315	24.8
Joint ventures	486	38.3
Total number of enterprises	1 269	100

Source: ILO (1988) *Economic and Social Effects of Multinational Enterprises in Export Processing Zones*, Geneva.

host country and improving its balance of trade.

An annually increasing number of manufacturing companies inside FTZs are firms which are joint ventures between domestic and foreign firms, a distinct kind of development for the industrial sector. Moreover there are some factories outside of FTZs as a result of their establishment in order to supply semi-finished products to companies operating inside FTZs, as in the case of Taiwan. In spite of this fact it may be that the relationship between FTZs and outside industries is somewhat poor in comparison with internal relations. This will be discussed with regard to the JAFZ in Chapter Seven.

2.9 Conclusion

FTZs affect many aspects of economic life in the host countries through their channelling of investment, labour, technology and industrial development. Their impact on the points mentioned above, whether positive or negative, good or bad to national economies, is not easy to determine. This chapter has discussed these points with examples from different FTZs in the world to give a picture of FTZs' aims, and has touched on the extent to which FTZs have achieved their aims.

FTZs have played only a minor role in the balance of trade of host countries. Their wages, though poor in comparison with some industries outside the FTZs, are not so very different particularly for women. FTZs provide employment for workers in the developing countries, even though the number of jobs is small in comparison with total domestic employment, and could not solve domestic unemployment problems. It is difficult to determine the precise role of FTZs in transferring technology, although this transfer demonstrably occurs in some places. Competition

between FTZs in developing countries is very strong particularly between nearby countries. The international political strategy of the host state is highly significant in attracting foreign investment. FTZs play a role in the development of the industrial sector within themselves, but their role from the outside is insignificant in comparison with the former. For instance in Taiwan, the availability of foreign factories inside the EPZs encouraged indigenous factories establishing both inside and outside the EPZ, in order to supply semi-finished commodities and other requirement to them. Moreover the Batan Export Processing Zone (BEPZ) in the Philippines is considered the first industrial estate to be set up in the country. It was the factor behind a growing number of agencies and industrial estates locally.⁵² On the other hand FTZs in Malaysia do not play a role in developing the industrial sector, although this aim was one of the main ones behind establishing FTZs in the country.

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Chapter Three

General Characteristics of Free Trade Zones

3.1 Introduction

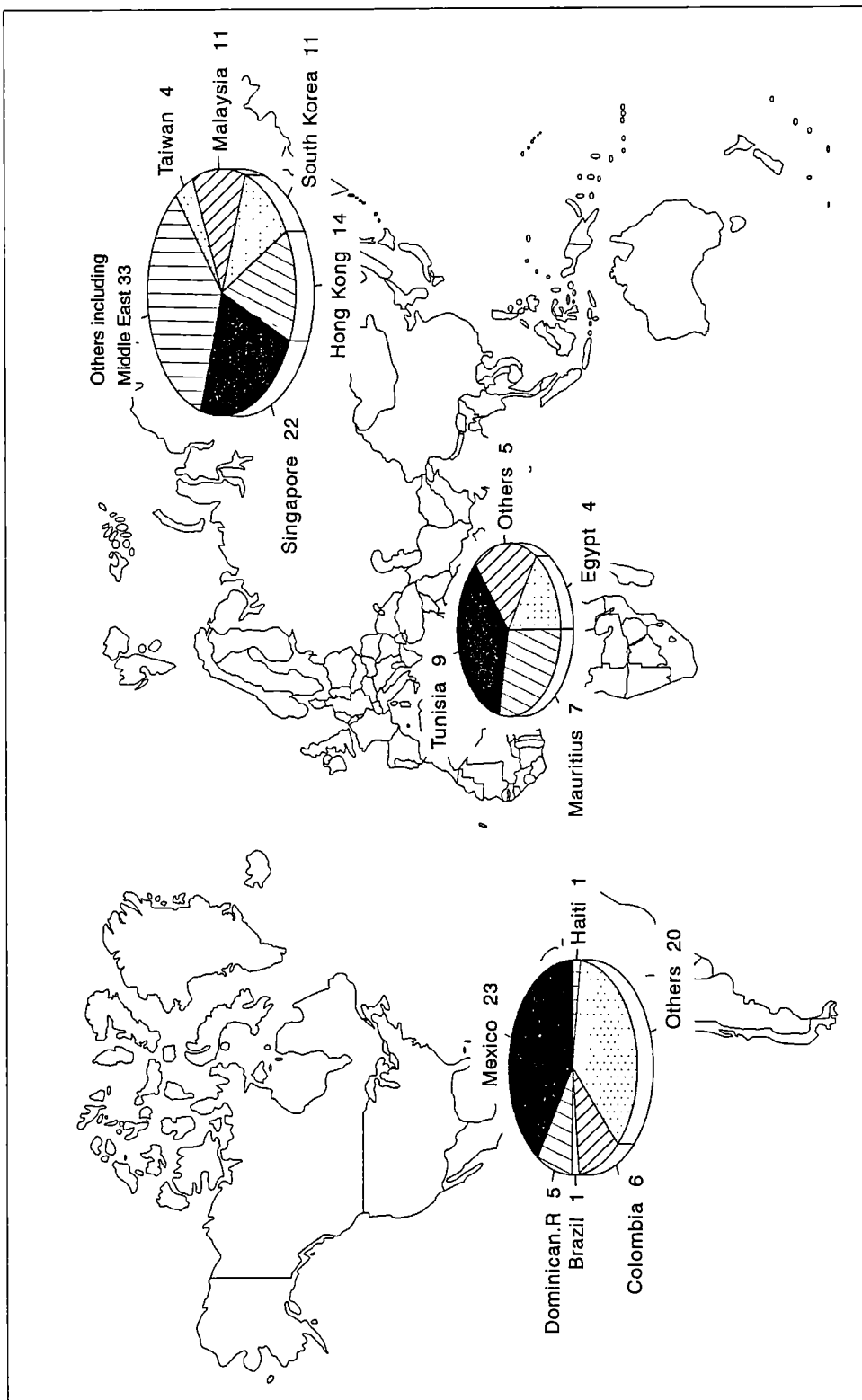
This chapter will discuss the global dimension of the FTZ and its characteristics. The aim is to study FTZs in general, including their number, their location, and employment distribution in developing countries. The study will also make clear which characteristics are more important than others.

3.2 Global dimensions of the FTZ phenomenon

In 1986 there were around 176 FTZs in operation in 46 developing countries, and 86 under construction. These FTZs are widely distributed in the different countries and continents. Of these FTZs, 116 were established after 1971¹. (Comprehensive figures for dates after 1986 are not available.)

Figure 3.1 shows that there were 25 FTZs in Africa (14.2 per cent of total FTZs in developing countries), 16 of them in only two countries: Mauritius and Tunisia, because these two strongly practice a free trade system, believing that through establishing FTZs they can attract a great number of foreign investments and offer work opportunities for domestic workers. This is especially so in Mauritius which can be considered among the countries which as a whole we can call a free port. Most FTZs in developing countries, therefore, are in Asia with 95 (54.0 per cent). This may be due to a greater availability of skilled and semi-skilled labour in

FREE TRADE ZONES IN DEVELOPING COUNTRIES, 1986



Source : ILO (1988), Table 20.

Figure 3.1

in Asia's FTZs than on other continents. Moreover, it could be argued that there is also be a high level of infrastructure in Asia in addition to political stability to support FTZs. Perhaps significantly, Asian countries started establishing FTZs earlier than countries of other continents. The Caribbean and Central America had 23 FTZs (13.1 per cent) in 1986; South America 10 (5.7 per cent) and Mexico 23 (13.1 per cent). Of these 46 countries, seven had 55.4 per cent of the total number of FTZs in developing countries².

Of the 86 FTZs in developing countries which were under construction in 1986, 63 were in Africa, 14 in Asia and the Pacific, five are in Central America, three in the Caribbean and one in South America. This suggests that African countries have now become enthusiastic about FTZ projects, especially those which have more recently achieved independence³. African countries may consider FTZs to be the best route to developing any industries, and to stimulating their domestic economies, because they need foreign investment and foreign experience.

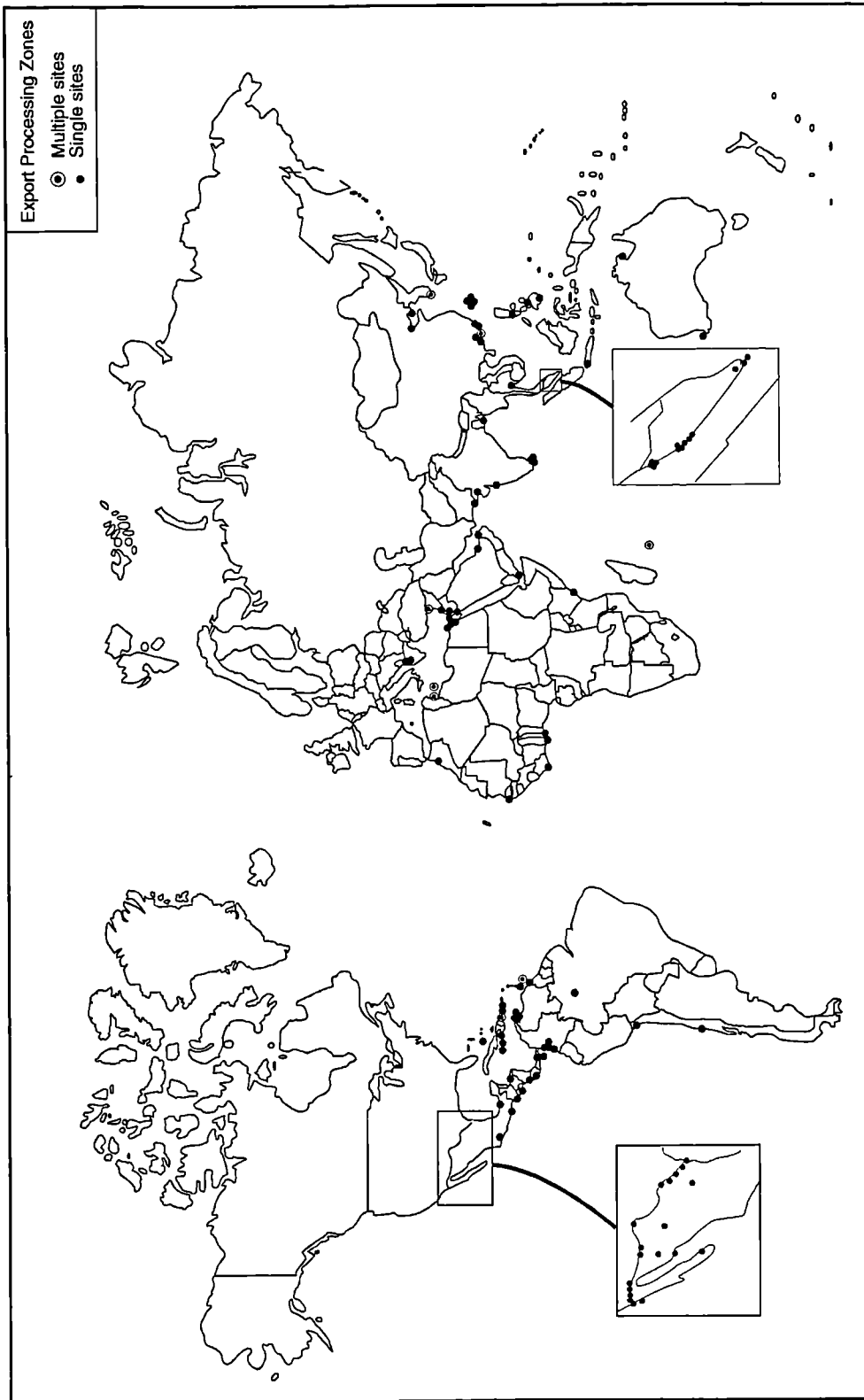
The number of people employed in FTZs in 1986 was over 1.3 million⁴. This employment was not distributed equally between these countries. In rank order, 94.5 per cent of employment is in the 14 largest FTZ countries. This inequality in the distribution of employment between FTZs may be due to investing firms' preferences or to the infrastructure in these 14 countries being better than in the other FTZs.

3.3 Location Requirements

Figure 3.2 shows the geographical distribution of FTZs in 1986 in developing countries.

Suitable location requirements are important for the establishment of free trade

FREE TRADE ZONES IN DEVELOPING COUNTRIES, 1986



Source : Dicken, P. (1992), Global Shift

zones (FTZs), both to the firms which are setting up inside the zone and to the host country.

Many important requirements of FTZs depend on location, such as transport, the market, workers' residence and so on. The following points elucidate the significance of location for FTZs.

1. Site area capacity needs to take account of factors such as factory surrounds, site design (number of buildings, storage area..etc), car parking area, site planning, and future extension planning.

2. Site location needs to take into account the availability of power, waste disposal, water (water supply and its specification), local tax, site planning requirements, soil analysis, residential area location, and land use planning categories.

3. FTZs close to the capital city, or airport and seaport, may be the most acceptable to investors. Therefore governments of host countries try to choose sites which are near to a major airport, seaport, city, or market, to facilitate the operation of exports, imports, transporting workers and goods or raw materials to the market, in order to save the cost of transport. For instance the Puerto Cortes free zone of Honduras is adjacent to the port and is also close to San Pedro Sula international airport. Bayan FTZ in Malaysia is located near the Bayan Leaps international airport which is 25 km from Kuala Lumpur, the capital. In Ireland Shannon airport which used to be a refuelling station for all aircraft coming from North America to Europe before the 1960s, and therefore came to be seen as a recognized halt for many international airlines, had its location exploited to create a manufacturing centre and to offer low transport costs. The location of an FTZ near an airport might have advantages from the point of view of saving the time of executive managers, and ease

of arrival, although for heavy industry there is the high premium of costly transport by air.

4. FTZs located on international air or sea routes can benefit from modern air and sea communication links and rapid postal and electronic links. It can be argued that countries on the open sea are better than those on a semi-open or closed sea. In political disputes or wars between the region's countries, those which have a coast on the open sea have a better chance of avoiding this kind of dispute in order to secure free navigation, whereas countries on closed and semi-closed seas are perceived to be of higher risk. This is of direct relevance to JAFZ. Most FTZs have been located in countries which have a coast beside the open sea, such as Hong Kong, Singapore, Mauritius and Malaysia. Inland FTZs may tend to be on a land frontier, as seen in the case of many of Mexico's FTZs or the Mexico - US border (Fig.3.2).

5. Proximity of workers' possible residence to the site of the free trade zones is usually taken into consideration as well in order to have easy transport of workers, reducing travel costs and securing their arrival at their work place on time, in order to avoid disadvantageous effects on the operation of the production.

6. The cost of locating the FTZ in an area or zone which already has development may be cheaper than developing a completely new area. In support of this idea Kelleher (1976) mentions that "The cost of developing a zone in an area where some development has already taken place should be lower than the cost of developing a completely new area, and the time lag before the first factory starts production should be shorter⁵"

3.4 Site and size of site

Ideally the site of an FTZ has to be level and drained, with geology of good bearing quality and an arable top soil to facilitate landscaping. If not level, slopes must not impede construction of roads and other infrastructure. Before an FTZ is established, account should be taken of land slope to avoid the need for expensive "cut and fill". Bearing capacity must be adequate for normal industrial floor loading. Future expansion might be taken into account to cope with further development of the FTZ.

Although a development site very near the facilities of an airport might look attractive, it may require additional specifications, such as the office area facing away from the flight path, and therefore some physical separation is usually desirable and buildings must be given additional protection against noise. Consulting the airport authority about any necessary features such as stores, lights and smoke emission is a mutual necessity. Other restrictions are necessary in view, for example, of fire risks. Firms which are known to produce pollution will not usually be permitted near an airport or residential areas. This type of industry is more suitable to be at a seaport FTZ, in order to protect the inhabitants from industrial smoke and to leave the visibility clear around airports. The zones which are subject to pollution control located near to airport residential area normally attract light industry like clothing, furniture and electronics.

Employment densities differ between FTZs near airports and those near seaports⁶. As a general rule, employment on an FTZ with light industry, as near an airport will be around 100 workers per acre in the initial years. After a period of time as the zone develops, this ratio should reduce to something between 40 and 80

workers per acre. The reason is because in the initial period more employees are needed for building the infrastructure, following which the employees are needed for operation only. Also, technical changes and political changes both probably encourage high initial employment levels. In contrast, on FTZ which is beside a seaport, more attractive to medium and heavy industry, employment per acre will be much lower. It could be between 10 and 30 workers per acre or less, depending on the sort of firm. This may be because medium and heavy industry requires fewer employees to operate the machinery and also the machinery occupies a large area.

3.5 Infrastructure

The planning of the layout of an FTZ is normally seen as important in order to secure flexibility, to increase production, and attract foreign firms. Therefore most countries which propose to establish an FTZ attempt to plan what they see as the best layout before its establishment. Preliminary planning takes into account the size of plots and road access. Roads are important because they serve the movement operation of either raw materials or manufactured goods. They need deep foundations so that they wear well, and careful design to avoid congestion. They need to be well-lit, with a good width for safety, and to assist increased production. Most FTZs which are successful have multiple connections with the airport, sea port and cities by good roads. For instance the FTZ in South Korea has good road and rail connections to the port of Runetan (24 km) and Seoul (255 km distant). Shannon FTZ in Ireland also has a good road connection between Shannon and the main Irish sea ports.⁷ as well as easy access to Shannon airport. If the FTZ does not adjoin a sea port or airport, transport facilities should provide dedicated links. For example, Dakar

FTZ in Senegal has access roads leading direct to Dakar-Rufisque highway. A railway spur provides direct connection to the railway network and the port of Dakar were built.⁸

There is also the need for sewerage, car parking, workers' housing, and a customs barrier which consists of a fence with customs check-points at the entrances. The services to manufacturers mentioned above concern the physical infrastructure. Other basic services which are often available include central administration, training facilities, and maintenance and repair services.

3.6 Facilities

The important aim when establishing an FTZ is to attract foreign investment. This aim is achievable through the presence and the presentation of facilities. Therefore there is competition between countries with FTZs in the provision of facilities and also in publicizing them. These usually include:

1. Complete exemption from taxes and customs duty for a period of time, on consumable raw materials, all machines, production equipment, spares, capital goods, and components required for production activities in the zone.

2. Exemption from income taxes for five to ten years.

3. A 'holiday' from taxes, surtaxes, surcharges etc, or a reduction of rates.

4. Complete exemption from exchange restrictions.

5. Financial assistance for the establishment of the industries in the zone, such as the provision of short, medium and long term loans with discounting rates of interest.

6. A special tariff on rents, ground rates, building, transportation, common

and general services charges, etc.

7. Potential for buying or renting pre-constructed standard factories and office buildings. This might save the investors from spending their investment capital on long term fixed assets.

8. The availability of workshops and repair shops, transport services, telephone and telex communication, canteens, public stores, medical services, petrol stations, banking services, cooperative insurance services, patrol and security services, recreation facilities and regular supplies of high quality water.⁹

9. Availability of cheap labour.

10. Facilitation of legal procedures such as customs, administration, licenses etc.

The availability of these facilities distinguishes FTZs from other industrial sites, particularly in developing countries, and imparts the important characteristics of the zone. Firms located outside an FTZ can benefit from some of these facilities, but only to a limited extent.

There are many issues over the generous financial provisions available in some FTZs but most other facilities are widely and easily provided by developing countries, although some of the services may differ in quality from one country to another. In some countries, such as Mauritius and Macau, the tax rate is the same inside and outside the FTZ. In these countries, where the whole state is a free trade zone, average foreign investment is high, throughout the country, and the FTZs attract firms by the other facilities they offer.

It is important to assess the benefits a host country gains in return for these facilities, such as creating jobs for domestic workers, attracting foreign investment,

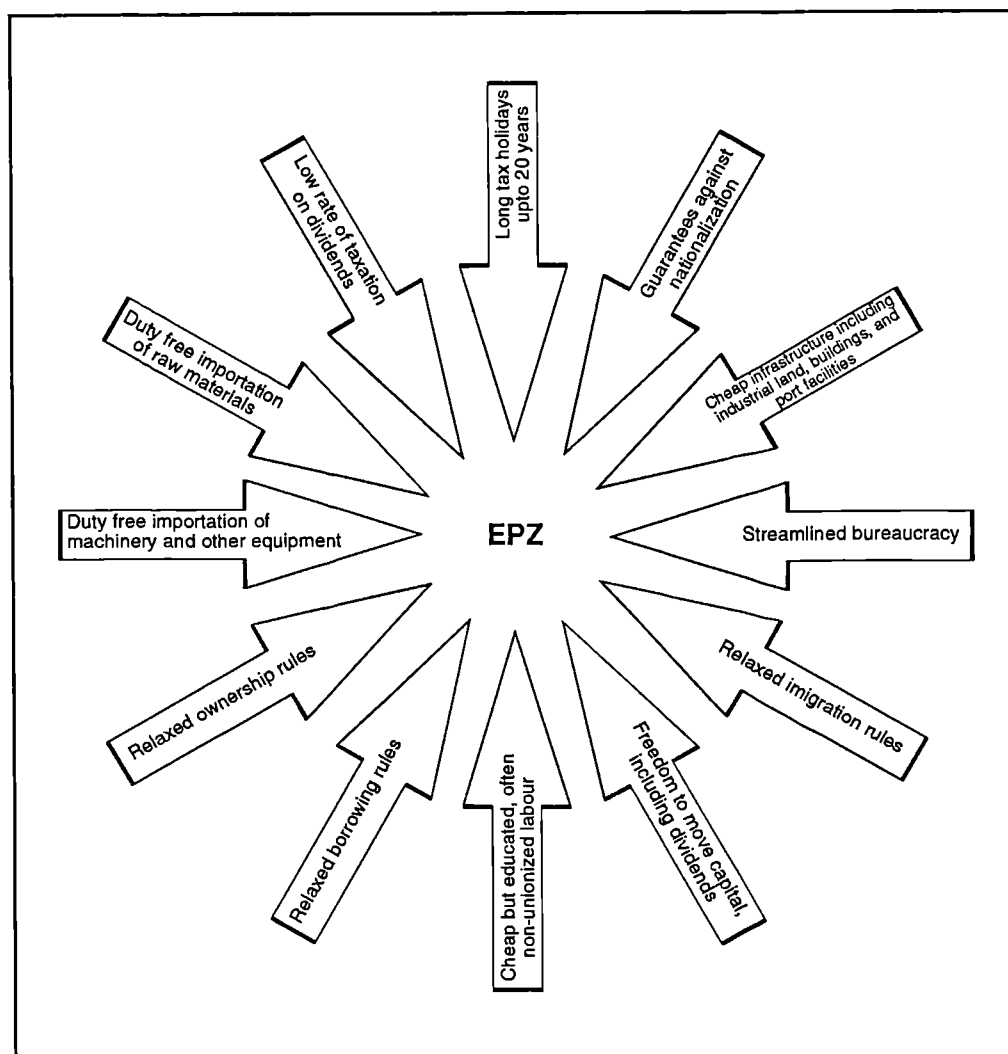
exploiting local raw materials, promoting the size of exports, importing advanced technology and developing a backward region. Incentives and facilities available in two of the main FTZs are now listed. Figure 3.3 shows a typical FTZ incentive package.

Republic of South Korea

The Masan Free Trade Zone offers the following:

1. Permanent exemption from import duties, such as commodity taxes, capital goods, raw material, and semi-finished goods is given.
2. Permanent exemption from business tax on export earnings is granted.
3. No tax is imposed on income, corporate profits, dividends or property acquisition during the first five years, and reduced by 50 per cent for next three years.
4. From first year of business the remittance overseas of profits and dividends by foreign investors is granted.
5. No income tax is imposed on the wages and salaries of foreigners.
6. The remittance overseas of capital foreign investors is granted from the third year after business starts.¹⁰
7. Most product ranges are permitted but with some restriction on textile products.
8. The zone provides ready-made factory buildings, and apartments for foreigners outside the zone.
9. The zone provides power and ample water.
10. The zone provides its own facilities, shipping, forwarding, stevedoring,

Figure 3.3 A TYPICAL FTZ INCENTIVE PACKAGE



Source: Chandra, R. (1992) Industrialization and Development in The Third World, P. 102.

packing, maintenance and warehousing.

11. The zone provides banking and insurance, customs office employment and labour office, transport, packing, airline and travel agents, trade services, machinery service, post and telecommunication office, etc.

12. The zone's administration office has full governmental permission to avoid complicated bureaucratic procedures.

13. Foreign firms have freedom of choice of their own factory buildings, through leasing or buying plant sites.

14. There is availability of skilled and low wage workers whether female or male, and a qualified work force.

These facilities and incentives are similar to the main features which most developing countries are offering to international firms. This is in order to attract them specially from developed countries, where the cost of production are generally higher. It is clear that South Korea offers considerable incentives and facilities to foreign firms, but also on the other hand gains many benefits, in providing jobs for its citizens and attracting a large volume of foreign, especially Japanese investment. In addition it has become one of the most important industrial countries in Asia.

Free Trade Zones in Mauritius

Mauritius makes available to investors various localities for foreign firms where the necessary infrastructure facilities exist. This variety of localities is provided, it is said in order to secure optimum conditions of production. In addition it offers:

1. Full exemption of import duty on raw material, components and capital

goods such as equipment, machinery and spare parts in addition to semi-finished goods (except for tobacco, petroleum products, and spirits)

2. A corporate tax holiday of 10 to 20 years.
3. Immediate issue of import and export licenses for work undertaken at these localities.
4. Loans and export finance at preferential rates of interest from commercial banks for raw materials.
5. Rapid compilation within 24 hours of customs inspection of export or import commodities.
6. Exemption from payment of crane and other harbour handling costs during loading of imports or exports.
7. Electric power at preferential rates.
8. Preferential rates of interest for export finance.
9. Factory buildings, where necessary, are reinforced for particular uses.
10. Loans of up to 50 per cent of the total building cost are available for a ten years period.
11. Priority, wherever possible, in the allocation of investment capital by the development bank of Mauritius.
12. Modifications to labour legislation in order to improve and facilitate the operation of the FTZ.¹¹
13. Availability of a high level of the excellent road network which is connection seaport and air port with an FTZ.
14. The zone provides water, banking, a telecommunications office, and foreign exchange office etc.

3.7 Customs procedures and practice

The customs barrier physically consists of a fence and a customs check-point at the entrances. The customs check-point is always located on the main entrance road, with a big observation window. The reason for the fence is to control the exports and imports operation, and to prevent the movement of goods which are prohibited by law, such as drugs and guns.

The main work of customs is to detect by the examination at check-points and with police possible avenues of distribution of smuggled goods (both in - and outward bound). The customs authorities examine goods and documentation, check shipments and search premises in and around a Free Trade Zone. Companies operating in the zone are required to inform the customs authority of everything received, so they have to keep documents and records for 12 months or more, and give customs officials the opportunity to inspect buildings, stocks and accounts at all times.

These customs procedures are important to prevent people from trying to violate the Zone privileges. The inspection procedures for goods and documents are normally finished as soon as possible to speed the operations of the import and export of goods. Therefore, there needs to be co-operation and co-ordination between the customs authorities and their administrations, who should be entitled to take delegated decisions within the Zone.

Another significant part of customs work is to control and supervise goods passing through the Zone. Goods which arrive and leave the Zone are checked to ensure that they tally with customs and company accounts. These checks aim to prevent illegal trade.

"The main form of inspection should take place on the factory premises. Here goods can be inspected without interrupting shipments. Stock accounts, sales invoices and production cards can be checked against transshipment boards, export specifications and other records of goods moving into and out of the zone".¹²

Goods leaving the Zone, and entering the customs of the state for repairs, exhibition and similar operations, have a special procedure in some zones. The same procedures are applied to goods exported to the zone and re-imported in to the state, such as any material imported into the zone and incorporated or used in connection with the goods in it. This kind of procedure may lead to the encouragement of relations between companies in the zone and local industry, and also helps transfer technology and skills, and in addition helps to encourage trade between firms in the zone. Some types of goods are forbidden in the zone, because they are usually prohibited by law, such as drugs and guns, in addition to alcohol in some Islamic countries (e.g. the Iran FTZs). On the other hand it may happen that there is smuggling of some types of prohibited goods from FTZs to the host country. That happens because there is no inspection for goods imported to FTZs, and the inspection of goods from FTZs to the host country through the customs area is not very serious in some FTZs, in order to avoid complicated procedures. Goods used for personal consumption inside the zone should be duty charged. Firms in the FTZ are not allowed to sell their products on the domestic market, except by paying duty on the imported raw-material content of the product.

3.8 Free Trade Zones and overall industrialization

Industrial production in most countries starts with simple industries and for

consumption on the home market. After a period of time, these industries tend to improve in quality or variety, eventually arriving in some cases at heavy and developed industries. This process of industrial development needs the sustained attention of responsible bodies both inside and outside government, interested in how to improve production and how to protect local commodities and goods from foreign competition.

There are many ways to protect local production from foreign competition, such as quotas, tariffs, and other trade barriers. Quality of production is also important, and high quality commodities need less protection by other means. It can readily be argued that an industrial sector developed under protection is unlikely to be in a good position to export, because it is unlikely to have advanced marketing, good management, or advanced technological and skills. There are many opinions about what is needed. Among the supporters of the FTZ is Kelleher (1976):

"In an (EFZ) foreign firms (including multi-nationals) with the necessary expertise and know-how to succeed in export markets, can be attracted under conditions which are created and controlled by the host country; and hence the (EFZ) idea can be adapted to suit particular economies and political philosophies"¹³

Roles expected of the FTZ include the industrial development of its hinterland; improving management know-how; attracting foreign investment to areas outside the FTZ; providing businessmen with experience of enterprise; and providing local firms with a market for their products, components and other services. The presence of an FTZ can arguably improve the range and quality of industrial transport and port services for domestic firms, because foreign firms in the FTZ demand these

services for processing their exports and imports.

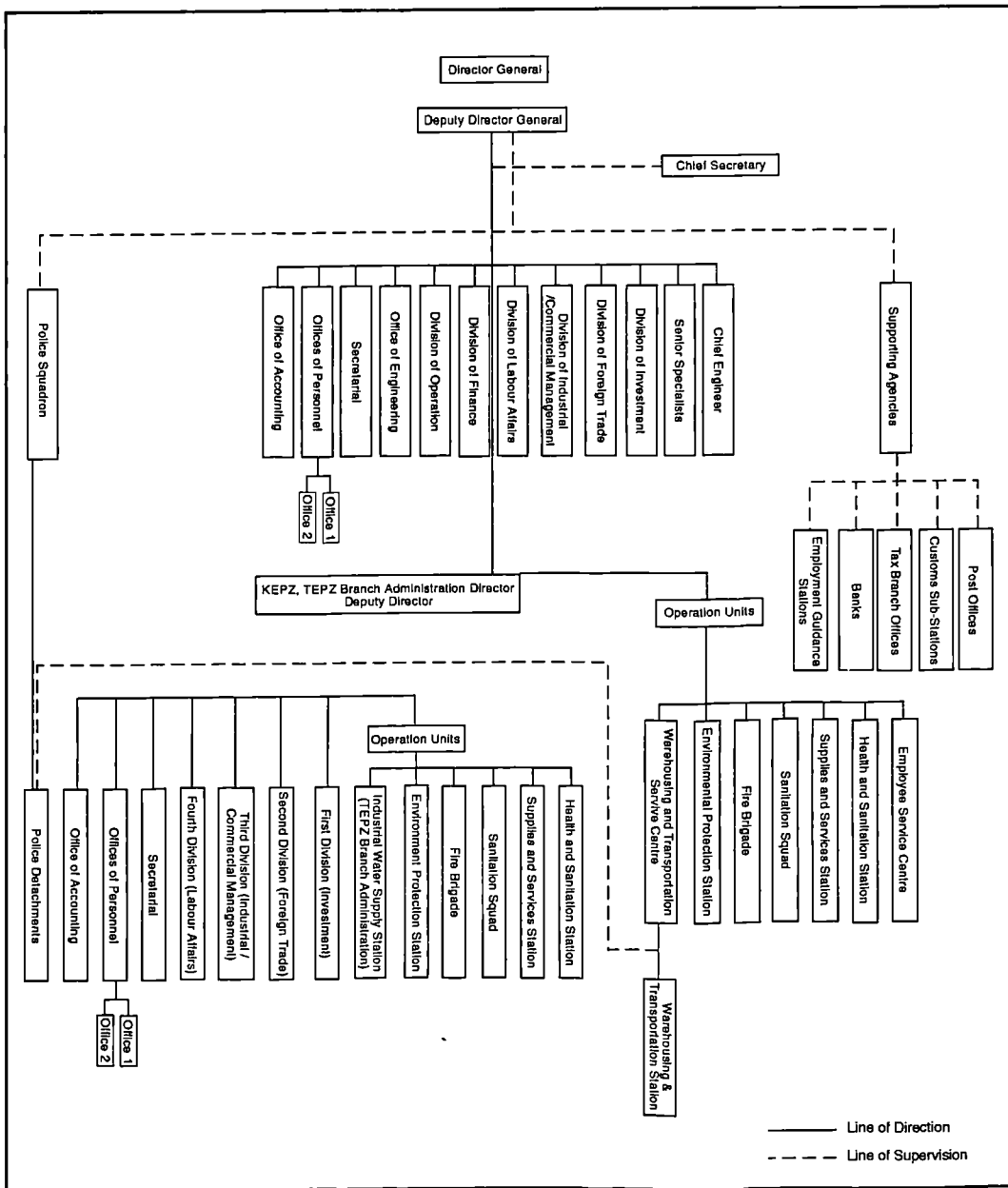
It is necessary to take into account that the first years of establishment of the FTZ may incur a net loss in foreign exchange, because of the amount of money spent on infrastructure to ensure the success of the zone. This is analogous to arguments for "priming the pump."

In summary, the factors influencing success of the FTZ range from a location near a seaport, airport, or in towns near the capital; availability of good infrastructure; the degree of advance planning and execution from the outset; non-intervention of the government in activities in the FTZ; and the degree of freedom of action which the FTZ has.

3.9 Administration

The administrative dimension is a significant factor influencing the achievement of an FTZ. Host countries, before starting operations or economic activity in a FTZ, try to think about the administrative organizational structure in order to avoid the obstacles which may impede the progress of the work inside the FTZ. The monitoring of problems which occur in the operation of FTZs is important to avoid them in future, and to implement better solutions. To attract firms and reduce costs, the physical layout of the zone should be well planned, and efficient administrative procedures formulated. We will now consider some actual examples of the role of administrative support services in FTZs. Figure 3.4 shows the organizational structure of Taiwan's FTZ.

Figure 3.4 THE ORGANISATION CHART OF FTZ ADMINISTRATION IN TAIWAN



Source: EPZ Administration, (1991), Taiwan

3.9.1 Organization and powers of the Kaohsiung Export Processing Zone (KEPZ) administration, Taiwan

The Ministry of Economic Affairs is responsible for the FTZ's functions, and in turn delegates administration and supervision to various FTZ branch offices¹⁴. The KEPZ administration consists of four divisions, in charge of investment, foreign trade, industrial/commercial management, and labour affairs respectively. Moreover, the office for personnel, secretariat and accounting deal with relevant matters in the zone. The health & cleansing station and supplies & services station provide services such as health maintenance, sanitation, medical treatment, catering and creating as well as the management of what they call the 'girls dormitory'. The environmental protection station, fire brigade, and Sanitation Squad were established in order to prevent industrial environmental disruption and pollution, and to provide environmental protection, fire fighting, and environmental sanitation. The availability of these services is considered extremely significant to protect the lives of employees and the property of enterprises in the EPZ; a Fire Brigade was established to be responsible for fire-fighting, and to give assistance in other emergencies. For instance, a fire in any factory or store in the free zone might lead to its complete destruction if the firemen's arrival was delayed. The reason for that is because most factories there operate by electricity or oil and they are located close beside each other. The Warehousing & Transportation Station and police detachment also provide important services.

The authorities of KEPZ established the following supporting agencies in order to offer the different services: the KEPZ Branch Office of National Tax Administration of Kaohsiung; the KEPZ Branch Office of Bank of Taiwan; the KEPZ

Sub-Station of Kaohsiung Customs; the KEPZ Branch Office of the International Commercial Bank of China; the KEPZ Station of the Kaohsiung Citizen's Employment Guidance Center; the KEPZ Branch Post Office. These different service stations and all supporting services are directed by the KEPZ authority or administration¹⁵. All firms operating in the Zone are easily accessible to the bank. These conditions allow for much more simplified procedures for financing than would be possible elsewhere. Post offices in the Zone handle all mail and parcel delivery, remittances, and savings deposit & withdrawal services for the employees of the Zone (see Figure 3.4).

3.9.2 Organization and powers in the Republic of South Korea and elsewhere

The Industrial State Administration in the Republic of South Korea carries overall responsibility for various government industrial estate operations. The Masan and Iri Free Trade Zone administration offices are responsible for managing their respective zones. The director of the administration office of each FTZ has complete responsibility to direct and coordinate the functions of each division under his control. This responsibility includes oversight of the other governmental agencies operated in his zone, such as post and custom office, entry and exit office, quarantine office, etc¹⁶.

In the apparently successful FTZ organizations, the span of control at the top is quite short. This is what happens in Masan, Batans and Shannon FTZs. For instance, in Batan there are only two people reporting to the general manager. At Shannon and Masan only three deputies report to the chief executive¹⁷. High quality

performance in the management of the FTZ is seen to be required, whether managerial or technical. As zone authorities may be unable to recruit suitably qualified personnel, they import consultants from overseas for limited periods of time in order to benefit from their experience. This is what happened in the Taiwan export processing zone. They employed technicians and management personnel from abroad totalling 3,704 people. Over the years these foreign technicians and management personnel have made definite contributions to upgrading the country's technology and enhancing local standards of industries as well as production technology¹⁸.

The authority administering a zone needs to be responsible to government, in order to avoid the financial problems which may well face an FTZ. The administration office has to be empowered to grant various permissions and approvals necessary to induce foreign investment and technology, to construct plants, and to conduct export and import activities and other related business activities.

Administrative procedures, particularly customs procedures, should be uncomplicated, because the trader needs his goods as soon as possible, otherwise the sale might be lost. Therefore, it may be that the short span of control is necessary to avoid the complex procedures.

Co-operation between the basis of a FTZ and other sections who are responsible for development of the zone is important. It is important for the co-ordination committee of the different interested sections to meet every month or quarter. Where necessary, sub-committees are appointed to deal with particular subjects, such as co-ordination activities and solving problems.

3.10 A comparison of 4 Free Trade Zones in operation

3.10.1 Taiwan.

There are three Export Processing Zones (EPZs) in Taiwan:

1. Kaohsiung Export Free Processing Zone (KEPZ).
2. Nantze Export Processing Zone (NEPZ).
3. Tachung Export Processing Zone (TEPZ).

On 30 January 1965 the Ministry of Economic Affairs decided to establish the KEPZ. The preparatory office of KEPZ started planning and developing the Zone in March 1965. It was ready in 1966. This was the first EPZ in Taiwan. The Ministry of Economic Affairs decided to establish a new EPZ, called NEPZ, to promote benefit from the FTZ project to speed up economic development. In 1968 the investment capacity of KEPZ had reached saturation point, and its immediate goals had been realized. In August 1969 the government of Taiwan decided to develop the Nantze industrial park into the TEPZ to achieve geographically balanced industrial development in Taiwan, and to reduce the outward migration of the population from central Taiwan. By the end of 1991, the total aggregate income of the EPZs customs amounted to US\$ 115 million.

Legislation relating to Export Processing Zones

There are no customs duties on the import of raw materials, parts and machinery nor on export of finished products from the zone, and no sales or commodity tax. A five year tax holiday or accelerated depreciation on fixed assets are available together with loans towards the purchase of factory buildings or raw

materials, granted against letters of credit. The reason behind these financing facilities is to help the enterprises upgrade their plants and enhance their product competitiveness, the banks offering convenient financing and incentive loan interest rates on the purchase of automated production machinery & equipment. All production must be intended for export except where special permission has been obtained to sell in Taiwan.

Costs and availability of infrastructure

A sufficient supply of electricity is one of the benefits and conveniences enjoyed in Taiwan's FTZs. The Taiwan Power Company has constructed three power stations respectively in the Houchine (NEPZE), Central Islet (KEPZ) and Tantzze (TEPZ). The Taiwan Provincial Water Company provides water to the KEPZ and NEPZ, while the water supply of the TEPZ is from the digging of deep wells. The total area of the three zones was 192 hectares in 1991, and they have attracted an average investment of US\$ 4.53 million per hectare; and the average of the employment capacity for each hectare is 345 persons. By the end of 1991 the total tax revenue of the EPZs in Taiwan amounted to US\$ 491 million. The procedures for customs release are simple. Therefore the normal case of inspection takes a maximum 24 hours to complete all the formalities.

But concerning Public services in Taiwan include the following units: Transportation Service Centre, Health & Sanitation Station, Warehousing, Supplies & Services Station, police squadron (detachments), fire bridge, sanitation squad, Employee Service Centre. These were established to offer services in relation to warehouse & cargo delivery, first aid medical treatment, dormitory, security,

sanitation and health, recreational activities, organization of clubs to the EPZ employees.

The four goals of the EPZs

1. Attracting Industrial Investment

The total number of enterprises established in Taiwan's FTZs as shown by Table 3.1 was 238 in 1991, with investment value amounted to US\$ 868.80 million for three zones.

Foreign investment represents about 71.1 per cent of the total investment value and the domestic investment represents about 27.8 per cent, leaving the overseas Chinese investment at about 1.2 per cent. The average investment amount of each enterprise is about US\$ 3.65 million, that is more than 17 times the original average investment amount of each enterprise. Clearly the zones have more than met their goal of attracting investment.

Table 3.1 Industrial investment in Taiwan's FTZs in 1991.

Name of the Zone	Value of investment \$ million	Number of enterprises
NEPZ	496.09	45
KEPZ	216.78	103
TEPZ	155.93	90
Total	868.80	238
Average investment per enterprise.	3.650	-
Source: Export Processing Zone, (1991) <u>Export Processing Zone on its 25 th Anniversary</u> , Taiwan, p. 38.		

2. Foreign Trade in 1991

Table 3.2 shows that the value of exports is greater than the value of imports, meaning that there is no deficit in the trade balance of the FTZs. This is an indicator which shows the success of the FTZs in term of investment return. However this is not the only indicator to prove that the host country is gaining benefit from a FTZ, because there are other factors which should also be taken into account such as whether these exports were locally manufactured or re-exported, as in the case of the

Table 3.2 Total export and import values for the Taiwan's FTZs for the period 1966 - 1991.

Total gross of	Amount US\$ billion
Exports	35.34
Imports	17.91
Resulting in favorable trade balance	17.43
Source: Export Processing Zone, (1991) <u>Export Processing Zone on its 25 th anniversary</u> , Taiwan, p.42.	

JAFZ, and what percentage of raw materials from the local market are used in these exports, or whether most of them were imported from outside as well as in the case of JAFZ.

In terms of export products in 1991, electronics exports from Taiwan's FTZs represented about 67 per cent of the total exports, a full two thirds. Clothing at 8 per cent trailed far behind in second place and optical products with 3 per cent, was in third place. These figures show Taiwan's FTZs interest in attracting investments in the electronics sector. This may be because the Taiwan government has attempted to encourage technological and technically advanced industries such as computers, radio,

semiconductor, television and so on, in the hope of importing technology through foreign firms and by its local workers operating in the zone.¹⁹

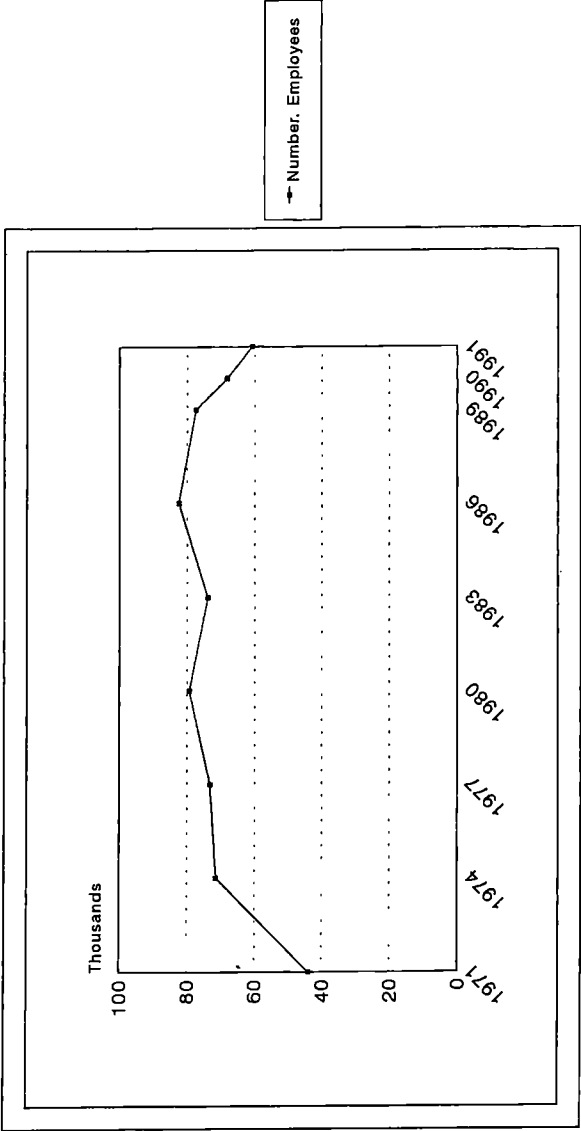
3. Creating Job Opportunities

Figure 3.5 shows that employment in FTZs in Taiwan rose up to 1986, when it reached 82,437. which was an increase of 85.6 per cent since 1971. Due to the economic recession, and business inactivity, as well as a country-wide industrial labour shortage, employment fell drastically to 68,200 in 1990 workers and then to 66,500 in September 1991. In terms of the number of workers employed, electronics enterprises had the largest share of employed workers in the EPZs, accounting for 64 per cent, followed by clothing with 11 per cent.²⁰

4. Introducing Modern Technology

As at September 1991, the technological cooperation programs in Taiwan's EPZs involved 103 cases. The number of technicians and management personnel from abroad was 743, and the number with accumulated employment experience of foreign technicians and management personnel was 3,704 persons. Over the years these foreign technicians and management personnel have made outstanding contributions to upgrading the country's technology and enhancing the local standards of industries as well as production technology. These foreign investments covered about 7.3 per cent of the total employees in the three EPZs in Taiwan.²¹

Number of employees in Taiwan's FTZs
Figure 3.5



Source: Export Processing Zone Administration, (1991) Ministry of Economic Affairs, Taipei.

3.10.2 New Orleans FTZ, Louisiana (USA)

Little reference has been made to FTZs in developed countries. For the most part they are quite different from these in developing economies, especially in terms of the size and roles.

The New Orleans FTZ is included not because it is possible to claim that it is typical of an FTZ in a developed state, but because it was one of the very few to make a positive response to the researchers written application for up-to-date information has been mentioned because it responded, providing the researcher with up-to-date information.

New Orleans FTZ lies on the Gulf of Mexico. It was established in 1946. It offers 351,700 square feet of paved and unpaved open space and 335,000 square feet of covered warehouse area available on a monthly or annual basis. Warehousing and fumigation services are available. The location of this Zone is in the centre of the Almonaster-Michoud Industrial District in the eastern portion of the city of New Orleans. The city, with New Orleans FTZ authority approval, entered into an agreement for the construction of warehouses on this site. The Almonaster-Michoud Industrial District and adjacent areas were ultimately intended to provide some 12,000 acres of industrial properties along the Mississippi River Gulf Outlet. The area is served by rail and has interstate highway access. The area is also served by port facilities.

The zone's business and user activities have been relatively stable since 1989. The zone continues to attract foreign and domestic firms interested in warehousing, processing and manufacturing benefits under the zone concept. Merchandise valued at \$83,755,114 weighing 79,302 metric tones, passed through the zone in 1989.

Zone operations play a role in developing the area for business by permitting the processing and handling of foreign goods prior to their entry into the U.S market. These activities provide much-needed jobs that contribute to the economy of the city and state. Zone operations and security are administered by ten people. There were 127 direct full-time employees within the zone in 1991²². Using an economic multiplier of 2.5, the zone would be responsible for 318 jobs in the area. The number of business firms in the zone during 1991 was 58. There are fewer firms in New Orleans, Louisiana FTZ than in KEPZ and NEPZ in Taiwan. This may be broadly connected with the availability of cheap workers and the low cost of production in Taiwan, and a different, more narrow political role for zones in developed countries.

Movement of merchandise

Table 3.3 shows that there is little co-operation between the zone and other U.S FTZs in terms of export and import. The value of imports from U.S. customs territory is high in comparison with that from foreign countries, representing about

Table 3.3 Movement of foreign and domestic merchandise in the New Orleans FTZ in 1991, US\$.

	Received value	Forward value
U.S customs territory	35 535 696	33 348 884
Foreign countries	12 728 161	2 142 100
U.S. FTZs	0	0
Total	48 263 857	35 490 984
Source. Annual Report Foreign-Trade Zone No. 2, New Orleans, Louisiana, in 1990-1991.		

73.6 per cent of total. This implies that the zone might play a major role in the activation of local markets. On the other hand, in general the proportional value of imports is greater than the value of exports, the difference approaching US\$ 12.8 million.

Further, the value of its exports outside the U.S. is low in comparison with imports, about \$2,142,100, in view of the wealth of the US market. Customs collection of duties on merchandise entered from the zone during 1991 was approximately \$895,500.

3.11 Conclusion

All points mentioned in this chapter are significant and necessary for FTZs. The most important factors contributing to financial success are that they should be well located, well equipped, and well administered. The location of facilities should be such that they can easily serve markets to support a zone-based operation. Transport facilities which link the zone, whether locally or internationally with the market and suppliers, are a significant aspect of location.

Facilities inside the Free Trade Zone should be at least adequate, and preferably at a high level, for the needs of zone users, and should be at least up to the quality of facilities outside the FTZ.

The FTZ should be administered efficiently, with the removal of complicated rules. This means that administrative restrictions and controls should be kept to a minimum, in order to speed procedures for the processing of documents. In addition to the general characteristics of FTZs, this chapter has also looked at the detail of seven specific FTZs. A comparison has been made between two FTZs on some

points, to explain the role of FTZs in the economic development of these countries, and in order to show the difference between FTZs in developed and developing countries. According to these two examples it seems FTZs in developing countries are more active in comparison with developed countries. For instance the total value of exports from KEPZ in Taiwan to abroad was estimated at around one billion dollars in 1991, but in New Orleans in the same year it was about US\$ 35.5 million including sales to the local market. Concerning creating jobs we found that the average number of employees throughout each EPZ in Taiwan in 1991 was around 22,200 employees, but the total workers in the same year in New Orleans FTZ was about 127 employees. This extreme comparison, however, can give nothing like a full picture of the differences between developing and developed countries, and in view of the results from these two countries it is difficult to generalize on all FTZs.

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Chapter Four

The Type of Activities in JAFZ

4.1 Introduction

The next four chapters concentrate on the analysis of the field survey which the researcher made in the Jebel Ali Free Zone (JAFZ) in the emirate of Dubai, together with a comparative visit to South East Asia.

This chapter discusses the type of economic activity operating in JAFZ with reference to the industries involved - their national origin, activity and global operating base - paying especial attention to their reasons for being attracted to JAFZ. The chapter also presents information about the type of activities in the other, very small UAE Free Zones; Fujairah, Ajman and Um Al Quwain, the location of which are shown in (Figure 1.3).

The aim of this chapter is to indicate the relative significance of those activities operating in the Free Zone, and the main implications of this distribution.

4.2 Types of activity in UAE Free Zones

The individual building in JAFZ may contain several 'activities', manufacture, trade, services, assembly, warehousing, and distribution (a possible total of six

'activities'). This is different from classification by commodity (say electronics, clothing or chemicals). Despite these variations; it is possible and useful to subdivide all these JAFZ activities into two sections, manufacturing and trading. In this context those responsible for JAFZ are doing their best to attract and concentrate on the 'advanced' industries; hence the name Jebel Ali Free Zone rather than Jebel Ali Free Trade Zone¹. Particularly they see the Free Zone established as the base of future industry in Dubai and the main source of national income after oil extraction, especially as Dubai production and reserves of oil are not very great. Moreover there are 23 000 workers engaged in JAFZ, nearly all foreigners and 10,000 of them resident in the free zone. (The other workers live elsewhere in Dubai and the UAE, because there is insufficient accommodation for all employees. As the number of workers is increasing, new accommodation is under construction.)

Table 4.1 demonstrates the economic activities in JAFZ. There are apparently 757 activities distributed among 441 establishments; the number of reported activities is more than the establishments, because most of the establishments in JAFZ list more than one type of activity in the official directory on which the table is based. There are 53.5 per cent of total establishments engaged in more than one activity, leaving the other 46.5 per cent engaged in one sort of activity. The reason for that may be that the firms operating in trade sectors like export, import and re-export do not need to engage in other activities such as manufacture, assembly, warehousing and services, particularly as some of them came to JAFZ for the purpose of marketing and distribution; they may only have an office in JAFZ, and be solely trading concerns. Second in importance among all the

Table.4.1 Types of activity in JAFZ. (including multiple types in individual establishments).

Type of activities	441 total establishment in JAFZ (1)		83 responding establishments (2)		Total, percent	
	With single activity	Total activities	With single activity	Total activities	757	162
Manufacture	69	169	29	43	22.3%	26.5%
Assembly	1	45	-	7	5.9%	4.3%
Warehouse	5	122	-	27	16.1%	16.7%
Distribution	7	113	3	32	14.9%	19.8%
Trading	77	240	5	43	31.7%	26.5%
Service	46	68	6	10	9.0%	6.2%
Total	205	757	43	162	100%	100%

Source: 1. Official Hand Book, February (1993) Who is in the Jebel Ali Free Zone.
 2. Field work; see section 4.3.3

activities is manufacturing. In addition its contribution to the total of activities is quite high, with a proportion of about 33.6 per cent. This may be due to the specialization of the manufacturing establishments, even though the goods produced have to be traded. Also the proportion of service firms in single activities is high in comparison with other activities except trade and manufacture; its contribution represents about 22.4 per cent of the total of 205 single activity firms, the reason being that most services activities are not handling commodities, but deal with transactions such as banking, insurance, transport, finishing treatments, maintenance and so on, remote from handling commodities. Finally all of these activities are inter-related and there are different complex mixtures of activities. The table partly depends on the way the source was

constructed, with some firms only arbitrarily mentioning one activity and vice versa.

There are six defined type of activities in JAFZ, every one of them represented by different proportions of firms dealing with it. Trade and distribution together represent 46.6 per cent of total activities in JAFZ, as defined by Table 4.1. This number should not invite surprise in a Free Zone located in an emirate like Dubai, because Dubai was for a long time and still is a major centre for trade and distribution and the Free Zone in Jebel Ali is no more than a continuation of this activity, linked to Dubai City's specialized retail areas. The second most important activity is manufacture including assembly, which together represent about 28.3 per cent. These activities are significant, because they are the possible gate for eventually importing advanced technology; technical activity may be limited to assembly, for the reason that the developed countries are not ready to venture exporting their manufactures to the developing countries in the first stage of working. The manufacturing sector excluding assembly in the Free Zone represents around 31.0 per cent of the total manufacturing sector in the emirate of Dubai including JAFZ². In view of the many worldwide companies operating in JAFZ belonging to the developed countries of Japan, the USA and Europe, the authority should concentrate on this type of activity. The third activity in JAFZ is warehousing, representing about 16.0 per cent, this proportion indicating particularly the firms involved in export, import, re-export and distribution activities, All these firms require good warehouses because they want covered space to protect their goods after importing and before re-exporting and distributing them. Distribution, if taken separately, accounts for 14.9 per cent of activities. Finally are services such as banks, transport, and

insurance in addition to important oil related and other activities representing about 9.0 per cent of the total 757 activities. Most of these belong to Emirates companies.

From this explanation we can conclude that the activities in JAFZ can be grouped in three sections; trading, manufacture and services. The first includes export, import, re-export, distribution and warehousing, together contributing around 62.8 per cent of the total 757 activities in the Free Zone. The second activity comprises manufacture and assembly, and represents about 28.3 per cent of total 757 activities. The third activity is services including banking, insurance, and transport, and represents about 9.0 per cent of total activities in JAFZ.

Activity in the other UAE Free Zones is very modest: only 36 firms were operating in the other UAE Free Zones by the end of 1993.

Table 4.2 shows total activity in the other UAE Free Zones. Activities in these other UAE free zones are much the same as in JAFZ, due to their common origin: the economic activities of each concentrate on the trade and manufacturing sectors.

Table 4.2 Types of activity in UAE Free Zones other than JAFZ.

Type of activities	Fujairah	Ajman	Um Al Quwain
Manufacturing	7	5	4
Trade	9	5	6
Service	-	-	-
Total	16	10	10
Source. Field work			

There is, however, a major difference in the number of firms between these three Free Zones and the JAFZ. These three Free Zones with their 36 establishments represent only 6.2 per cent of the total firms in JAFZ (December 1993). This difference in the number of firms operating indicates that these three Free Zones cannot compete with JAFZ. These other Zones were all established in 1987, whereas JAFZ was established in 1985. We shall see that the standard of infrastructure in JAFZ is considered very advanced and acceptable from the point of view of foreign firm. The other UAE Free Zones do not have the financial ability to offer the same as JAFZ has been able to offer. Moreover the Government of Dubai spends millions of dollars annually to promote Dubai, attracting foreign investment. Accordingly, Dubai has trade offices in developed countries and is considered to be a country with much experience in the trade sector, not totally unlike Italy, Hong Kong, Singapore etc.. Dubai's trade reputation is considered one of the main factors behind attracting foreign investment, supported by the Government of Dubai offering different types of places of entertainment to visiting businessmen.

Types of economic activities in the other UAE Free Zones (excluding JAFZ), are confined to manufacturing (44 per cent) and trade (56 per cent). No firms are involved in the service sector. This may be because the small number of firms does not support dedicated services firms, particularly as the firms involved in trade sector have offices in each Free Zone only for distributing their commodities whether in the local market or for re-export.

Manufacturing firms in the UAE Free Zones excluding JAFZ represent only 18.2 per cent (16/88) of the total firms of the same sector in JAFZ. The trade sector is only

ten per cent of its JAFZ counterpart. (This excludes Mixed' activities in JAFZ). This means the percentage will be smaller in the case of mixed activities which include more than one activity.

4.3 Industrial classification of activity in JAFZ

There are many type of products in JAFZ, some of them made in the Free Zone through the factories operating there, others assembled there and the third group of products being imported ready made for distribution whether locally or externally. This part of the chapter explores these types of products and their distribution between the various economic sectors in the Free Zone, applying the International Standard Industrial Classification.

4.3.1 The industrial structure of JAFZ as a whole

Table 4.3 shows ten groups of commodities distributed between the six economic sectors, by the number of establishments or firms involved in individual commodities. Later in the thesis we can measure the relative importance of different sectors in JAFZ in terms of total employment and volumes of trade. At this stage, it is of value simply to address the number of establishment in Table 4.3

4.3.1.1 Chemicals, petroleum and rubber

They may be considered as the biggest industry in the JAFZ from the viewpoint of the number of firms involved, as 68 of the total 441 firms were engaged in this

activity, 15.4 per cent of total firms operating in JAFZ. The large number of firms dealing with this sector may be due to the following reasons.

1. The recent development of JAFZ has meant the need to attract as large as possible a number of firms to operate in the free zone, without discriminating over or taking into account seriously the type of economic activity; particularly as the development of the Free Zone project cost in excess of three billions dollars, they needed a large number of

Table 4.3 The relation of industrial classification to the activities in JAFZ.
(including multiple activities in individual establishments)

Type of commodity	Firm No	Manufacture	Assembly	Warehouse	Trade & Distribution	Service
Chemicals, petroleum, rubber	68	30	9	24	42	7
Equipment & machinery	58	16	7	24	55	14
Metal related	34	14	-	5	21	9
Electronic & electrical	39	10	5	15	43	3
Food, beverages & tobacco	52	21	15	11	48	1
Clothing, textiles & leather	29	28	-	2	17	-
Building materials	14	10	-	5	11	-
Stationery & paper	14	10	-	2	8	-
Services	30	-	-	2	3	25
Others	103	30	9	32	105	9
Total	441	169	45	122	353	68

Source: Official hand book, February (1993) Who is in the Jebel Ali Free Zone.

firms to cover this expenditure. But that does not mean the authority of JAFZ allowed all type of chemical activity; the authority operates a system of prior approval of a process, and no operations may begin until the completed plant has been inspected and the Authority is satisfied that it meets its requirements and is fit for use. The control of process work covers adequate maintenance, appropriate instrumentation, the choice of materials of construction, the keeping of important spares, training and supervision of operators and measurement of discharges where necessary. Roadways and working areas in normal are required to be hard surfaced and kept clean to avoid dissemination of dust.

In order to assist owners with design details, the Authority has prepared notes, updated from time to time, which set out the minimum requirements and standards which works must meet. Where quantitative emission limits would be impracticable, the requirements of 'best practicable means' involve qualitative assessments, or operational procedures, working practices or design principles. In the event most of the chemicals firms in JAFZ deal with chemical products which are not very dangerous, such as materials used in perfume, paint, plastic and polyester powder coating industries, in addition to some other chemical products.

2. The second reason for the large number of firms operating in this sector is due to the number which are directly connected to UAE petroleum activity. As the UAE is an oil state with a large involvement of international oil firms, this is hardly surprising. These firms bulk large in total volumes of trade, as in our sample.

3. Some of these firms existed in the area of the JAFZ before establishment of the Free Zone, such as McDermott International, Inc, a subsidiary which started in JAFZ

in 1985 (total area about 730,000 sq.m), Cleveland Bridge & Engineering, whose plant, started in JAFZ in 1984 (total area is 67, 000 sq.m), Caltex Al Khaleej, started in JAFZ in 1981 (total area is 62,594 sq.m.). The reason that they fell within the boundary of the free zone was due to their need for a large modern port location, especially as they are dealing throughout with heavy and bulky material such as imported or recycled oil for distribution in the UAE or Middle East countries. Moreover, for some of them their type of work requires them to be near the coast, such as the firms working in and serving the oilfield in the adjoining sea. Also some of the chemicals firms prefer to be beside the coast and port in order to facilitate the transport of chemicals products to the factory and to avoid leakage, particularly of liquid chemicals. This means that the Free Zone was not the main reason for attracting or establishing all these firms which operate within this type of industry in JAFZ.

There are many problems which have been created through these existing types of industries. Because of the safety problems in disposing of solid and liquid waste, there are no facilities for solid waste disposal in the JAFZ area. Therefore this residual has been taken with care to the disposal sites located in the Jebel Ali area outside of the Free Zone. These places, chosen by Dubai Aluminum Company (DUBAL), pre-date the JAFZ foundation. There are two disposal sites under the supervision of Dubai Municipality, one for domestic and non-hazardous types of industrial waste and the other for hazardous wastes. When submitting an application for establishing a works in the Free Zone, an application has to give details about the quantities and qualities of residuals for disposal, so that they can be considered on their merits to establish whether they are disposable

on the Municipality's general dump, or whether they must be considered hazardous. In the latter case there are several options available, that is, disposal on the Municipality's hazardous materials dump, prior treatment by the company before disposal, incineration by the company, or the safe (but controversial) export of the waste for disposal in some other country where facilities are available. These waste sites may in the near future have a negative effect on the subterranean water and sea water as well as they are not too far from the sea and the rocks of that area in addition are porous, which means these rocks may allow the liquid residual to pass through to the sea. But, regarding air pollution, the JAFZ stipulated that the firms use the English stender filter, which refines the pollution resulting from air emissions.

The 68 firms operating in this industry were involved in all activities in this sector and represented about 45.5 per cent of total chemicals manufacture in the emirate of Dubai in 1992³. Therefore the Free Zone played some role for half the existing firms in the emirate of Dubai, but taking in to consideration that a few of these firms already existed in Jebel Ali before establishing the Free Zone, therefore they became part of the Free Zone automatically. The number of chemicals manufacturing firms which operate in JAFZ is the largest number of any commodity, as it represents about 17.8 per cent of the total engaged in manufacture in JAFZ. Therefore the Authority should be more serious about finding good sewerage treatment for the disposal of chemical liquids residual instead of what is available outside of the Free Zone, and it should also be very serious about the chemical products which they are using.

4.3.1.2 Equipment and machinery

We should consider equipment, tools and machinery, as the total firms engaged in this activity represent about 13.2 per cent of the total firms in JAFZ, and this means this activity is second only to chemicals from the viewpoint of the number of firms operating within it. This activity includes spare parts, air conditioners and all sorts of equipment such as oil field, medical, satellite receiving and agricultural equipment. This activity is very significant, because the factories which produce these goods are considered advanced in their use of technology. Therefore to attract these types of activities is a suitable way of importing advanced technology to the Free Zone. Moreover this type of commodity is required on a wide basis whether internally or externally. Therefore the Free Zone is potentially able to establish a wider industrial base for Dubai emirate and the UAE through these types of activity.

In fact, however, the manufacture and assembly proportion of this second sector of significance is very low in comparison with its trade and warehouses proportions. For instance the percentage of manufacture and assembly taken together is less than warehousing or trade taken individually. Establishing factories in the Free Zone producing this type of commodity takes time, and requires massive investment. Developed countries' companies dealing with this activity in JAFZ are not eager to bring their factories for basic production to JAFZ, because they first need to test how realistic it is to site a factory in JAFZ. However, the Free Zone has only been established for eight and a half years, and the manufacture of these products in the zone represents about 18.6 per cent of total manufacturing establishments in Dubai as a whole; i.e. the number

of manufacturing firms operating in the emirate of Dubai outside of Free Zone in this sector was reported as 86⁴. But their number in the UAE including Dubai in 1992 was about 170 manufacturing firms⁵. This percentage in comparison with other manufactures is considered too low, and the JAFZ Authority should pay more attention to equipment, machine and tools production, in order to increase the percentage of manufacture and assembly.

4.3.1.3 Food, beverages and tobacco

There are 52 firms in JAFZ involved in this activity; this proportion represents about 11.8 per cent of total firms operating in JAFZ. As shown in Table 4.3, the manufacturing sector represents about 22 per cent of the total establishments dealing with the food commodities, but this percentage rises to 37.5 per cent if the "assembly" sector is added. There are 51 manufacturing firms operating in the emirate of Dubai outside the Free Zone ⁶, meaning that the JAFZ manufacturing sector involved in this activity represents only 29.2 per cent of total food manufacture firms in the emirate of Dubai as a whole. This percentage of firms operating in this activity may be due to the following points:

1. As these are basic goods for high income population, there is a large demand for this sort of commodity, either locally or externally, particularly in the Gulf States.
2. The industry does not need large financial investment.
3. It does not need advanced technology as do electronic or equipment commodities.

4. Imported raw materials are available in the domestic market; therefore food firms are able, through buying local raw materials, to increase the percentage of local value added to 40 per cent. As food and related materials are exempt from customs on leaving JAFZ for UAE and GCC sales, this allowed them to sell their material in the local market and GCC states according to the GCC economic legislation without the imposition of any tax.

These type of manufactures have both a positive and a negative effect on the local market. Foreign manufacturing firms are able to export their production to the local market which may compete with the local manufactures in respect of similar commodities, bearing in mind that the Emirates market is not big. On the other hand it has also a positive effect because these manufacturing firms in the Free Zone can buy their raw materials from the local market, and this acts to stimulate the local market.

4.3.1.4 Electronic and electrical commodities

There are 39 firms operating in this sector, this figure representing about 8.8 per cent of total firms working in JAFZ. Many of these electronic and electrical firms are widely spread across the column headings of Table 4.3 and they represent around 10 per cent of the total 757 "activities". The largest proportion of these activities is trade, representing about 31.7 per cent of all activities, followed in turn by distribution and warehousing. Manufacturing activity is only fourth in importance; including "assembly" it is just under 20 per cent, a percentage less than either trade or distribution taken alone. The reason for this low percentage of manufacture and assembly within electronic and

electrical industries may be due to the following points:

1. This type of activity needs an advanced technology, which means it is monopolized by a few developed countries, and therefore the developing country is not able to establish or to deal with the type of manufacturing activity.

2. This type of activity needs a large size of investment to establish manufacture; therefore the developed countries such as Japan, USA, and some European countries are not ready to establish factories in a developing country and need some time to be persuaded that this place is suitable for establishing their manufacture.

3. There is no big market in the UAE or Gulf States; therefore these firms prefer to import their products made in their own country and exploit JAFZ for distribution, hence the trade, distribution and warehouse sectors are greater than manufacture and assembly sectors.

In the most advanced free zones the electronic firms represent at least about 30 per cent of all firms established in the zones. Most of them are involved in assembly work, principally of electronic components in addition to consumer goods such as television, radio, tape records, computers and video equipment for other countries on a world market, not a local, basis

There are some free trade zones which specialize in this type of activity in some countries such as Taiwan, Hong Kong, Malaysia, Singapore and Mexico. For instance in inward investment in Malaysia in 1984 31 of a total of 71 firms established were operating in the electronics industry, this figure representing about 44 per cent of the total in all industries⁷. Also Taiwan's EPZ in 1991 exported electronic products made

in its free zone amounting to about 74 per cent of the total of all products⁸. Moreover in 1975 the Massan Free Zone in South Korea exported electronic products representing about 55 per cent of the total of all products⁹.

Therefore we could conclude that the JAFZ authority should encourage the electronics and electrical firms to deal with manufacture bearing in mind JAFZ's infrastructure, financial facilities, availability of skilled and cheap manpower, in addition to other facilities. There have been plans for establishing an electronics factory, and the Authority of JAFZ is doing its best to persuade Japanese firms to engage in assembly or manufacturing activity, particularly as the cost of production in Dubai is cheaper than in South East and East Asia¹⁰. For example the average hourly wage of manufacturing firms in the JAFZ excluding fringe benefits is about US\$ 1.60 (see chapter 7). In Hong Kong wage rates in the manufacturing sector continued to increase during 1991, while unemployment and underemployment remained at a low level due to continued expansion of the service sector of the economy. After allowing for rises in consumer prices, the wage rates for all employees decreased in real terms by 1.2 per cent between September 1990 and September 1991. The overall average hourly wage including fringe benefits was in September 1991 already US\$ 1.70.

The average cost of construction rates per sq m for warehouses in Dubai in 1988 was cheaper than many FTZs located in the south east and east of Asia, at about US\$ 118. But the rates in the same year in Hong Kong and Singapore were about US\$ 256 and 200 respectively¹¹.

These two examples indicate that the average wage in JAFZ may be considered

higher than most of the FTZs in Asia. But the cost of building, construction and rent JAFZ and Dubai is cheaper than some of FTZs located in the south east and east of Asia.

The emirate of Dubai could get many advantages through establishing firms with electronics and electrical factories in JAFZ. These include:

1. The importation of advanced technology.
2. The foundation of a permanent industrial base.
3. The possibility of offering labour opportunity for national employees, because these factories may introduce advanced technology requiring skilled technicians, for instance trained at a technical college in the Emirates. Such training can avoid having a large number of foreign workers, who may have a negative effect on the local community of UAE, and also avoid the accommodation difficulties which may sometimes be created as a result of the large number of workers.¹²
4. A possibility of attracting larger size investments.
5. This type of industrial activity may need some other factories to supply them some simple industrial products, as happened in South East of Asia, particularly in Taiwan¹³. These depend for about 40 to 50 per cent of finished production on the other local firms supplying them with components such as screens, switches and external covers. Therefore this linkage might locally attract these ancillary factories either inside the free zone or outside it in the other parts of UAE.

4.3.1.5 Clothing, textiles and leather

They are considered the newest significant activity in JAFZ. The 28 firms of the

total 29 in this sector of activity are involved in manufacturing. The manufacturing sector of this activity in the Free Zone represents about 77.7 per cent of the total textile manufacturing firms operating in the Emirate of Dubai. This is the largest proportion evident in Table 4.3, and it represents therefore the second largest manufacturing sector in JAFZ after chemicals. The JAFZ thus played a major role in locating this type of industry in Dubai Emirate. Most of these manufactures belong to India and Pakistani firms, in addition to a few which are UAE -owned. The reasons for firms concentrating on this sort of industry in JAFZ are due to the availability of cheap exclusively foreign workers, because clothing and textiles need large number of workers; therefore most of these factories have no less than 200 workers. The second reason is the utilization of Dubai's quota of imports to the United States of America.

As a general rule in most free zones, clothing and textiles are widespread; for instance in Sri Lanka's free zone the clothing and textile firms represented about 53.1 per cent of total firms operating in the free zone in 1983¹⁴. In Taiwan they represented about 16.7¹⁵ per cent in the same year, but the percentage is considered low. In Hong Kong in 1991 the firms engaged in textile and clothing represented about 15.9 per cent of all establishments¹⁶. In Singapore's free zone, in contrast with the previous free zones, textiles comprise seven per cent¹⁷ of total firms operating in the free zone in 1983.

This type of activity may not however recommend itself for development in JAFZ for the following reasons:

1. It requires a great number of unskilled and semiskilled workers. As they are

normally temporary migrants, the Authority must offer them large accommodation buildings which incur high infrastructure costs for the government, when most firms prefer to avoid using accommodation outside the Free Zone because of the high cost and distance from the Zone; most of them are female workers who may be subject to low pay and long term exploitation. But in general they have the option to stay in the Free Zone or outside it without any conditions (this alternative is always decided by the company not the worker). But they are not allowed to work outside the Free Zone as mentioned in the regulation number 006/86 issued by the Free Zone Authority 14.10.1986.

2. The need for land and infrastructure are a consideration, when short and long run revenue may be greater from other sectors.

3. This type of industry does not import much advanced technology, because it depends on unskilled and semiskilled workers more than machinery. This means a limited intake of advanced technology, particularly as most of the industry belongs to developing countries such as India and Pakistan.

4. Given that 100 per cent of workers working in this type of activity are foreigners, and given that it is difficult for them to become UAE workers for several reasons, whether in the short or long run, it might be better to stop this activity for the future. Most workers engaged in this type of activity are female. UAE traditions forbid women to leave their house and spend eight hours work in a place as faraway from the city as 35 km (the Free Zone). On the other hand, wages in the Free Zone do not encourage workers to flock there. Government sector pay is more than four or five times higher, with shorter working hours.

4.3.1.6 Metal related industries

This activity includes steel products, structural steel and ship repairs, aluminum and household utensils. All these activities are related to steel. For instance ship repairing in the port works through using steel, as in replacing spare parts or repairing some of it, and in cutting and welding work on steel vessels. On the other hand the oil field requires the same things; particularly in the case of drilling fields or replacing some of drilling tools, spare parts or repairing some other equipment. The firms which handle these commodities represent about 7.7 per cent of total firms working in JAFZ, this percentage being distributed across five sectors, trade being considered the largest sector and manufacture the second, with about one third of the sector.

4.3.1.7 Service provision

Seventh in importance are the very diverse establishments classified under services. This activity includes the establishments which serve the firms operating in JAFZ, such as banks, insurance, restaurants, car hire, taxis, and freight companies. The firms which are involved in this activity represent about 6.8 per cent of total firms operating in JAFZ, and represent a significant multiplier of activity based on the presence of the other commodity-handling activities. Moreover, most of these establishments belong to UAE nationals. Availability of these firms in the Free Zone is very important both to the firms and to JAFZ, because these services are very necessary for the other firms operating there. But in spite of availability of these types of service firms there are still shortages in these respects, because there are some other services required in JAFZ

such as clinics, a high class restaurant, internal transport and a small retail market, particularly as there are more than 10,000 workers resident inside the Free Zone. This shortage of services may be due to the newness of the Free Zone. By contrast, for example, in Taiwan EPZs a Health & Sanitation Station was set up in each Zone providing employees many varied types of health services. Furthermore, each Zone has ambulances on call around the clock and the EPZ's Authority offered in each of the EPZ workers' welfare shops.

4.3.1.8 Activities based on other commodities

Firstly, we may consider building materials. This includes all type of building materials such as concrete, wood related items, blocks, granite and marble. This type of activity is very important for the UAE, because construction activity is very active in UAE and other GCC states. There are 14 firms in JAFZ dealing with building materials. A large number of them have been importing granite and marble from abroad, shaping and polishing the pieces in the Free Zone. Other building materials are produced in the Free Zone by the factories set up there, such as blocks and cement. Most of these factories are UAE by nationality. There is a large number of factories engaged in this type of activity elsewhere in the UAE, which should remain dominated by UAE firms, so that foreign firms operating in this field in the Free Zone do not compete unduly with local products on the domestic market.

Secondly, we may consider stationery and paper. This activity includes all types of papers, pen and other products related to the stationery market, a significant aspect

of development partly serviced from advanced countries. The number of firms in JAFZ involved in these activities is 14, ten of them engaged with manufacture. The same activity exists in Dubai outside the Free Zone, where there are 35 more establishments.

Thirdly, other miscellaneous activities in the Free Zone, comprising commodities such as film products, toys, packing materials and other mixed commodities, have the largest number of establishments, 103 or 23.4 per cent of total firms in JAFZ. Because most of these establishments in JAFZ deal with more than one commodity, the percentage of trade, including distribution and warehousing is very great in this activity. Some are more specialised such as Japan's Konica Corporation, operating as Konica Corporation (Gulf). This firm came to the Free Zone for marketing and technical servicing for Konica products, such as photo films processing. Al Futtaim Trading Limited, on the other hand, one of the largest local companies in the Free zone and the UAE, is involved in several different types of activity and commodities, such as warehousing, trading, manufacturing, transport, port clearance, freight forwarding, packing and repacking, labelling, promotional packing allied services, import and export, advertising, travel and cargo and automotive liaison. A third company, in this case Swedish, Falcon Business Ltd, deals with foodstuffs, bonded goods, perfumes, building materials, cigarettes, electronic equipment, watches, insecticides and aerosol products.

4.3.1.9 Summary: commodity structure

The activity structure of JAFZ emphasizes chemicals and petroleum together with equipment and machinery, though the second two activities focus mainly on the trade,

rather than manufacture sector. But unlike some zones the Dubai Free Zone concentrates on, machinery, equipment and metal products in addition to non - metal mineral products¹⁸. In Asian countries the overall FTZ structures were as follows: Taiwan's EPZ was emphasizing in 1991 the electronic products and secondly metal products¹⁹; Hong Kong was concentrating on clothing firstly and fabricated metal products secondly²⁰.

JAFZ's emphasis on oil is due to the UAE being an oil-producer and oil-exporter, as well as the region's economic focus on oil. Many firms came to JAFZ from developed countries in order to concentrate on oil-related activities. Some of them, such as the McDermott company, deal with oil services. Others, such as Caltex Al khaleej and CMC Oil Field Services, with refining and oil products, and others again, such as Emirates Petroleum Products Co. are involved in distribution and storage.

Hong Kong's concentration on textiles and clothing industries may be due to the local availability of women workers. Hong Kong is located in a region with a large market, ensuring a big demand for these commodities. The position in the UAE is completely different. The local market is small, and therefore most textile and clothing products produced in JAFZ are exported abroad. A second way in which the UAE and Hong Kong situations differ may be due to the policy of non-expansion in this type of activity: the industry requires a large number of female workers, which the UAE is not able to offer, not least because this large number of female workers requires a large amount of accommodation and the extensive provision of services. There is also a perceived problem concerning morality, within or outside the zone, but especially if

foreign women workers are allowed to go outside the zone. Moreover, Dubai Emirate does not earn big financial rewards from textiles, because all the raw materials have to be imported from abroad; textiles pay the lowest wages in the Free Zone; and textile manufacture tends not to use advanced technology, depending on cheap human labour rather than expensive machines.

There are various reasons for the lack of firms involved in electronics and electrical. The most significant reason relates to air quality conditions. A Japanese company, in studying whether the UAE weather was suitable for establishing electronics factories in JAFZ, found the proportion of dust in the air to be too high at more than 14 per cent. The lack of local skilled workers is also important, along with the lack of factories to supply the Free Zone with semi-manufactured and manufactured components. Furthermore many Japanese electronics and electrical firms have factories in Singapore and Hong Kong which can easily supply JAFZ with ready-made electronic goods for distribution in the Middle East, therefore it has not been thought worth setting up factories in the JAFZ, especially after the Gulf Crisis. Furthermore JAFZ is still a relatively new zone, and foreign electronics and electrical firms are not yet ready to invest the large sums involved to establish factories after just four or five years of this zone's operation.

4.3.2 Industries in the other UAE Free Zones

Looking at the 14 industries within the other UAE Free Zones, textiles represent the majority with ten firms, with the other four involved in various other activities, as

Table 4.4 Manufacturing activity in UAE Free Zones in 1993.

Type of Commodities	Fujairah	Ajman	Um Al Quwain
Textile and Clothing	2	4	4
Chemicals	2	-	-
Paper	1	-	-
Foods	2	-	-
Cigarettes	-	1	-
Total	7	5	4
Source. Field work and official report.			

Table 4.4 shows. Textiles and clothing dominate in all three zones, with all establishments involved in manufacturing, the same as in JAFZ. All of these manufacturing firms are foreign: Indian and Pakistani accounting for 13 of the 14 firms. There are no domestic firms among them. This may be because there has been no encouragement for them to operate there, and no particular advantages either. None of these activities use advanced technology, being labour-intensive rather than depending on machines. These other UAE Free Zones are for less developed than JAFZ in a variety of other ways.

JAFZ has an administrative section responsible for bringing workers from abroad, in order to save firms in the Free Zone from having to wade through the complicated procedures for doing so elsewhere in the UAE, including Dubai. Many UAE firms decided to set up in JAFZ in order to benefit from this service and avoid the immigration problem. This facility is not available in other UAE Free Zones. Similarly JAFZ is

equipped with most services, such as banking, post, fire-fighting, restaurants, taxis, public transport, service firms, etc.. These facilities are not available in the other UAE Free Zones.

There appears to be neither coordination nor cooperation between the UAE Free Zones²¹, and each exists for the benefit of its Emirate only, without taking into account any federal advantages which may accrue. Therefore, it is not surprising that the types of industry in each is the same. This reveals that there is no strategy for distributing industries among the Free Zones, in order to avoid industrial duplication. This hardly serves the UAE well in comparison with the advantages to the country of diversification. The UAE is still in the early stages of industrial development and it needs to attract different industrial types, instead of concentrating on just a few types.

4.3.3 The structure of the survey respondents

We have now reached the limit of most of the information on JAFZ which was available from published sources. We may now introduce the main research tool of this thesis, a sample survey. This provided data on 83 establishments in JAFZ, using the questionnaire printed at Appendix 2.

This sample was drawn from a frame consisting of a list of 441 establishments in the Zone published by JAFZ in 1992.²² In total, a sample of 106 establishments (24 %) was drawn on a random basis, and stratified in order to secure adequate representation of establishments by nationality of ownership and in manufacturing, including the ten largest establishments.

Tables 4.5 and 4.6 demonstrate the size of sample achieved in different sectors. They allow the chief tabulations for the UAE (27 % complete and usable), India and Pakistan (17 %) and for manufacturing (33 %) and trade (15 %). The sample was deliberately weighted towards large employers in general, and toward manufacturing because of its larger average size of establishment.

As we saw in Table 1.2 in Chapter one, 23 of the sample of 106 questionnaires were not completed for a variety of reasons. In particular nine establishments could not be found, almost certainly because (although their agreement with JAFZ had been completed) they were not yet established on their sites. Seven companies refused to answer, four failed to return their questionnaires, two provided unusable questionnaires, and one had left the Zone.

4.3.3.1 Comparison of the completed survey sample

As we may see by referring back to Table 4.1, the 83 responding establishments are distributed between the six activities. Despite the nature of random sampling, and the incidence of non response, the distributions in the last two columns of Table 4.1 show only small differences between the completed sample and the full population of establishments in the proportions in selected activities. For instance, the comparison of establishments with total activities in these final two columns shows that trade and distribution represent 46.3 per cent of total of 162 activities in the sample; this percentage is nearly the same as for all establishment in JAFZ. Manufacture and assembly came second with 30.9 per cent of the 162 selected activities in the sample; this

percentage compares with one for the 757 activities across the whole JAFZ of 28.3 per cent. Third is the warehouses sector with a percentage of 16.7 per cent of the total of 83 responding firms, compared with 16.1 per cent for the total activity. Finally are services representing about 6.2 per cent, which departs from the overall total of 9.0 per cent.

These 162 activities covered by the researcher's interviews represent 21.4 per cent of the equivalent in JAFZ as a whole, a proportion which varies between 28.3 per cent in distribution, 25.4 per cent in manufacturing 17.9 per cent in trade and 15.6 and 14.7 per cent in assembly and services respectively. These sample proportions provide a reasonable base, particularly for studying the two main activities, which are trade including distribution and manufacture including assembly. Forty of the 83 firms are involved in more than one sector or activity, particularly firms engaged in manufacture

Table 4.5 Level of survey response by main activities (including multiple activities in individual establishments)

Activities	All	Sample	Non-response	Completed & Usable
Manufacturing	88	32	3	29
Trading	192	39	11	28
Service	54	7	1	6
Mixed	107	28	8	20
Total	441	106	23	83

Table 4.6 Levels of survey response by nationality

Origin	All	Sample	Non-response	Complete & usable
U . A . E	94	29	4	25
India and Pakistan	104	23	5	18
GCC and Middle East	48	11	2	9
Developed countries	99	24	6	18
Joint ventures	35	13	3	10
Others	41	5	2	3
Unknown	20	1	1	-
Total	441	106	23	83

and trade as shown by Table 4.1. But the total of single activity firms responding is 43, this figure representing about 26.5 per cent of total 162 activities in the sample and about 21.0 per cent of total single activities in JAFZ.

4.3.3.2 The activities of the survey respondents

Table 4.7 explains the relationship between commodity classification and different types of activity (manufacturing, warehousing, etc.) among the 83 respondents to the survey. The largest group of establishments are concerned with chemicals including petroleum products. The largest representation from the manufacturing sector however is in clothing textiles and leather, but there are surprisingly no electronics factories among respondents in the survey.

Table 4.7 The breakdown of the activities of 83 responding firms in JAFZ by commodity and activity (including multiple activities in individual establishments).

Industrial classification	Firms No	Manufacture	Assembly	Warehouse	Trade & distribution	Services
Chemicals, petroleum, rubber	19	9	3	10	23	3
Equipment & machinery	7	3	2	2	7	1
Metal related	8	7	-	1	1	-
Electronic & electrical	13	-	-	10	23	-
Food, beverages & tobacco	6	3	2	1	10	-
Clothing, textile & leather	13	13	-	-	3	-
Building materials	2	2	-	-	2	-
Stationery & paper	3	3	-	-	1	-
Services	7	-	-	2	3	6
Others	5	3	-	1	2	-
Total	83	43	7	27	75	10
Source: Field work						

Compared with the 441 establishments and 757 activities of Table 4.3 the 83 survey respondents are therefore somewhat weighted towards clothing, textiles and leather and to chemicals, petroleum and rubber, and towards manufacture as a whole (43 establishments) and trade with distribution (32). There are relatively fewer establishments in food, beverages and tobacco and equipment, tools and machinery, and far fewer are classified in the miscellaneous group, "others", in part because this adaptation of the international Standard Industrial Classification was designed for the analysis of survey respondents, who also provided more of the detail needed for the process of

classification. The proportion of establishments engaged in "services" and "assembly" is also lower than in the population at large.

In later chapters we will find that the proportions of activities appear different when weighted by numbers of employees, by size of floor area or by physical volumes

Table 4.8 Industrial classification by activity for 83 responding firms in JAFZ.

Industrial classification	Total firms in JAFZ		83 responding firms		Total manufacturing		Responding manufact	
	Total	%	83	%	Total	%	83	%
Chemicals, petroleum, rubber	68	15.4	19	22.9	30	17.8	9	20.9
Equipment & machinery	58	13.1	7	8.4	16	9.5	3	7.0
Metal related	34	7.7	8	9.6	14	8.3	7	16.3
Electronic & electrical	39	8.8	13	15.7	10	5.9	-	-
Food, beverages & tobacco	52	11.8	6	7.2	21	12.4	3	7.0
Clothing, textiles & leather	29	6.6	13	15.7	28	16.6	13	30.2
Building materials	14	3.2	2	2.4	10	5.9	2	4.7
Stationery & paper	14	3.2	3	3.6	10	5.9	3	7.0
Services	30	6.8	7	8.4	-	-	-	-
Others	103	23.4	5	6.0	30	17.8	3	7.0
Total	441	100.0	83	100.0	169	100.0	43	100.0

Source: Field work

Table 4.9 Activities in JAFZ.

Sectors	Total activities in JAFZ	Total activities of 83 responding firms
Manufacturing	169	43
Assembly	45	7
Warehouse	122	27
Trade & distribution	353	75
Services	68	10
Total	757	162

of trade. It is sufficient at this stage to note that the structure of survey response is sufficiently close to the total firms in JAFZ at Table 4.8 to allow extrapolation from survey result to the overall population, as seen in the next section which deals with the reasons for establishment in JAFZ.

4.4 The reasons which attract firms to locate in JAFZ

Fundamental to our discussion of free trade zones, and JAFZ, is what attracts firms to this type of development. There are many reasons behind the attraction of foreign and local firms to operate in JAFZ; several of them are very important and others may carry less significance. In part this relates to general attractions; in part to the different particular requirements of various types of firm. To illustrate this point the researcher listed in the questionnaire 14 significant factors which he believed may play a role in attracting firms to JAFZ. Through these 14 factors he aimed to show which factors are of greater or lesser significance in cross-tabulation with other classificatory

variables. The respondent placed a number in front of every factor according to its importance, number one against the most important and number 14 the least important. The results for this for the 83 firms are summarized in Table 4.10. These results can be considered at face value, but it cannot be deduced from this that what firms reported is in fact a 'true' ranking, as variation between relative importance of different factors could not be considered by this method. Nonetheless, the results are interesting and must now be analysed.

4.4.1 The factors in general

Most important for most firms stands Dubai's "political stability", which we will group with the seventh item, "position in the Gulf" . In fact these two factors, thus presented in the questionnaire, are not capable of separate explanation in view of their similarity, The first concentrates on the internal political stability of Dubai, and has been identified narrowly as the factor of first significance, but the second refers to the political and economy position of the Gulf region as a whole, which is considered the seventh - most important factor. These results indicated that the internal situation in Dubai is considered very stable and suitable for attracting foreign investment in the view of the 75 firms which answered this question. Their opinion could be considered a fair one, for over the past 40 years Dubai Emirate has suffered from no overt internal political problems. At the same time as one of the Gulf cities it was not in practice threatened by the Gulf War and Gulf crisis. These two factors together are considered among the principle ones which attracted foreign establishments to JAFZ. The JAFZ has been able

to attract foreign 525 establishments²³ from its start until July 1993, around 30 per cent of them after the Gulf crisis. Also during the Gulf crisis, Dubai was the main supplier for the GCC states and the Middle East. For instance during the Gulf War Dubai was

Table 4.10 The factors attracting firms to JAFZ.

Factors	No. of ranking 1-8 ³	Percentage ²
1. Political stability	60	80.0%
2. Tax free facilities	59	78.7%
3. No need for sponsorship	58	77.3%
4. Availability of ports and airport	54	72.0%
4. Quality of infrastructure	54	72.0%
4. Nearness of Middle East market	54	72.0%
7. Position in the Gulf	53	70.7%
8. Advanced telecommunications	51	68.0%
9. Dubai's trade reputation	49	65.3%
10. Suitable site	33	44.0%
11. Availability of labour	32	42.7%
12. Suitable premises	27	36.0%
13. Financial facilities	15	20.0%
14. Cheap premises	12	16.0%

Source:1. Field work, survey question.

2. Proportion of firms ranking this factor out of all firms answering (75).

3. The ranking score is the no. of firms stating that this factor was from first to second in importance.

a main centre for providing Iran with a variety of goods and specially foods.

Ranked second by respondents are the very favourable tax free facilities. There is full remission of corporation tax in the JAFZ for a minimum of 15 years, renewable for 15 more years without conditions, even if such taxes are introduced by the Government elsewhere in the future. Moreover there is also no income or profits tax. This is in addition to remission of all duties whether on imports to or exports from the Free Zone. Therefore this is a major factor in attracting establishments to JAFZ. 78.7 per cent of the firms selected this factor as one of their 8 main factors.

Thirdly, the need for no local citizen sponsorship has proved attractive. It is the law in the rest of Dubai Emirate and the rest of the UAE that foreign firms are not allowed to operate individually without sharing 51 per cent sponsorship of the company property with a local partner. Dropping this requirement in JAFZ has been a very large and attractive concession to encourage foreign firms to come to the JAFZ. Every establishment wants to have complete freedom, especially as many firms came to JAFZ to open a branch under their own control.

This concession is available outside the Free Zone also, but in a different shape, and only by individual agreement. Most foreign firms in the emirate of Dubai and UAE have agreements with their national partner to have the first call on profits without any share for the local partner, in return for a regular sum given by the foreign firms to the local partner every year. This allows the foreign firms to operate in Dubai like domestic ones, and fully opens competitive doors against indigenous firms. Foreign firms with great experience can compete strongly, perhaps unfairly, with local firms. This may

however, negatively affect economic activity in JAFZ, because with no need for local sponsorship whether in the Free Zone or rest of Dubai, foreign firms may pay less attention to the advantages offered by the Free Zone, and prefer to locate within Dubai Emirate. In either case they can sell commodities locally and in the GCC market without facing any type of tax. There may be a case for some further restrictions on this outside the JAFZ in order to protect the local economy from foreign competition.

Fourth in respondents' ranking come three factors equally; firstly, the widespread availability of port facilities. Most of the successful free trade zones in the world are located beside a seaport or airport, for instance Shannon Free Trade Zone in Ireland is located very close to Shannon international air port. Others include Masan Free Zone in South Korea and Bayan Free Zone in Malaysia ²⁴. The government of Dubai used this FTZ experience when it established the Jebel Ali man made port, conceived as one of the most modern in the Middle East, offering several advanced types of services such as covered cargo handling, rapid inland transport and modern spacious storage facilities. It has 67 berths of depth varying between 11.5 metres and 15 metres, with specially designated areas for the loading and unloading of container ships; there is a special space for the container terminal which can handle and accommodate up to 12,000 containers at any one time, and a special container storage area of 10,000 m. There are three other berths for Ro-Ro ships besides other types of cargo, which are for specialized oil and petroleum product tankers. This port was established to serve UAE as a whole, but there are another three ports in the Emirate of Dubai; Rashid, Creek and Hamereya ports, as well as Dubai international airport located near the city of Dubai. In addition the UAE

has nine other recognized international ports and four airports. None of them is farther from JAFZ than 200 km so that it was not surprising that good access to a range of ports was considered as a significant attracting factor by firms locating in the JAFZ.

Secondly, nearness to the Middle East market was a commonly stated attraction. The emirate of Dubai is considered a good trade centre for distribution to the Middle East market. The government of Dubai exploited this point when inviting firms to consider establishment in the Free Zone. Most JAFZ products are exported into the broader Middle East market. For instance in 1991 the JAFZ exported about \$ 326 million to the Middle East market, representing about 60 per cent of the total exports of the 83 responding firms (excluding rest of UAE).

Thirdly among items placed joint fourth was the "standard of infrastructure", which may be considered with the eighth - ranking factor, "advanced telecommunication". These two features are very necessary for the Free Zone fully to support foreign business. Most successful Free Zones in the world have an excellent standard of infrastructure as in Taiwan, Hong Kong, Singapore and Malaysia. The Emirate of Dubai had taken into account the need to offer a competitive infrastructure for its future economic development. When it spent around \$ 5.5 billions for infrastructure projects such as Port Rashid, Jebel Ali port, Hamireya port and Shandaqua, as well as Dubai international airport. There is also a good network of internal roads and a highway links the Emirate with the GCC countries. Telecommunication facilities connect Dubai with most destinations in the world. The government has also paid attention to housing, health and educational projects with a view to creating suitable

working conditions for the labour force.

Table 4.11 suggests that the infrastructure in JAFZ was seen as of a high standard by most of the firms operating there. For instance 32.7 per cent of the responding firms

Table 4.11 Firms' opinions on the standard of infrastructure in JAFZ.

Sort of infrastructure	Excellent	Good	Average	Poor	Bad
Communication	49	27	6	1	-
Airport and seaport	47	32	1	-	-
Roads	27	48	7	-	1
Storage	19	48	12	-	1
Public transport	17	33	24	6	1
Building	16	44	19	-	-
Sewerage	10	32	21	13	4
Source: Field work.					

considered the level of infrastructure in JAFZ, particularly communications, airport and seaport to be excellent. The percentage saying it was good may also be considered very high, representing another 46.6 per cent. There are some parts of the infrastructure such as public transport, building and sewerage considered less good in comparison with communications, the seaport and airport, For example, the percentage of replies stating 'excellent' and 'good' was less for public transport, building and sewerage compared with the others. Their percentage of 'average' and 'poor' assessments were higher. Furthermore there are no facilities for solid waste disposal in the JAFZ, and waste must be taken by private vehicle to the disposal site outside JAFZ. Some firms made

comments on these drawbacks. Several issues emerged there.

Firstly, as regards public transport, 27 of the interviewed firms complained about the level of public transport from Free Zone to Dubai City, whilst five firms complained of the non-availability of taxis, whether inside the Free Zone or outside of it. Thus is an especial problem in view of the large area covered by the Free Zone. For example the distance from firms located in the south or east of the Zone to the main gate is at about three km. Another common worry concerned workers' accommodation. Eight firms said they were looking for more accommodation facilities, as workers' housing is too crowded, and none is available for family and administrative staff; six firms considered that accommodation is too costly.

Thirdly, there are comments on road communication from JAFZ to other parts of Dubai. Twelve firms complained over the problems of journey time, with an average of one and half hours time spent in commuting from residence to work place each day. Another 11 firms said roads are too twisty and heavily used with delays resulting from roads being under construction. Some of these problems have been solved, because the new road from the Free Zone to Dubai was completed in early 1994.

While many firms said no sewerage disposal facilities were available, specially to dump solid and liquid waste, the availability of disposal facilities was among the principal factors which attracted foreign firms to JAFZ. This shows the difficulty of pleasing all interests.

Table 4.12 details the opinions of respondent firms by nationality and the standard of infrastructure. Here 'infrastructure' covers communication, ports, roads, storage,

public transport, building and sewerage. The Table shows that all six nationality groups predominantly saw the infrastructure in JAFZ as excellent or good. This factor can be confirmed as one of four principal factors behind attracting foreign investment to JAFZ. Firms from the GCC, Middle East, India and Pakistan featured strongly among those who said the standard of infrastructure was excellent. With the exception of two firms,

Table 4.12 Firms’ opinion of the standard of infrastructure, averaged by nationality groups.

Countries	Excellent	Good	Average	Poor	Bad	Percent
UAE	32.1%	48.8%	14.9%	4.2%	-	100%
India & Pakistan	36.8%	47.2%	10.4%	4.0%	1.6%	100%
GCC & Middle East	50.0%	31.7%	15.0%	3.3%	-	100%
Developed countries	21.8%	52.4%	21.0%	4.0%	0.8%	100%
Joint ventures	33.8%	44.1%	16.2%	1.5%	4.4%	100%
Others	23.8%	42.9%	28.6%	-	4.8%	100%
Source. Field work						

the standard of infrastructure in their home countries is not as high which is probably why they consider the infrastructure in JAFZ so good.

Most of the complaints focus on the road from JAFZ to Dubai city and the lack of sewerage facilities. Six firms among the 83 said the standard of the road was poor, four of them being from the UAE. However, were the same question to be asked now, their opinion would differ because the construction of the road from JAFZ to Dubai City is now complete and is now the best road in the UAE. On the second point (sewerage), 14 firms said its standard was poor, and four said it was bad. Their complaints are

justified for the reasons mentioned above. Of these 14 firms, five are from the UAE, three from India and Pakistan, and three from developed countries.

The highest proportion of ‘excellent’ ratings for the infrastructure came from manufacturing firms, although they also provided high proportions of poor and bad opinions. (Table 4.13). This high proportion of poor and bad was chosen from the following activities; firstly,

Table 4.13 Firms’ opinion of the standard of infrastructure averaged by economic activity.

Sectors	Excellent	Good	Average	Poor	Bad	%
Manufacturing	35.6%	45.2%	13.0%	4.6%	1.6%	100%
Trade	28.7%	46.9%	21.1%	2.3%	1.0%	100%
Service	29.4%	58.8%	11.8%	-	-	100%
Source. Field work						

’those stating that infrastructure is of a poor standard. Seven of the firms are involved in chemicals; five in textiles, clothing, leather; four in metal-related industries; three in electronics; and one deals with food: 14 of these firms are in the manufacturing sector, and the other four are in the trade sector. Secondly, stating the standard as ‘bad’ (seven firms), four firms are involved in textiles and the other three deal in electronics: five are in the manufacturing sector, and two in trade.

It is possible to suggest why the proportion of poor and bad ratings is higher in the manufacturing sector than in the trade and service sectors. The great number of firms which chose poor and bad as their view complained about sewerage. This is of greater importance to manufacturing firms, especially those which deal with chemicals and

textiles rather than with clothing. Firms in the trade sector complained more about the roads and transportation.

Reverting to Table 4.10, in ninth position in the ranking comes Dubai's trade reputation. Dubai had a long standing reputation as a trade city before the discovery of oil. Dubai was engaged in the pearl trade with India, particularly Bombay, and it traded with East Africa and Iran. The establishment of the Free Zone as a major project attracting a great amount of foreign investment from different countries itself has played a significant role in increasing Dubai trading reputation. The relation between the local market and JAFZ is sustained in that Free Zone annual exports to the local market in various types of commodity are large (see Chapter Six).

Tenth in the ranking is the question of sites and services. Based on the 1989 records, the present Free Zone area covers about 1,000 ha of development land outside that which is required for direct back-up to berthing operations. Site facilities are generally good. Each office is equipped with a split air-conditioning unit, and there is a maximum of three people to each office. Each building containing offices has a snack bar located on the ground floor, offering snacks and beverages and has by suitable parking around the entire building. There are roof mounted extraction or fans, a fire alarm detection system, and security lighting. Road access of no less than 5.5 m width is provided to all buildings.

The factor which ranked eleventh was labour availability. Availability of cheap labour is important in many free trade zones. It is one of the significant factors attracting foreign firms, especially firms from developed countries which suffer from high labour

costs. But the reason for this factor being ranked among the last three in this survey may be because cheap labour is available in most developing countries so that JAFZ does not have a monopoly on cheap labour. Indeed, JAFZ may compare poorly with other developing countries, because of the lack of local workers. The Authority can therefore, only offer overseas workers to attracted firms. This point is significant insofar that 42.7 per cent of surveyed establishments in JAFZ considered labour as a priority among their first eight ranked factors. Labour is very important for the establishments not using advanced technology such as firms from most of the developing countries. These countries rely on the labour force more than advanced technology for two reasons: firstly, a lack of skills to use this type of technology; secondly, the availability of cheap labour in their home countries means these firms normally adopt a labour intensive approach. The accommodation offered in JAFZ does not play a crucial role in attracting firms employing foreign labour into the area. Most of the companies among the 83 responding firms see that the accommodation as suitable. The workers seem to be pleased to earn what they can, regardless of the cramped quality of their accommodation. Accommodation is dealt with further in Chapter 5.

Suitable premises were not among the factors which played a major role in attracting establishments to JAFZ, although this does not necessarily mean that this point is not important or that JAFZ has poor premises. However JAFZ still needs to improve its premises and offer more facilities to workers resident in the Free Zone, such as a clinic, supermarket, more accommodation, especially for administrative clerks, public transport, sewerage for chemical waste, and a restaurant for administrative clerks, and

modest means of entertainment.

Financial facilities, ranked in thirteenth position, seem to be less significant in comparison with others. Because two-third of the firms in JAFZ are involved in trade, warehouses and distribution, their requirements for loans is not as significant as for firms engaged in the manufacturing sector. On the other hand some nationalities can get this facility whether operating in the Free Zone or outside of it, such as the UAE and GCC firms. In particular Indian and Pakistani firms face some difficulties in getting access to this sort of facility. In spite of this there are many financial freedoms offered by the Free Zone to all its customers, such as the absence of taxes imposed on exports, imports (except in the case of exporting to the local market) and profits, 100 percent repatriation of capital and profit, and the absence of currency restrictions and personal income taxes.

Finally, cheap premises were least commonly mentioned as an advantage. It seems that the cost of premises in JAFZ is considered expensive for some firms. But this price is still low when compared with developed countries. Six surveyed establishments reported that they have been complaining about premises, particularly accommodation as mentioned earlier. This relates to the current investment costs in JAFZ. These include five key elements:

1. Land rental is from U.S.\$ 1.91 per square metre per year. The minimum plot size is 7,500 square metres although there are limited 5,000 square metre plots available for a fixed cost of U.S.\$ 9,460 per plot per year. The minimum term of lease is five years with an option for an additional five years.

2. Prebilled factories and warehouses cost from US \$ 43.60 to US \$ 47.70 per

square metre per year.

3. Office space costs from U.S.\$ 231.00 per square metre per year, with a standard size of approximately 27 square metres.

4. Electricity costs U.S.\$ 0.02 per KWH.

5. Water, from a desalination station in the Jebel Ali area, costs U.S.\$ 4.09 per 1000 gallons.

Foreign firms believe that the UAE and Dubai Emirate are politically stable, even though the Gulf area in the past 15 years has experienced war conditions. Dubai has not been tainted with the Gulf War and Gulf Crisis. This position might indicate that the JAFZ can attract more and more foreign investment in the future. This perception is one of the factors which encourages developed countries' firms to contemplate industrial activity in the Free Zone, after taking into account other factors.

Freedom from tax burdens, and the lack of need for sponsorship are also significant factors behind attracting foreign firms to JAFZ, along with the quality of infrastructure and location of Free Zone, i.e. whether it is near or far from markets.

It seems these factors are significant for all FTZs in the world, in order to attract foreign investments.

4.4.2 The factors attracting firms to JAFZ by nationality

As mentioned previously there are many reasons or factors behind the arrival of establishments in JAFZ. These factors are of differing significance from one nationality to another, as shown in Table 4.14.

The UAE establishments stressed three especially significant factors, position in the Gulf, the political stability of Dubai and the availability of ports and air ports. The first two factors were mentioned by 76.0 per cent, or 19 of the 25 UAE surveyed firms which answered this question. Therefore most Dubai traders prefer to invest locally instead of abroad, the reason for that being claimed as their great trust in political

Table 4.14 The factors attracting establishments to JAFZ ranked by nationality.

Factors	UAE	GCC & Middle East	Developed countries	India & Pakistan	Joint venture	Others
Nearness to Middle East market	4=	1=	1	7=	6=	5=
Tax free	7=	1=	5=	1=	1	1=
No sponsorship	11	1=	2	1=	2=	1=
Availability of ports and air ports	3	7=	5=	3=	6=	9=
Position in the Gulf	1=	6	5=	7=	2=	5=
Dubai political stability	1=	5	3	12	5	1=
Quality of infrastructure	4=	7=	4	6	2=	1=
Telecommunication	9	1=	5=	5	6=	5=
Dubai trade reputation	6	7=	9=	3=	10	5=
Suitable site	7=	7=	11	10=	12	9=
Availability of labour	12	7=	9=	10=	6=	12=
Suitable premises	10	12=	12	9	13=	12=
Financial facilities	13=	12=	14	13=	11	9=
Cheap premises	13=	12=	13	13=	13=	12=
Source: Field work.						

stability locally. Thus 21.3 per cent of total establishments in JAFZ are of UAE nationality (see table 4.12).

The third factor, availability of ports and airports, was mentioned by 72.0 per cent (18/25). This is because many of these establishments are involved in re-export which requires speed of import and export and a need to avoid storage costs.

The next two factors are also mentioned by 60 per cent of UAE firms (15/25), namely the quality of infrastructure and nearness to Middle East market. However, UAE firms are more indifferent than the others to the tax free status within the Free Zone because in the case of exporting their products from JAFZ to the local market they have to pay duty of only one per cent, except in those cases where the percentage of value added of material made in the Free Zone was derived 40 per cent locally. This percentage includes wages paid to workers, buying raw materials from local market, services expenditure such as electricity, telecommunications, water, rent, gas etc..

A suitable site is considered important for the UAE nationality firms because they are able to export to Dubai and the rest of the UAE market with; JAFZ sites often within 35 km of these markets. In addition to the above reasons there are some other factors peculiar to UAE firms in JAFZ:

1. Some type of activities in the JAFZ are limited to UAE nationality only, such as the services sector.
2. Some UAE activities in the Zone pre-dated the establishment of the JAFZ, such as some dealing with oil, marine affairs and chemicals in addition to the Dubai aluminum factory. The reason for their coming was because these types of work need large scale

machinery and equipment; and heavy raw materials therefore they had a strong compulsion to operate beside the coast with availability of the port to facilitate imports and exports. Other firms involved in the same activity that came to JAFZ after the establishment of the Free Zone.

3. Some UAE establishments came to JAFZ in order to serve other firms operating there, such as the establishments serving oil fields or repairing ships, in addition to firms providing packaging materials.

4. Some UAE firms came to the Zone to avoid some of the complicated procedures which are applied by some government departments, such as in the issuing of commercial licenses for certain processes, or introducing workers from abroad requiring visas. These procedures are greatly facilitated in JAFZ.

Of the foreign firms India and Pakistan are responsible for the largest number of establishments operating in JAFZ, about 23.6 per cent of total firms. The reason for this large number operating in the Free Zone is due to the following points:

Firstly is the remission of the need of sponsorship and taxes; 88.9 per cent (16/18) establishments belonging to these two nationalities and responding to the survey chose these two points as the main factor. The second group of factors included availability of ports and air ports and Dubai's reputation, mentioned by 77.8 per cent (14/18) of these firms. Regarding the availability of ports and airports, this factor is considered very important for them because 38.6 per cent of total manufacturing activity in JAFZ belongs to India and Pakistan²⁵. The significance of the second point is due to the old trade relations between Dubai and these two nationalities. The third group

includes two factors, advanced telecommunications and quality of infrastructure, which were mentioned by 72.2 per cent (13/18) and 66.7 per cent (12/18) of Indian and Pakistani respectively. In respect of telecommunications and infrastructure it seems these two points are important because they are not of a high standard in their own countries, therefore the firms came to get benefit from it in JAFZ. It is also clear that the Indian and Pakistani establishments considered the fact that Dubai has political stability, whilst nearness to the Middle East market, mentioned by two thirds of firms, was another strong motive.

Availability of labour was mentioned by only 33.3 per cent (6/18) of the firms. This point is not very significant to these two nationalities in comparison with other factors in view of ready availability of labour in their own countries, and because most of their workers in JAFZ are from these two countries, particularly India. Financial facilities and cheap premises came last as factors attracting them to JAFZ with 4 per cent equally (3/75). Regarding the first point it seems that many Indian & Pakistani firms do without loans from banks. Concerning cheap premises, it seems this factor is not relevant to them because these costs were even cheaper in their home countries than in JAFZ.

In addition to these factors there were others of particular interest to Indian and Pakistani firms. Some came to JAFZ in order to avoid the complicated trade procedures which applied in their countries. For instance in JAFZ, or in any ports belonging to Dubai Emirate, the trader can usually get his goods within an hour of arrival at the port, a procedure which in India may take a month. The availability of cheap electricity power

and fuel in JAFZ is also significant for them in view of expensive power and fuel in their countries. Some also came to gain benefit from the Dubai quota for textile and clothing imports into the United States. Their export quota of textiles and clothing from their own country to the USA being full, so they came to the UAE to exploit the UAE quota, especially as total exports from the UAE of this commodity to the USA are still low.

Turning to firms from the developed countries, the main variations in preference are that the first factor listed was nearness to the Middle East market, mentioned by 88.9 per cent of firms (16/18), as the main factor in respect of firms from developed countries operating in JAFZ. This indicates that most of these countries' firms came to JAFZ to exploit Dubai as a centre for distributing their products in the Middle East market, particularly because their home location is too far from this market. The second group includes the lack of need for sponsorship. This was mentioned by 83.3 per cent (15/18). This reason is considered an important one for them, because most developed countries' firms are large-scale and worldwide. Therefore they want to be independent, which means they are not prepared to come to JAFZ to share profits with a local partner, as is required in the rest of Dubai. The third group includes six factors which are less commonly mentioned. In order of importance these are the political stability of Dubai, quality of the infrastructure, position in the Gulf, advanced telecommunications, the advantages of tax free facilities, and availability of ports and air ports.

The responses of this group shows through their answers that Dubai and the Gulf states are still seen as secure areas, and that events in Kuwait were a passing thing which will not be repeated. The availability of ports and airports was considered very

significant in view of the type of task required of them, namely distribution and re-export of their goods for the Middle East and other places.

The main concerns of a mixed bag of firms from other nationalities and joint ventures are focused on four factors; freedom from taxes, the need for no sponsorship, JAFZ's position in the Gulf and the quality of infrastructure. A second group of factors for joint venture firms was Dubai's political stability, while nearness to the Middle East market was ranked highly. The significance of this factor may be because most joint venture firms export their products to the Middle East market.

4.5 The nationalities of different economic sectors in JAFZ

We have now the six groups of nationalities introduced in the above analysis, can be now justified them as 'groups' on the following grounds:

1. The UAE group. The reason for categorizing this nationality as a single group is due their significance to this research. They also have some advantages which other nationality groups do not have. For example, they are allowed to export their goods to the domestic market without a local agent. They can also export their commodities to the GCC market with exemption of tax in cases where the local value added on their manufactured goods is greater than 40%.

2. GCC and Middle East countries. The reason behind making this a group is due to the similarity of their economic activities in JAFZ, and because most of them are considered Arab countries, near in location to each other.

3. India and Pakistan. They are categorized as one group because of the similarity

of their economic activities and the large number of their establishments operating in the JAFZ.

4. Developed countries. The reason for making these countries a single group is because of their marked common parts characteristics as advanced industrial countries. Through using this grouping later parts of the research will indicate to what extent they affect the economic activities in the JAFZ and Dubai emirate, and to what extent these exhibit marked differences of interest amongst themselves.

5. Joint ventures. To separate them from other nationalities, this group includes firms which involve two nationalities and more, with their capital divided among them. Each firm distributes its profit among their partners according to the size of capital which they agreed.

6. " Others ". This group includes all the nationalities not mentioned in the five previous groups. They are grouped together as most constituent nationalities in this group have few firms, but in this case, there is no suggestion of clearly defined 'common' 'interests'

As shown by Table 4.15, India and Pakistan have a large number of establishments operating in the JAFZ (104), about 23.6 per cent of total establishments. The second group is the developed countries with 99 (22.4 per cent), the third is the UAE with 94 (21.3 per cent). The GCC and Middle East countries are represented by 48 (10.9 per cent) and the other two groups' contribution are 21.8 per cent of total firms in the Free Zone (96).

4.5.1 The manufacturing sector

We may consider these distributions by sector in Table 4.17.

India and Pakistan have a large number of firms involved in the manufacturing activity of the JAFZ, their contribution is 38.6 per cent of total firms operating in this sector and 32.7 per cent of all its firms operating there. The major reasons for their high contribution were discussed above, among which leading importance may be attributed to the availability of cheap fuels and electric power in JAFZ.

The second largest nationality engaging in this sector is the UAE, representing 25 per cent of total firms in the Free Zone. Considering the small size of the UAE industrial base, the Zone has attracted a significant number of UAE firms in this sector

Table 4.15 The nationalities of different economic sectors operating in JAFZ including the 83 responding establishments (including multiple activities in individual establishments).

Countries	Total		Manufacture		Trade		Services		Mixed	
	JAFZ	Survey	JAFZ	Survey	JAFZ	Survey	JAFZ	Survey	JAFZ	Survey
UAE	94	25	22	6	23	6	35	4	14	9
India and Pakistan	104	18	34	11	30	4	2	-	38	3
Developed countries	99	18	5	2	62	12	5	2	27	2
GCC and Middle East	48	9	11	3	26	2	3	-	8	4
Joint venture	35	10	7	6	16	2	3	-	9	2
Others	61	3	9	1	35	2	6	-	11	-
Total	441	83	88	29	192	28	54	6	107	20

Source: Field work

within eight years of its establishment.

The third largest group involved in manufacture is the GCC and Middle East countries. They make up around 12.5 per cent of firms in this sector in JAFZ. But the lowest percentage share in this field is from the developed countries at 5.7 per cent. This is because most western firms came to JAFZ only to exploit Dubai as a centre of distribution for their products in the Middle East market not to manufacture. This has had a damaging effect on the local market - traditionally, the traders in Dubai itself were the main distributors for the Gulf and Middle East countries, but with the JAFZ, they have lost this stronghold to companies from other countries, particularly the Japanese companies who have opened branches in the JAFZ. The traders complain that now they are only agents and distributors for foreign companies like Sony, Goldstar, Citizen etc, for the local market. The JAFZ Authority has tried to persuade western firms in the Zone to become more involved in manufacture, particularly the Japanese firms.²⁶ Regarding the remaining two groups, which are the "joint venture" and the "others" these make up about 8 per cent and 10.0 per cent of manufacturers in the Zone.

In terms of the 83 responding establishments, as shown in Table 4.17 India and Pakistan represent about 37.9 per cent of the total manufacturing sector of 83 responding firms, (compared with 38.6 in the totality of JAFZ firms). The UAE share of manufacturing plants in the completed survey is 20.7 per cent. But the GCC and Middle East group, and the developed countries, represent about 10.3 and 6.9 per cent respectively of the total manufacturing firms among the 83. The remaining two nationalities which are represented are "joint ventures" and "others"; they represent about

20.7 and 3.4 per cent respectively.

The greatest proportion of manufacturing activity in JAFZ is, therefore, performed by firms from developing countries, including the UAE: 94.3 per cent, the remaining 5.7 per cent being from developed countries. This suggests that JAFZ serves developing countries' manufacturing needs. The UAE Government has spent huge amounts on the Free Zone, in order to develop the industrial sector locally. But unless it attracts advanced technology, from the developed countries, it will be of restricted value, especially as the Zone does not employ local workers either.

4.5.2 The trade sector

This includes distribution, warehouses, export, import and re-export. Firms from the developed countries emerge as the largest nationality group engaging in trade, 62.6 per cent of all firms from this nationality group engaged in JAFZ are in trade. This percentage supports the idea mentioned previously that these countries consider the marketing of their products in the Middle East markets as their main reason for coming to the JAFZ. Likewise their share of 83 responding firms is largest in this sector at about 43.0 per cent of the total of 83 firms-involved in this sector.

India and Pakistan represent about 15.6 per cent of total nationalities in this sector. But their share of the same sector among the 83 responding firms makes them the third nationality after the developed countries and UAE.

The lowest share in the trade sector are joint ventures firms, at around 8.3 per cent, and 7.1 per cent of the total firms involved in the same sector of the 83 firms

responding. This may be because there are many firms among them belonging to the developing countries which prefer to deal in manufacture rather than the trade sector.

4.5.3 Services

The UAE nationality represents the largest share in the services sector, involving 35 firms (64.8 per cent) of the total firms involved in this sector. This large proportion represents around 37.2 per cent of the total UAE firms operating in JAFZ. The reason for this high contribution is because other firms are not allowed to deal with this sector, except for activities which UAE firms are not able to offer, such as oil services, and shipping services. Some services are provided by agent firms. For example Citizen, one of the biggest Japanese companies to deal with watches, opened a branch in JAFZ in order to offer services for its customers in the UAE. This sort of service activity is one which the UAE firms are not allowed to deal with it, because an original agent already exists. The kinds of services involved include insurance, banking, transport, restaurants, clinics and renting etc. Therefore the UAE firms are much better represented than other nationalities in this sector. This point may be useful in future in creating new jobs for the domestic firms in the Free Zone.

4.5.4 The Mixed sector

This heading includes all the establishments which engage in more than one sector. India and Pakistan represent the largest group in this sector in respect of number of establishment with 38 firms or 35.5 per cent. The second largest grouping engaged

in this sector is the developed countries with 27 firms (25.2 per cent). The UAE firms 13.1 per cent of the total firms involved in this sector, indicating that the UAE firms prefer to specialize in individual sectors.

4.6 The links between nationality and commodity interests

There are groups of nationalities in JAFZ which concentrate on different classes of commodities, whether in trading or industrial sectors (Table 4.16). By looking at different types of commodity, this can be illustrated and explained.

Table 4.16 Total firms by nationality and commodities classification in the JAFZ.

Industrial classification	Firm No	UAE	GCC & Middle East	India & Pakistan	Developed countries	Joint venture	Others
Chemicals, petroleum, rubber	68	22	4	21	9	4	8
Equipment & machinery	58	9	8	5	24	5	7
Food, beverages & tobacco	52	13	5	14	6	8	6
Electronic & electrical	39	5	3	5	20	2	4
Metal related	34	5	1	12	11	3	2
Services	30	21	1	1	3	1	3
Clothing, textiles & leather	29	2	2	19	1	2	3
Building materials	14	4	2	2	3	1	2
Stationery & paper	14	2	5	3	2	2	-
Others	103	11	17	22	20	7	26
Total	441	94	48	104	99	35	61

Source: Official hand book, February(1993).

4.6.1 Electronics and electrical activities

There are 39 firms in JAFZ involved in electronics and electrical activity of which 13 are among the 83 responding establishments. The developed countries contribute about 51.3 per cent of the total of this activity in JAFZ and 38.5 per cent of the same sector among the 83 responding firms. All of that sample were engaged in the trade sector, notably the Japanese firms. Therefore it is very significant to note that there is a high percentage of developed countries' firms within this activity, but they are important for production and therefore technology transfer and employment, because all of them are involved in the trade rather than the manufacturing sector.

The UAE, India and Pakistan represent about 25.6 per cent of the total nationalities engaged in this activity and 30.8 per cent of the total of this activity among the 83 responding firms. Again, all of the latter group were involved in the trade sector. It is useful to note that UAE nationals own five establishments in this activity (though they are not in the manufacturing sector as they have little experience in this field). The Free Zone should encourage them to upgrade this activity from trade to manufacturing such types of products of the electronics and electrical industry as TV screens, radios and videos. Currently, the GCC and Middle Eastern countries' contribution to this sector is poor.

The previous explanation indicates that most of the firms involved in this activity belong to the developed countries. This may be because most of them are engaged in the manufacturing sector in their own countries and they have only established branches for distribution purposes in the JAFZ. In practice therefore, they are importing ready-made

commodities from the manufacturing sector in their own countries to the JAFZ.

4.6.2 Clothing, textiles and leather

There are 29 clothing, textiles and leather firms operating in the JAFZ. A high proportion of them, 13, were among the 83 responding firms. All except one of them are involved in manufacturing. These are the main factories in JAFZ. India and Pakistan are the origin of the largest number of firms engaged in this activity, as they have 18 of the total firms operating in this sector, a figure reflected by eight firms involved among this sector in the 83 surveyed. The reason for this high percentage is due to their experience in this trade and the availability of cheap labour whether in their own countries or in JAFZ; "China and the USSR, followed by India, have the world's largest employment in textiles manufacture"²⁷. This is in addition to the reason which was mentioned previously, to exploit Dubai's quota of exports in this field to the United States.

No other nationality group has real significance in this sector. The next largest groups contributing to this activity are the UAE and the group of GCC and the Middle East. The last group is the developed countries with a percentage of 3.4 per cent of the total firms in this sector and none among the 83 sampled. In general the developed countries' contribution to textiles and clothing is a lot less than other nationalities, as throughout the world. For instance, the major growth of textile production in the world economy during the 1980s meant that production was 18 per cent higher in 1987 than in 1980 in the developing countries, but in the developed countries the production grew only one per cent in the same years. In the case of the clothing industry the developed

economies fared far worse than in textiles in general. For instance, their production was six per cent less in 1987 than 1980. while in the developing countries clothing production was 24 per cent higher than in 1980²⁸.

4.6.3 Chemicals, petroleum and rubber

There are 68 firms operating in this sector in JAFZ, with 19 of them among the 83 responding firms. Again, the UAE, India and Pakistan are responsible for the largest **number** of firms involved in these industries. The UAE have 22 firms and India and Pakistan have 21 firms. Most of the Indian and Pakistani firms in this sector are engaged with chemicals but not the oil-related industries, but the UAE firms deal with both. In the survey sample two thirds of UAE firms deal with chemicals and one third with oil related industries. This high proportion may due to the availability of many firms in the Dubai emirate able to locate branches in the Free Zone, especially oil firms. On the other hand, a few firms were operating beside the Jebel Ali Port within the now-existing Free Zone boundary, before JAFZ was set up. Therefore after the establishment of the Free Zone they automatically became part of JAFZ.

The third group operating in this sector are the developed countries, as they have nine firms involved in this area, four of them among the 83 responding establishments. All of them are dealing with the oil related industries. The contribution of developed countries is less than expected in this field, particularly if you take into account that most of their firms in this sector are involved with oil related industries. The reason for that may be that their investment is concentrated in a few large firms, and that the Free Zone

authority does not allow all types of industry based on chemicals. Therefore the developed countries prefer to deal with this work in other developing countries.

4.6.4 Foodstuffs

There are 52 firms in the Free Zone operating in this field, 11.5 per cent of them are among the 83 sampled respondents. The UAE with India and Pakistan represent about 51.9 per cent of the total firms operating in JAFZ in this sector. This high proportionate share of this field from these two groups is to be expected. The reason for this may be due to the lack of requirement for great experience and technology, or large investment. Also there is another reason which relates to the UAE firms more than India and Pakistan nationalities, that this is a market-oriented industry and there is a big demand for food products in the local and GCC market; therefore this is an encouraging factor for the UAE's establishments to be involved in this field of manufacturing, particularly as there is no tax imposed on their products when exported to GCC states.

4.6.5 Equipment, tools and machinery

This activity is considered very significant for the JAFZ in view of its need for advanced technology. There are 58 firms involved in this field in JAFZ, seven of them among the 83 sampled respondents. It is highly significant that firms from the developed countries represent about 41.4 per cent of this activity. As a rule most of the developed countries' firms in this field are in with the trade sector, but 50 percent of their firms among the 83 sampled respondents are involved in the manufacturing sector.

The nationality with the second largest number of firms involved in this sector is the UAE. It has nine per cent of the total firms involved in this sector in the Free Zone among the 83 sampled. In fact it is to be regarded as a good indicator for the UAE's firms in the JAFZ to be involved in this sector of activity, particularly in the manufacturing sector. It may, however, take a long time for them to become fully involved in that sector, because most of the firms in this sector are engaged in trade.

The developed countries have a large contribution in this field, because of their skills in this type of production which needs an advanced technology. Therefore the actual manufacturing is occurring in their own countries and the distribution of the work for the Middle East market takes place from the JAFZ. This is also the reason behind the lack of representation of many firms in the manufacturing sector in general, particularly as most other nationalities are not yet able to offer this type of production.

4.6.6 Metal related industries

There are 34 firms in JAFZ dealing with the metal related account industry, eight of them among the 83 selected sample. India and Pakistan firms account for three of the firms in the sample engaged in this activity in the Free Zone. All of those which are among the 83 selected sample are involved in the manufacturing sector which include such items as making aluminum and steel pipe, using old machinery from Belgium. Another example is Steel Makers Gulf Inc, manufacturing construction steel and allied products.

4.6.7 Building materials

There are 14 firms operating in this field in the Free Zone. The reasons for there being few firms in this sector in the JAFZ are due to the availability of this type of manufacture locally in the UAE and the GCC; the limited industrialization in this field in the GCC generally due to non-availability of raw materials locally, and the costs of transporting heavy materials. Moreover this sort of industry requires sizeable investment, in particular the ones which deal with producing tiles, cement and iron. Foreign firms can export building materials to many GCC states without facing a customs duty. This is due to a heavy demand for them in the GCC, as building operations are still very active in the GCC states.

4.6.8 Services

There are 30 firms in JAFZ involved in the services sector, 23.3 per cent of them among 83 selected firms. The UAE represents the largest nationality involved in this sector with 70 per cent of total firms. The high proportion of UAE firms in this sector is simply due to the restrictions placed on entry to this sector to UAE firms, except for services which they cannot provide (see section 4.5.3).

4.6.9 Firms handling 'mixed' and miscellaneous commodities

There are 103 firms engaged in this miscellaneous field in the Free Zone, 4.9 per cent of them being among the 83 sampled. The group of miscellaneous 'other' nationalities in turn represent about 25.2 per cent of total firms operating in this field,

but non of these are among the 83 selected samples. The second most common nationality in this miscellaneous field is India and Pakistan as they represent about 21.4 per cent of total firms in this field. Firms from the developed countries make up the third largest nationality group.

For example AG Middle East Limited is classified as one of the firms which deal with more than one commodity, such as photographic materials, allied items and mixed alcoholic drinks, cosmetics, toys, shoes, electronic & electrical goods. This firm shows that 'other commodities' overlap the field of goods produced internally in JAFZ or imported through specialist firms in the JAFZ which deal with one type of commodity. On the other hand this group also includes a few different commodities not found in Table 4.18 such as cars, remotely piloted aircraft, hose assemblies and medical products. These commodities are distributed among manufacturing and trade activities in JAFZ, but cars are involved in trade activity only.

4.6.10 Summary

From the previous explanation it has been indicated that the UAE has a large number of firms in the chemicals and oil related, services and foodstuff sectors. These three activities represent about 59.7 per cent of the total UAE firms operating in JAFZ. But the electronics and electrical sectors, in addition to the equipment, tools and machinery industries represent about 14.9 per cent of total UAE's firms in JAFZ. The UAE industry should pay more attention than at present to the latter activities, in order to improve their position in this field, because they are considered to be advanced

industries. There is a lesser contribution of UAE's firms in the stationery and paper sector in addition to clothing, textile leather and building materials, where they represent about 8.5 per cent of the total UAE firms in JAFZ.

The data indicates that most of the UAE firms in JAFZ are involved in activities which do not require advanced technology, particularly when taking into account that its firms are involved in electrical, electronics and equipment activities which deal with trade not manufacturing. The same situation applies to developed countries' establishments, with most emphasis on the trading sector in electronics, electrical and other equipment. Indian and Pakistani establishments are concentrated highly on chemicals, along with textile and clothing activity in JAFZ. The GCC and Middle East firms are involved with equipment and machinery but in their trade not their manufacture. Joint venture firms in JAFZ tend to be involved in producing foodstuffs.

4.7 Building area by sector

We have so far counted establishments as equal units. Although there are some standard-sized units, in fact there are different sizes of units in JAFZ, because every industry requires a different size of floor area, depending on the type and scale of activity.

The manufacturing sector in JAFZ is in a physical sense definitely the largest economic sector as it represents about 84.3 per cent of the total building area of the 73 sampled firms who answered the relevant question. These manufacturing areas are distributed among the different nationalities as follows:

India and Pakistan.	45.5 per cent.
UAE.	39.9 per cent.
Joint venture.	10.5 per cent.
GCC and Middle East.	3.1 per cent.
Developed countries.	0.6 per cent.
Others.	0.4 per cent.

As shown in Table 4.17, 37 of the manufacturing firms are found in factories of 1000 sq.m. and above, and they represent about 90.2 per cent of the total manufacturing built area among the 73 responding firms, the reason being that manufacturing requires space for machines and storage for production in addition to raw materials, as well as offices. Most manufacturing buildings in JAFZ are single storey.

The clothing, textile and leather industry represents the largest activity, with about 38.4 per cent of the total manufacturing area. The reason for that is due to the large

Table 4.17 Building areas by activity in the JAFZ.

Size, sq. metres	Manufacture	Percentage	Trade	Percentage	Service	Percentage
Below - 500	1	2.4	10	35.7	2	50
500 - 999	3	7.3	8	28.6	-	-
1000 - 3999	10	24.4	6	21.4	1	25
4000 - 9999	14	34.1	3	10.7	1	25
10000 - over	13	31.7	1	3.6	-	-
Total	41	100	28	100	4	100
Source: Field Work						

number of firms in this sector in addition to the needs of the type of work, particularly the need in the clothing industry that every worker should have a machine, which means the number of workers is roughly equal to the number of machines. The second largest area of manufacturing activity is chemicals and oil related activities, as it represents about 17.1 per cent of the total manufacturing area. This type of activity is dealing with oil and chemicals products, therefore it needs a large space for the fuel and chemical tanks, and this was one of the principal reasons which led the UAE-based firms in this section to operate in JAFZ. The third activity which has a large manufacturing area in our sample is the steel or metal related section, which represents about 16.1 per cent of the total manufacturing area. This large size is due to their dealing with raw materials such as pipes, metal and iron.

The classification of manufacturing areas has thus indicated that clothing and textiles, chemicals and oil related fields in addition to metal related trades take up much space in JAFZ. They represent about 71.6 per cent of the total manufacturing area. It might be argued that it might be better if the Authority of JAFZ refused, applications for these activities in the Free Zone from foreign firms and limited it to domestic firms only. Not only do they need much space but also large numbers of workers. As more than 90 per cent of the workers are foreigners, this means the Authority would need to provide more residential accommodation in addition to new infrastructure such as roads, buildings, electricity, water, storage and so on. It is suggested that these activities, such as textiles and clothing, will increase the expenditure of the infrastructure disproportionality in the JAFZ, and they do not offer advanced technology.

Trade represents about 14.4 per cent of the total area of the sampled firms. Most of the trade firms use a floor area below 500 sq.m. Table 4.19 shows that 85.7 per cent of the total area of this sector, is taken by firms that occupy less than 5000 sq.m each. This is because most trade firms in the JAFZ are dealing with re-export and they do not store their imported goods for a long time in the Free Zone. They export them very quickly, which means they do not require big warehouses. Turning from activities to ownership we find that firms from the developed countries represent the largest area for trade partly because they have a large number of establishments in this sector. They account for 63.4 per cent of the total trade area.

As shown in Table 4.17 the services sector is distributed among average floor areas. For instance the smallest sites include insurance and consulting engineering offices, but two other firms are banks and they use more area in view of the number of workers.

The previous explanation indicated that the relation between the site area and type of manufacture was directly related to the nationality group. Therefore the nationality which has more manufacturing firms covers a larger occupied area. This is not so with trade. The following data for 1992 indicate the area each group of nationalities as a percentage of the total occupied area occupied in all activities:

India and Pakistan.	38.6 per cent.
The UAE	36.7 per cent.
Joint venture	10.1 per cent.
Developed countries	9.7 per cent.

GCC and Middle East 2.9 per cent.

Other. 2.0 per cent.

The reason why India with Pakistan and the UAE groups occupy the largest proportion of land is that most of their firms are engaged in manufacturing activities, which require larger tracts of land than are required by trading activities. Together, their occupation of land represents about 75.3 per cent of the total area occupied by the 38 firms, who responded in the sample.

4.8 Home activities

There is a large number of branch establishments in JAFZ, whose headquarters are in their home country, most of which are controlled from the home country. This is particularly so with the developed countries and UAE. For instance 43.4 per cent of the total 83 responding establishments have their immediate headquarters in their home countries. Others are based in JAFZ. A JAFZ regulation states that firms do not need to have a base outside the JAFZ to operate in the JAFZ.²⁹

The largest number of firms which have their base in their own countries belong to the developed countries (Table 4.18). The UAE has 25 firms among the 83 respondents, 41.7 per cent of them being considered as branches working in the Free Zone with their bases located outside it. This means the Free Zone is not behind the foundation of all UAE firms operating in the JAFZ, in view of this percentage with headquarters outside it. But it played a main role in leading to the establishment of the other 58.3 per cent of the total UAE firms operating in the JAFZ. UAE firms with

Table 4.18 The survey firms: location of headquarters.

Country	Outside JAFZ	within JAFZ	No answer
U.A.E	10	14	1
India & Pakistan	5	12	1
G.C.C Middle East	3	6	-
Developed country	12	5	1
Joint venture	4	6	-
Others	2	1	-
Total	36	44	3
Source: Field work.			

headquarters outside are mainly involved in the following commodities: oil-related, metal-related trades and banking.

Others, with headquarters within JAFZ, are involved in various types of commodity such as electronics, textiles and clothing, leather, metal-related and building materials.

Table 4.18 shows that a large percentage of firms in JAFZ are controlled. This indicates that a high proportion are part of international corporations, and that Dubai was chosen for a branch because it has a good trade reputation as an international trade centre.

India and Pakistan have the lowest percentage of firms which are controlled by a base in their home countries, (see Table 4.18). This means, very importantly, that firms from these two countries prefer to operate in JAFZ more than in their own countries for several reasons previously mentioned. In many firms, however, there is a division of labour between their establishments in JAFZ and other countries. That is, the

economic sectors of some firms differ between the JAFZ and the home country. For instance the manufacturing role in the JAFZ may be less important than in home countries. For example, companies such as Sony, Aiwa and Citizen are involved with manufacturing activities in their home country, but restrict their activities in JAFZ to the trade sector.

Table 4.19 indicates that, at least until recently, firms for the developed countries have preferred to retain manufacturing in their home countries and exploit Dubai as a centre for their products distribution. Thus most firms from the developed countries have not yet exported their advanced technology, while most developing countries' firms in the Free Zone use the old technology.

To summarise, this section indicates that a large number of firms operating in FTZs are controlled from outside normally their base in their home country. This

Table 4.19 Type of activities of some firms in their home countries.

Country	Assembly & manufacture	Warehouse	Distribution	Services	Others
U.A.E	14	5	2	4	-
India & Pakistan	14	1	1	-	2
GCC & Middle East	6	2	1	-	-
Developed Countries	4	7	3	1	3
Joint ventures	8	2	-	-	-
Others	1	1	-	-	1
Total	47	18	7	5	6
Source: Field work, Question answered by 80 firms.					

particularly applies to firms from developed countries. The reason for this is that most of them are large organisations, and operate world-wide; therefore they consider it appropriate to retain their headquarters in their home country. Their reasons for their operating in FTZs differs from one to another. Often JAFZ is seen as a valuable centre for the distribution of their commodities. In Malaysia's EPZs, on the other hand, they are engaged in assembly activities, exploiting the availability of cheap workers, and a large market for purchasing their goods.

4.9 Conclusion

The JAFZ is distinguished by having a variety of economic activities, without concentrating on some special activities such as electronics or textiles and clothing as in many other free trade or export processing zones. These economic activities in JAFZ are distributed among three sectors, trade, manufacturing and services plus a large number of diverse activities. The manufacturing sector is the largest in terms of the area of buildings occupied. It seems useful that the Free Zone has attracted this percentage of manufacturing activity in its first eight years since establishment. But its disadvantages include the percentage of manufacturing firms which does not use advanced technology. The Free Zone in Dubai needs to attract in the long run the industries which deal with those type of industries we have emphasized, especially as there are many global leaders there already, such as Sony, Aiwa, Goldstar, York. This will also reduce its dependence on low paid labour-intensive activities.

The JAFZ has enabled the provision of some job opportunities for local people

by many domestic service firms operating in the UAE, such as insurance, transport, banking and restaurants. The Free Zone was behind the establishment and growth of many domestic manufacturing firms, which are considered of significance locally and could become more so in the longer term, particularly if they are able to cooperate with the other foreign firms operating there, in order to obtain experience of advanced technology. But up to now this type of co-operation with the foreign industries, particularly those which belong to the developed countries, has not occurred.

There are some sorts of activities operating in JAFZ which may be better restricted by the authority, especially the polluting ones and those which require a large number of employees; or at least these activities might be restricted to domestic firms only.

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Chapter Five

Employment in Jebel Ali Free Zone

5.1 Introduction

One of the principal reasons for establishing a free zone is to increase manufacturing employment and to provide jobs. In some countries this is specially important to cope with new entrants into the labour force. The success of a free zone cannot rely on this factor alone, but it is considered among its main benefits in view of the relationship between industrial development and employment.

This chapter will discuss employment in the JAFZ in various ways, including the growth of total employees working in JAFZ and their nationalities. Also this chapter will discuss the relation between the number of employees and the industrial classification and nationality of firms; to explain which national groups of firms engage greater or lesser numbers of workers. Moreover, the chapter will try to make clear the role of the Free Zone in relation to potential employment in the UAE and reason why there are at present few UAE national employed in the Free Zone. The chapter will discuss the role of female workers in JAFZ as well as the small number of employees in other Free Zones in the UAE. Because there is a little available data in these topics much of it is derived from the writer's sample questionnaire to 83 firms.

5.2 The significance of labour to the firms

An available labour supply ranked highly as a reason for a firm locating in the JAFZ. A total of 22 of the 83 sampled firms ranked labour their prime locating factor, and most of the firms which chose labour as a principal factor have a large number of employees in the zone. Firms which did not chose labour as a significant factor generally have a small number of workers. Of the 22 firms which ranked labour as their number one location factor non have less than 10 workers while only 13.6 per cent had 10-49 workers. The percentage ranking labour as their prime locating factor increases with the increasing number of workers, reaching 22.7 per cent among the firms with 50-99 employees, and 31.8 per cent in among those with 100-199 employees.

The importance of labour supply to firms in the JAFZ can be examined in a number of ways beginning with its gender composition.

5.3 The ratio of male and female workers in the JAFZ and the UAE Free Zones

In most of the free zones in the world the number of female workers is greater than male (Table 5.1). This is generally because electronics and textiles with clothing are major industries in them and these two industries are known to require a very high contribution of women workers. The textile and clothing industries normally rely on low wages rather than skills, and it is argued that the electronics industry requires a level of manual dexterity which most men reportedly find difficult to achieve. Both industries need a high level of attention to tedious and very repetitive type of work.

In contrast to other free zones the percentage of females in the JAFZ is only

Table 5.1 The predominance of young female workers in export-processing zones.

Country	% of women in EPZ industries
S.Korea	74
Malaysia	85
Mexico	77
Hong Kong	60
JAFZ	33
Source. 1. Based on ILO (1988), Table 8. 2. Official report from JAFZ.	

33 per cent. In the 83 responding firms it is only 27 per cent. The lower proportion of women workers in JAFZ is due to the following reasons: firstly, the non-availability of female workers locally; secondly, the fact that little of the electronics activity in JAFZ involves any manufacture, in contrast to the situation in Malaysia, Hong Kong and South Korea EPZs; thirdly, the considerable variety of economic activities in JAFZ, both in trade or industry, most of which require more male than female workers. Finally because of the limited availability of female workers locally, there are fears that by importing female labour, these could be moral problems, particularly if women are working for long periods in a factory and away from their families. This problem occurred in Fujairah Free Zone in 1992.

The male workers in JAFZ thus represent about 67 per cent of the total employees in the Free Zone¹. Among the 83 responding firms the males represent about 73.1 per cent (Table 5.2). The reasons behind this large number of male workers is due to a number of points, as mentioned by most of the firms questioned.

41 firms said that the nature of their work required men only. 13 firms said that the skills they needed were more readily available among males than females.

Table 5.2 The total employees of 83 responding firms in JAFZ.

	Male		Female	
	Number	Percentage	Number	Percentage
Office	1209	13.7	244	2.8
Skilled	2959	33.6	753	8.6
Semi-skilled	1008	11.5	735	8.4
Unskilled	1257	14.3	633	7.2
Total	6433	73.0	2365	27.0
Source: Field work				

The reason for that is because most of the skilled labour required are technicians. Others replied that males are more productive and easy to manage than female workers. Also the distance of the Free Zone from Dubai City imposes unnecessary complications for female employment. This is in addition to accommodation problems.

5.3.1 Type of employment in JAFZ.

The overall total of employees can be divided into four groups according to their qualifications.

Firstly, 'skilled' workers represent the largest number of employees in the Free Zone, accounting for 42.2 per cent of the total, and dividing between male and female by percentages of 33.6 and 8.6 respectively. In fact, the high proportion of skilled workers in the zone might be thought of as a consequence of advanced technology industries. In fact most of these workers are employed in the industrial sectors which do not use advanced technology, as we will discuss later.

Secondly, 'semi-skilled' workers represent about 19.9 per cent of the total employees, with a similar proportion of unskilled workers.

Fourthly, office workers, at about 16.5 per cent of the total employees, are the smallest group of employees, a figure somewhat lower than in free zones in developed countries. This may be because most firms in JAFZ deal with the physical aspects of trade and manufacturing, which means most of the required workers are involved in factory production or for carrying goods from a port to the warehouse and then to the port again in order to re-export the goods. Furthermore the proportion of females in this group is seen to be the lowest of all for groups, at 2.8 per cent of total employees, most of them being secretaries.

The total number of workers in the UAE's other Free Zones represents only 15 per cent of the total in all the Zones. Yet here female workers represent the majority, 64 per cent, of the total employees (Table 5.3). because most activities in these other zones are dealing in textiles and clothing manufacture. Females represent the majority type of employee in this industry in most FTZs around the world.

Table 5.3 also shows that Fujairah Free Zone has more employees than the

Table 5.3 The total employees of the UAE Free Zones, other than JAFZ, in 1993.

Free Zones	Male	Female	Total
Fujairah	322	632	954
Ajman	204	306	510
Um Al Quwain	250 (1)	450 (2)	700
Total	776	1390	2164

Source. UAE Free Zones Authorities.

(1) Estimation.

(2) Estimation.

other two Free Zones, while Table 5.4 shows the pattern of workers and firms in Fujairah Free Zone in more detail. Semi-skilled workers represent the largest group with 47 per cent of the workforce followed by unskilled, and skilled employees. With most firms there dealing with textiles, perfume, food and paper demands for skilled labour are more limited than in JAFZ. All UAE Free Zones share the same phenomenon of the lack of use of the local labour-force.

Table 5.4 Total employees in Fujairah Free Zone in 1993.

	Workers	Percent	
		Fujairah	JAFZ (83 firms)
Office	60	6.3	16.5
Skilled	190	19.9	42.2
Semi-skilled	448	47.0	19.9
Unskilled	256	26.8	21.5
Total	954	100.0	100.0
Source. 1. Fujairah Free Zone (FFZ) Authority. 2. Field work.			

5.4 Employment in foreign-owned establishments

Another point worth consideration is the number of UAE nationals and foreigners working in UAE - as against foreign based firms. Job provision for UAE nationals was not a major reason for establishing the JAFZ, unlike other FTZs spread across the world, especially in countries suffering from unemployment. But it could become a prime reason in the long run. The domestic firms among the 83 responding provided jobs for only 19.6 per cent of the total workers covered by the survey.

Employees in the JAFZ from "developed countries" formed the largest nationality groups with 32.0 per cent. The reason for that is largely because three quarters of them are employed by one firm, Mc Dermott International, dealing with steel structures and components for the offshore oil and gas industry. This firm was based in Jebel Ali before the establishment of the JAFZ. The second largest group comprises Indian and Pakistani employees, with about 28.6 per cent of the total with "joint ventures" coming third with 11.8 per cent. But the smallest two groups of firms having employees in the Free Zone are the "GCC with Middle East" and "others", with about 4.2 and 3.8 respectively of total employees.

Recruiting employees, whether male or female, is done in many different ways. Some firms obtain their workers from the local labour market and others try to employ them through agencies, which means in practice they come from abroad. If they are to employ workers from the local market they should have "no-objection permits" to allow them work in the Free Zone from the firms which they have already been working for. Otherwise they are not allowed to work in the free zone.

About 34 per cent of total male and 37 per cent of female workers are employed by agencies. Another 25.5 per cent of male and 14.8 per cent of female workers who are employed directly by JAFZ firms' personnel departments, which means they themselves find their workers from the local market or abroad. Most of the Indian and Pakistani firms prefer to choose their workers this way, as 50 per cent of their workers are employed this way. They least often employ their workers through the agencies. The reason is that they like to employ workers about which they already have knowledge, preferring always to deal with their own nationalities.

The third way in which workers are employed is through newspaper

advertising. In total 14.9 per cent of male and 14.8 per cent of female workers had been recruited this way. The other remaining ways of employing workers are through interview and word of mouth locally.

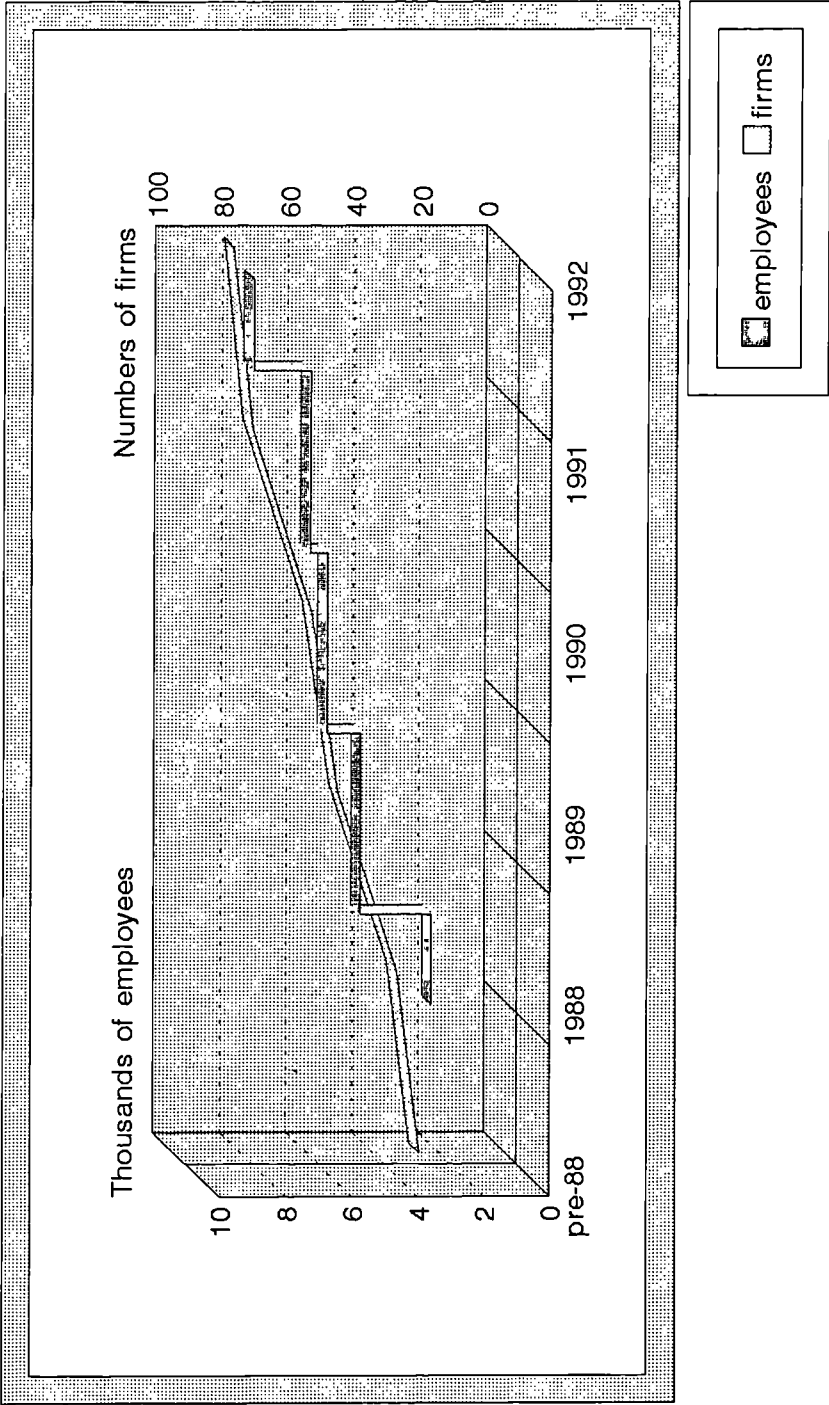
The UAE and developed countries' firms prefer to obtain most of their workers through the agencies. The reasons for that are because of the non-availability of large numbers of workers locally. While the firms from the developed countries cannot import most of their workers from their own countries in view of the high cost. But with regards to female workers, the UAE firms can find most of them from the local market, in view of there being only a few required in each firm. By employing locally-based females it means they stay with their family and the firms do not have any problems regarding their accommodation or other responsibilities towards them.

5.5 The increase of employees from 1988 to 1993

During the years 1988-1992 the total employees of the 83 responding firms in JAFZ increased, both through firms' arrival and their growth. Fig. 5.1 shows that the percentage increase of employees in 1988 was 66.3 per cent, the largest annual increase in comparison with the remaining years. That distinction would also apply in the same year to the percentage increase in number of firms which was 54.5 per cent. In contrast in 1990 the percentage of employees went up only 15.6 per cent, while the number of firms increased by 15.7 per cent, so that there appears to be a link between the two. But in 1992 the percentage increases differed as between numbers of employees and firms with 25.0 and 7.8 per cent growth respectively. The

Total employees and growth, of 83 responding firms, 1988-1992.

Figure 5.1



Source: Field work.

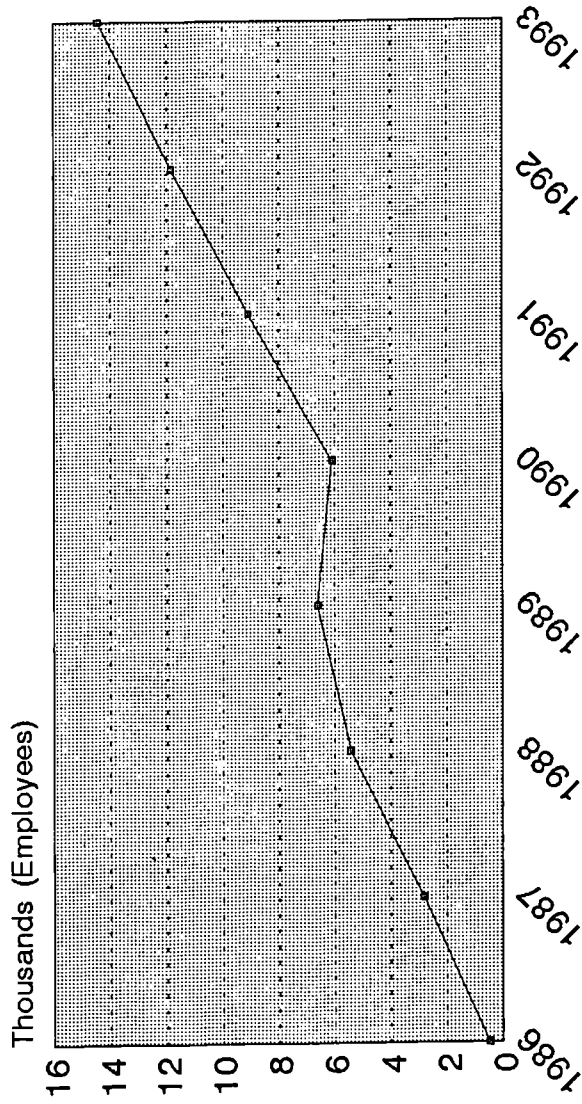
growth in the number of firms recently may be due to the Free Zone Authority changing its policy. In the early years is leaned towards accepting all firms. Now it seems of JAFZ now does not accept every type of firm, particularly those which require a large number of employees. The evidence which supports this view is that the official figures of the JAFZ Authority indicate that the number of employees sponsored by the Free Zone (that is, employees who gained a visa through the authority of JAFZ) in the years 1990-3 increased strongly (Fig. 5.2). These figures do not include employees recruited through their firms directly, so that there are large number of employees working in the Free Zone not included in Figure 5.2. The percentage increase of employees from 1986 to 1993 was 420.0 per cent, but from 1992 - 1993 was 22.0 per cent. That means that even among the total number of employees sponsored by JAFZ Authority, the rate of increase, not surprisingly, fell in comparison with the 1980s.

While the increases of total employees and firms among the 83 responding firms from 1988 to 1992 fluctuated considerably from year to year the percentage increase for employees was more than for the number of firms attracted within the six years mentioned (Figure 5.1). This is to be expected because some firms in the JAFZ would expand and take on more workers.

The annual average increase of workers in JAFZ may be compared with Asian free trade zones. JAFZ has grown faster but on a smaller employee base. For instance in JAFZ, the five year average annual increase in workers of 83 responding firms was 33.4 per cent. In Malaysia the average annual increase from 1975 to 1986 was 9.3 per cent. In Singapore the average increase was 9.7 per cent from 1980 to 1987. In S.Korea the average was only 2.3 per cent for the 11 years from 1975 to 1986.

Employees sponsored by the Free Zone.

Figure 5 . 2



Official Report from the Free Zone.

However, the total employees in Taiwan's Export Processing Zones had reached 66 525 workers by 1991, and in Singapore and Malaysia in 1986 it was 217 000 and 81 000 respectively². Thus compares with under 23000 in JAFZ.

5.6 The nationalities of employees and accommodation in JAFZ

5.6.1 Nationalities

The employees working in the JAFZ, almost 23,000, were distributed throughout the 525 establishments operating in the Free Zone in 1993³. These employees belong to many different nationalities and continents. India and Pakistan represented the largest nationality group of workers. With about 52.6 per cent of total employees operating in the JAFZ⁴. This high percentage is due to the following points:

1. Firms from India and Pakistan represent about 23.6 per cent of the total firms operating in the Free Zone. These firms prefer to import their workers from their own country in view of the ease of providing jobs for their own nationality.
2. There is a strong and long established trade relationship which existed between the UAE and these two countries.
3. Both nations have a large surplus of workers and their labour is low priced (\$ 1.20 per hour).
4. The simplicity of importing workers from these two countries is evident and lacking problems particularly from the political aspect. Moreover, they are reputedly active and their productivity is considered high. Therefore the Immigration Department is lenient with these persons of these two nationalities coming to work in the JAFZ.

5. The close proximity of these two countries to the UAE in comparison with others means that firms prefer to deal with these workers because of their cheap travel tickets in comparison with others workers from other countries.

6. With a large contingent of Indians and Pakistanis already in JAFZ, new workers settle in quickly.

The third largest nationality of workers is Sri Lankan who represent about 33.9 per cent of the total workers in the free zone. Their popularity is because they represent cheap labour (\$1.20 per hour) and most of them came to the UAE in order to work in the clothing and textile firms, two activities they are familiar with in their home country. 86.6 per cent of them are female.

Bangladeshi, represent about 2.9 per cent of the total workers engaged in the JAFZ and form the third largest group. Their percentage is low in view of there being less Bangladeshi firms operating in JAFZ. Also they are not rated as being skilled workers or having any great experience in some of these industries they work in.

The fifth largest group are from the Philippines, representing about 2.6 per cent of the total workers in JAFZ.⁵ This nationality is also considered to provide cheap labour, but the reason they are not more numerous is because of the small number of Filipino firms in the Free Zone, and a reputation for being docile than other South Asian workers. Moreover, their female workers are not wanted in the Free Zone in view of their particular moral reputation, widely perceived in Dubai.

workers from the developed countries represent about 2.3 per cent of the total workers in JAFZ. This (low) figure because local labour is not used to advanced technology, so that most manufacturers require a small number of key experts from

these countries in most manufacturing firms.

The smallest number of workers are from the Middle East group, excluding the UAE. They represent about 2.2 per cent of the total workers in the Free Zone. The reason for this low contribution is because they are not considered to be among the nationalities which provide cheap workers; moreover the immigration department does not give visas very easily to some nationalities which are included in this group, and there is a common view that they are not an easily controllable workforce.

Finally, the UAE's own employees are actually the smallest nationality group in JAFZ, representing about 1.9 per cent of the total workforce. The reason for this extremely small percentage, as reported by the 83 responding firms, is due to the following points:

1. The UAE's employees demand high wages which most of the firms in the Free Zone do not pay and in some cases cannot pay. 31.6 per cent of firms gave this as their reason for not employing UAE personnel. Firms from developed countries considered this to be their main reason.

2. The second reason which lies behind the lack of UAE workers in JAFZ is that not only are wages less, but fringe benefits also, compared with working in the government sectors; this reason was given by about 24.0 per cent in the sampled firms. The greatest proportion of managers who believed that this factor was the main reason for few UAE workers in the Free Zone was from India and Pakistan followed by the UAE, but the firms who least believed that this was the reason were from the GCC and Middle East.

3. The length of working hours was mentioned by 17.0 per cent as the reason for few UAE workers. In fact the number of working hours outside of the Free Zone

in the UAE differs from sector to sector. For instance the average working day in the government sector is six hours. and in the private sector it may approach nine hours. In the Free Zone it is about eight hours. The largest proportion of firms who believed this factor was very significant were from the UAE, followed by GCC and Middle East firms.

4. 14 per cent of firms did not think UAE's employees are qualified. This view is not more widespread because most of the work in JAFZ is relatively simple, therefore high qualifications are not required and the UAE's workers are able to deal with it. Indian and Pakistani firms gave more weight to this view, however.

5. A minority of respondents said that the UAE's workers do not want to work with foreigners. There is little support for this view because there are many private sector firms outside of the Free Zone where the foreign workers represent the majority of the workforce yet, in spite of this, the UAE's employees are working with them. Moreover, the UAE's employees are used to working with foreigners because most of the manpower in the UAE consists of foreigners. Thus in the emirate of Dubai its own citizens' manpower represented only about 7.4 per cent of total manpower in 1985 ⁶.

6. Other reasons given for the few UAE employees included:

a. The nature of the work, such as being hard and dirty. The UAE workers think that they do not need to work.

b. No UAE nationals had applied for work, and the Free Zone does not compel companies to employ UAE citizens.

c. The small size of many firms when most of the UAE persons prefer to work in medium sized and bigger organizations.

d. The service sector in JAFZ cannot offer the same incentives as manufacturing and trade, hence they are unable to attract UAE workers.

We may now consider the firms' reaction if there were to be new policies demanding a minimum percentage of UAE labour be employed in their firms in the Free Zone. It will be best to categorize their answers into three groups.

Many firm's responses to this were positive because the leading group, which represent 37.0 per cent of the total 83 responding firms, said that they are ready to employ UAE's staff without any preconditions; the main nationality groups of firms which chose this answer were the UAE followed by the GCC and Middle East, those from developed countries and joint ventures. The second type of respondents in the survey group said they are ready to accept UAE workers but with conditions. They represented 55.6 per cent of respondents. The largest group of firms to choose this response were from India Pakistan and the developed countries. But a third set of respondents rejected the idea of employing UAE personnel. Only six firms selected this response, four of them being from India, Pakistan and the developed countries as well as two firms from the UAE and Middle East.

We may now consider the relationship between nationalities of employers and employees (Table 5.5). The contribution of these different nationalities among the firms in the Free Zone are as follows: Indian and Pakistani workers represent the majority in the UAE firms, where they constitute 44.9 per cent of the total UAE firms workers; the second nationality grouping working in the UAE's firms are from the Middle East, with Sri Lankans third (12.2 per cent).

The firms which are from the GCC and Middle East employ many of their workers from India and Pakistan, who represent about 34.6 per cent of their total

Table 5.5 Establishments with employees from foreign nationalities among the 83 responding firms.

Firms' nationalities	India & Pakistan	Sri Lanka	Philippines	Middle East	W.Europe	Others
U A E	22	6	5	9	4	3
GCC & Middle East	9	2	6	5	4	-
India & Pakistan	17	5	1	1	-	2
Developed countries	16	3	9	1	9	4
Joint venture	10	2	1	1	2	4
Others	2	1	2	-	1	-
Total	76	19	24	17	20	13
Source: Field work.						

workers, followed by workers from the Middle East, at 19.2 per cent.

Indian and Pakistani workers are seen to have the majority of jobs in the Indian and Pakistani firms. They represent about 65.4 per cent of the total employees, followed by workers from Sri Lanka, who represent about 19.2 per cent.

Developed countries' firms also employ Indian and Pakistani workers as their leading group of employees, representing about 38.1 per cent of their workforce, but they are followed by workers from West Europe and the Philippines, each of which represents about 21.4 per cent.

Generally, most of the firms in JAFZ prefer to employ workers from their own countries as much as possible, but the reason which puts Indian and Pakistani workers in a variety of firms from different countries is their cheap labour.

Concerning the UAE workers, all of them are engaged in UAE firms either as owners of the firms, or as employees, such as working in banks. They represent only about 4 per cent of total workers engaged in the UAE firms.

In summary, therefore, it can be concluded that male workers represent a majority in JAFZ, in contrast with other FTZs in the world where female workers represent a high proportion. 'Skilled' workers in JAFZ represent around 42.2 per cent of total workers. While this has helped to attract advanced technology to JAFZ, but as 98 per cent of them are foreigners, so that this advantage is of lesser importance.

To date, firms operating in JAFZ have tended not to employ UAE workers, who are reluctant to work in JAFZ for reasons mentioned above, the most significant of which is that the firms offer fewer facilities than the government sector. The great majority of workers in JAFZ originate from 3 nearby developing countries, India, Pakistan and Sri Lanka. In order to limit this foreign influx the JAFZ Authority is now tending to prefer to deal with industrial firms requiring fewer workers, particularly as it has managed to attract more than 600 firms, already in eight years of operation.

5.6.2 Accommodation

Foreign workers also need accommodation and camp facilities for foreign workers were provided at JAFZ from the outset. There are four types of room which are offered in the Free Zone as shown in (Table 5.6).

Table 5.7 gives the information on accommodation. Accommodation in the Free Zone has been built in stages, according to requirements. For example some of it was built during the building of Jebel Ali Port, as accommodation for construction workers, but passed to the JAFZ workers, later on. Other accommodation is still under construction.

Where the worker's wage is less than \$ 140 per month his employers pay the

Table 5.6 Tenants' information on accommodation.

Designation	New camp		Old camp	
	Labour	Labour	Junior	Senior
Room size in metres	8 x 4	12 x 2.8	4 x 3.2	8 x 3.3
Maximum occupancy	8 men	8 men	3 men	4 men
Number of rooms per block	8	6	12	6
Number of blocks	23	46	12	7
Total number of rooms to let	184	276	144	42
Source: Official report issued from JAFZ authority.				

rent. Usually if the wage is more than US\$ 140 the workers is responsible for paying the rent. The rentals include the provision of free water in ablutions and free electricity for lights and fans. Companies installing window type air-conditioning units in metered blocks are charged by the operation US\$ 20 per month all the year round (in metered blocks, companies are billed monthly). Concerning the camps which are located in the first Facilities available to residents within the camp area comprise a mosque, privately operated canteens (one shows free videos), barbers' shop, public telephone and playgrounds (football, volleyball and cricket).

It is difficult to assess general standards of provision. All we can say is that the standard of accommodation is acceptable to a certain degree, but it needs some more facilities such as a supermarket, clinic and administrative accommodation, in addition to a ladies' recreation area. There is no mixing between men's and ladies accommodation, indeed their quarters are separated by a security fence.

Managerial accommodation is available as villas or apartments outside of the Free Zone boundary, some of them furnished and others unfurnished. Rents for

unfurnished villas range between \$ 6 800 per year in Jebel Ali Village (5 km from the Free Zone) to \$ 22,000 in Jumairah on the west side of Dubai (35 km from the Free Zone). Apartments are available in Dubai ranging from \$ 4 000 for an unfurnished one bedroom flat to \$ 22,000 for a luxury, furnished, serviced apartment⁷. Most workers in the JAFZ stay outside of the Free Zone, for reason of lack of accommodation in it. This position has a negative effect on workers arriving on their site on time. The Free Zone is far away from Dubai city, at (about 35 km), and the road which connects it with Dubai city is very busy especially during the rush hours. On the other hand commuting may stimulate real estate in Dubai emirate and increase house rents, which can benefit owners of real estate.

Table 5.7 Labour accommodation-comparative summary.

	Tenant's labour accommodation East	Tenant's labour accommodation West	PAJA staff accommodation	Abela labour accommodation	Ladies accommodation
Operated by	Port authority	Port authority	Port authority	Albert Abela	Spinneys
People per room	3,4 or 8	3,4 or 8	2,3 or 4	Up to 8	Up to ten
Meals provided	No (Note 1)	No (Note 1)	3 per day	3/day if required	3 per day
Guide price per person per month	\$ 20 (8 sharing) to \$ 44 (4sharing)	\$ 35 (8 sharing) to \$ 68 (4 sharing)	\$ 200 (4 sharing) to \$ 330 (2 sharing)	\$ 119 (8 sharing) (note2) to \$ 180 (4 sharing)	\$ 75 (10 sharing) to \$ 140 (4 sharing)
AC provided	No	Yes	Yes	Yes	Yes
Laundry bed linen	No	No	Yes	No	Yes
<p>Source: Jebel Ali free zone authority, Dubai. (1) There are privately run restaurants available (2) Including 3 meals per day All operators provide recreational facilities: some more than others.</p>					

5.7 Wages and salaries

Average wages in JAFZ depend on the qualification and sex of employees. For instance the average monthly wage rate of male labour costs is higher than female in all four columns, meaning the males' wages average about 43.3 per cent higher than female workers.

Office wages in JAFZ are seen to be the highest in comparison with the other three columns of Table 5.8. This indicates that most workers in the other three columns are not very skilled, even those reported under the column of "skilled" (the wages of skilled workers in the UAE are usually more than office workers). The male workers' averages are higher than female workers by about 41 per cent.

Unskilled workers in JAFZ represent the lowest averages, the average of its male workers again being higher in comparison with the average of female wages,

Table 5.8 Average monthly wages and salaries in JAFZ ,1993, US \$.

Sex	Office	Skilled	Semi-skilled	Un-skilled
Male	1070	735	500	282
Female	760	520	320	205
Total	1017	691	424	256
Source: Field work.				

with a percentage difference of about 37.6 per cent. But the difference of wages average between the semi-skilled and unskilled is about 66 per cent to the benefit of semi-skilled workers.

The average of wages in JAFZ is high in comparison with many other free trade zones. For instance in Pakistan the monthly average of skilled wages in 1984 was \$ 94, in Brazil in 1983 \$ 275, and in Hong Kong \$ 295. But regarding the

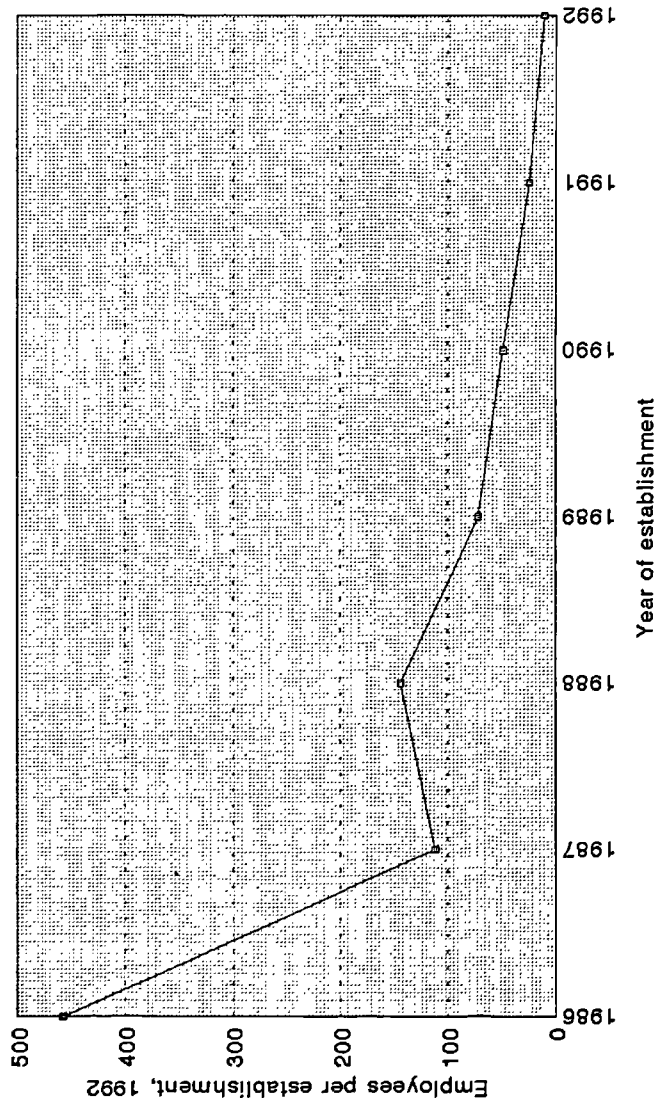
monthly average wages of unskilled workers in the same years in Pakistan was around \$ 62, in Brazil \$ 90, in Hong Kong \$ 194. Although this data is 10 years old, it is indicative of the broad trends in variation which exist. By 1993 the monthly average wages in JAFZ, as shown by the questionnaire, was about \$ 628 for skilled workers and about \$ 244 for the unskilled. The three main reasons for these apparently higher-than-global-average wages are because the proportion of female workers in JAFZ is less than other FTZs, because the main JAFZ employers tend to be involved with activities which traditionally, are not paying the very lowest Free Zone wages rates, and because the cost of living in Dubai is higher than many developing countries, therefore the standard of wages need to be equally high.

5.8 Employment over time; the relation between total employees and date of establishment of each firm

In fact, there is now a policy in the JAFZ to avoid economic activity which requires a large number of employees, especially as the firms in the Free Zone do not readily employ UAE's workers, for the several reasons mentioned earlier in this chapter. Therefore their percentage in the Free Zone does not exceed two per cent of all the nationalities working there. The reason for JAFZ's policy is to avoid problems and negative effects which may occur, and is in addition to a policy of replacing workers by using advanced technology. It could be argued that the Free Zone policy is now working because the proportion of firms which require a large number of workers has been reduced in the 'nineties in comparison with the 'eighties. For instance the number of firms established 1980-9 and employing less than 10 workers was 38.0 per cent but 62.0 per cent for 1990-2 (Figure 5.3). This may,

The relation between employees and date of establishment of firms

Figure 5 . 3



Field work

however, be due to the gradual growth of production and employment which is yet to mature in the new establishments.

In fact the relation between the number of employees and the intended expansion of establishments is inverse, meaning the smaller the number of employees, the more they indicate an opportunity to expand. Therefore the percentage of firms which intended to expand in JAFZ and have less than 50 workers is 44.7 per cent, but this percentage drops to 11.8 per cent regarding firms which have between 50-99 and 100-199 employees. This percentage reaches 6.6 and 1.3 in respect of firms which have employees in the ranges between 200-499 and 500-and over respectively.

5.9 The relation between size of labour force and site area

The relation between the number of employees and total site area in JAFZ is close. With each increase in the number of employees, the size of area is larger (Table 5.9); therefore of the firms which have less than 500 square metres of area,

Table 5.9 The relation between total employees and size of area of the 83 responding firms.

Area m2	below 10	10-49	50-99	100-199	200-499	500&over
499 & below	7	1	-	-	-	-
500-999	6	5	1	-	1	-
1000-4099	3	6	5	2	2	-
5000-9999	3	1	3	3	3	1
100000-over	-	7	2	4	1	-
Total	19	20	11	9	7	1
Source. Field work.						

all but one of them is in the category of less than 10 employees. The firms with 5000 or more square metres show the greater number of employees. Firstly, 39.3 per cent of them are among the category of less than 50 workers, 42.8 per cent of them are have 50-199, and 17.9 per cent of them have 200 or more workers. Therefore, the relation between the number of workers and area size of firms in JAFZ is clearly a parallel one, and this has implications for investment policy.

5.10 The relation between size of labour force and investment

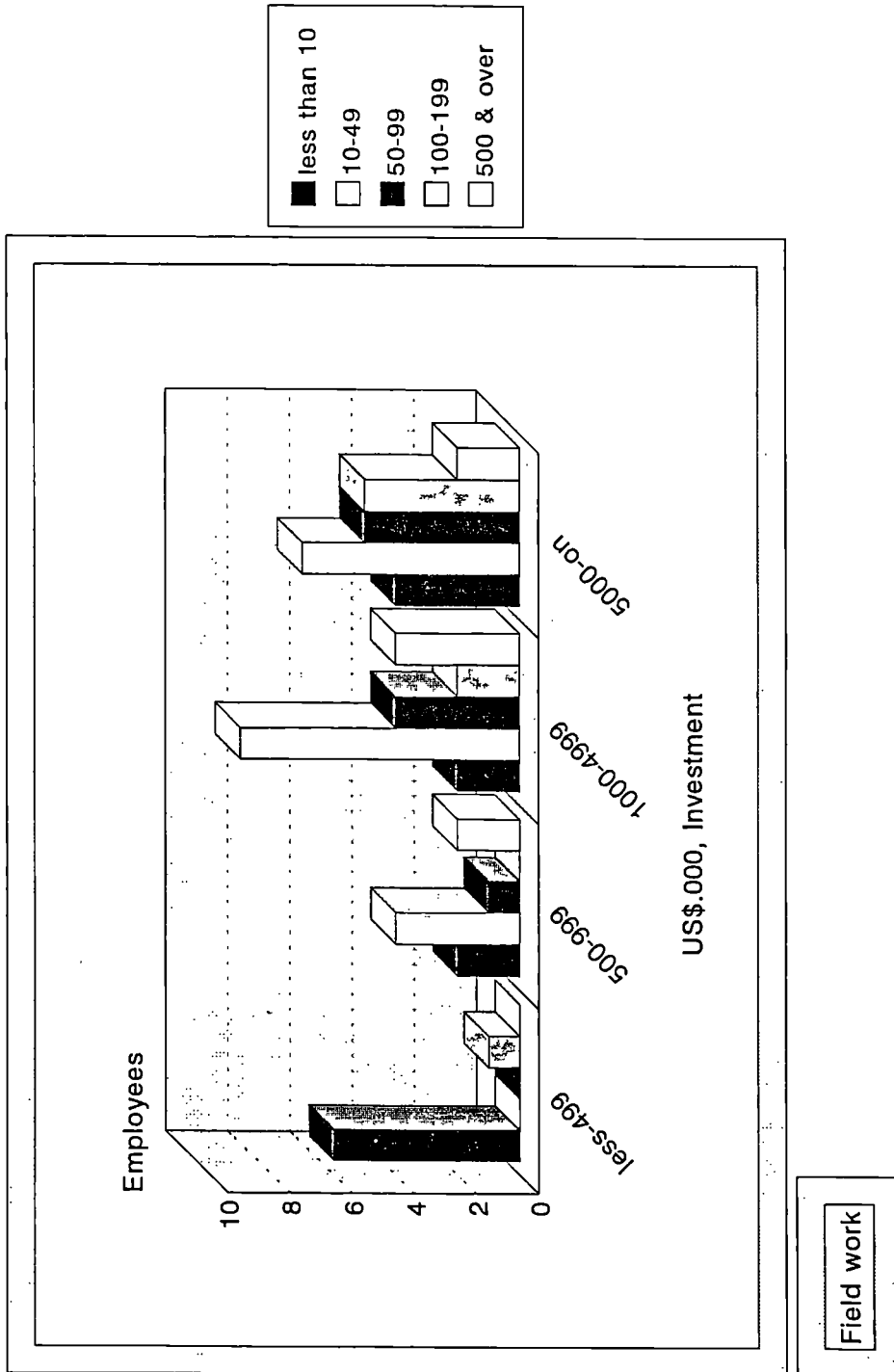
It is of interest that total investment per employee of the 83 responding firms amounts to \$ 40,000.

There is also, however, a direct relation between total employees and total investment in JAFZ, as whenever firms increase the size of investment, they tend to increase the number of employees, even though it is sometimes irregular. Of the firms which have invested less than \$ 500 000, 85.7 per cent employ less than 10 (Figure 5.4). But the firms which invested a large sum also make a great contribution to employment, typically over 100. This indicates that the labour pool of employees has a positive relationship with the attraction of international investment in JAFZ. For example among firms which invested between one and five million dollars, 29.2 per cent employ 50-199 and 16.7 per cent over 200 workers. But among the firms which invested more than \$ five million, 55 per cent employ 50 and over.

This position is different from the rest of the emirate of Dubai. For instance the largest investment in the industrial sector in Dubai is the basic metal industries, about \$ 1.352 billion, but its total of employees is only 2012, placing this sector

The relation between total employees and size of investment in 1992.

Figure 5 . 4



Field work

seventh among nine economic activities for employment. Moreover, the second sector with a large investment in Dubai is chemicals, oil products, rubber and plastic. This sector invested about \$ 463 million, with a total of employees of 2688. The last figure placed this sector sixth for the number of employees. The largest sector for number of workers in Dubai in 1992 was clothing, textile and leather, but its total investment was only about \$ 103 million⁸.

5.11 Employment levels in the different sectors of the JAFZ

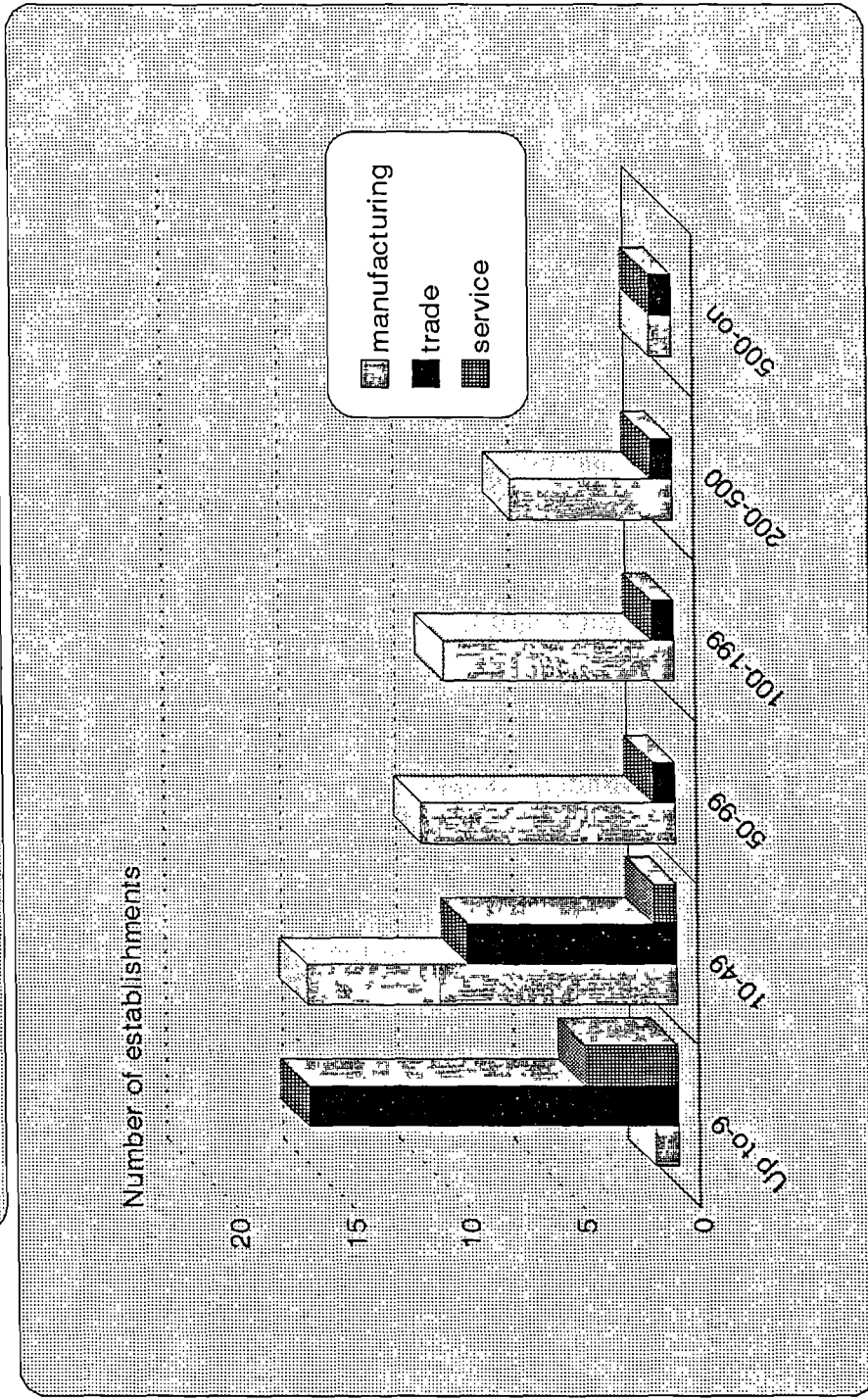
The relation between the total employees and the three industrial sectors in JAFZ is different from one to another (Figure 5.5). The total employees engaged in the manufacturing sector are different from trade and from services, because each sector requires different proportions of employees.

The manufacturing firms represent only around 2.2 per cent of the total responding firms having less workers than ten. But trade and service firms represent about 55.2 and 80 per cent respectively. On the other hand the manufacturing proportion increases among the firms having between 10-49 workers, where it represents about one third. But the proportion of trade and service's firms are reduced to 31 and 20 per cent respectively. Moreover, the proportion of trade and services firms drops very sharply among the firms which had 50 or more workers.

The total manufacturing workers of the 83 responding firms represent two-third (66.9 per cent) of the total workers engaged in all the 83 responding firms. Second comes the trade sector, which represents about 32.7 per cent. Of the total number of employees engaged in manufacturing sector in Dubai emirate, reported in 1992 at 35 372,⁹ the free zone represents only one third of the total employees. But

The relation between total employees and sectors

Figure 5. 5



Field work

the total workers of the manufacturing sector of the 83 firms represent about 53.9 per cent of the total workers engaged in this sector in the JAFZ, due to the deliberate inclusion of larger manufacturing firms in the sample design.

The reason for the large proportion of workers in the manufacturing sectors, though less than other free trade zones, is connected with the availability of cheap labour, and the simplicity of importing it. Most of the manufacturing sector in the JAFZ belongs to the developing countries and therefore they are not able to use technology which does not require economies of scale. Most manufactured products in the JAFZ do not require advanced technology. Many industries in the JAFZ rely on manpower and machinery which requires a large number of workers. Furthermore the manufacturing sector tends to be more labour intensive everywhere.

Male workers represent about two thirds of the total workers engaged in the manufacturing sector of the 83 responding firms, and the other one third is taken up by female workers (Table 5.10). The proportion of female workers is large in comparison with the other two sectors. Most female workers involved in this sector are considered to be skilled or semi skilled, but the proportion of office workers are a minority. This may be because most of them are engaged in the textile and clothing manufacturing sector. But in most of the free zones in the world, female workers represent the majority in the manufacturing sector. For instance, in Hong Kong in the 'eighties female workers represented 60 per cent, in S.Korea and Mexico in the same years they represented 75 and 77 per cent respectively¹⁰.

Regarding male workers most of them are considered to be "skilled" or "unskilled" but the proportion of office workers represents the minority (Table 5.2).

The second sector is trade. It represents about 32.7 per cent of the total

Table 5.10 Total employees by sector among the 83 responding firms.

Sector	Total		Office		Skilled		Semi-skilled		Un-skilled	
	M	F	M	F	M	F	M	F	M	F
Manufact	3 711	2 174	567	58	1 264	750	860	735	1020	631
Trade	2 688	187	611	183	1 693	2	148	-	236	2
Service	34	4	31	3	2	1	-	-	1	-
Total	6433	2 365	1 209	244	2 959	753	1008	735	1257	633

Source: Field work.

workers of the 83 responding firms and 93.5 per cent of employees are male. This may be because this sector deals with the physical handling and transport of goods, whether from port to warehouses or reverse. Therefore this type of job requires male workers more than female, hence virtually all female workers in this sector are in the offices.

The third sector is service. It represents less than one per cent of the total workers of the 83 responding firms. The office group represents about 90 per cent of the total workers involved in this sector. Because most firms involved in this sector do not deal with production and commodities such as banks, insurance companies, transportation etc, this type of firm does not require the other three groups (skilled, semi-skilled and un-skilled)

5.12 The size of labour force by industry

The number of workers in JAFZ differs among the economic activities (Table 5.11). Some activities are "labour - intensive" and require a great number of workers, whereas others require less. This variation is due to the type of activity and its share

of different sectors. This position is considered a very significant factor to improve industrial activity in any free zone. But in JAFZ the maximization of jobs may be of less importance because all of the workers engaged in the manufacturing sector are foreigners, although arguably, the Free Zone should prepare a suitable environment for the employment of domestic workers in the long run. The largest number of workers in JAFZ are involved in the chemicals, oil and rubber activities. They represent about 38.0 per cent of the total workers engaged in the 83 responding firms. The total workers engaged in this activity in Dubai and the JAFZ in 1992 was about 2688¹¹, and the Free Zone represents nearly one third of them (940). But its

Table 5.11 Total employees by commodity classification, the 83 responding firms in JAFZ.

Industrial classifications	Total		Office		Skilled		Semi-skilled		Un-skilled	
	M	F	M	F	M	F	M	F	M	F
Chemicals, oil & rubber	3172	175	499	174	1841	1	272	-	560	-
Clothing, textile & leather	1209	2135	229	21	459	750	246	733	275	631
Metal related	446	3	42	3	178	-	67	-	159	-
Building materials	440	3	52	3	196	-	130	-	62	-
Food, tobacco & beverages	403	8	82	6	74	-	164	2	83	-
Electronic & electrical	250	21	181	19	15	-	13	-	41	2
Equipment & machinery	115	6	35	5	63	1	9	-	8	-
Stationery & papers	87	-	14	-	29	-	20	-	24	-
Services	62	6	44	5	2	1	4	-	12	-
Others	249	8	31	8	102	-	83	-	33	-
Total	6433	2365	1209	244	2959	753	1008	735	1257	633
Source: Field work										

contribution to the total workers in manufacturing sector in the Free Zone, represents about 8.6 per cent of the total only. In Taiwan's export processing zones in 1991 the total number of workers in this activity was 1 792, this number representing about 2.7 per cent of the total workers working there¹². But in Hong Kong, in the same year the total number of employees in this activity was 49, 559; it representing about 7.6 per cent of the total employees working there¹³.

These statistics indicated that the total workers engaged in this activity, chemicals, oil and rubber activities, increased rapidly between 1991 and 1992 in the JAFZ. This sort of activity requires a large number of workers, especially male workers, because it is not suitable for females because of dealing with heavy and dirty materials. Moreover, the workers are sometimes required to cross miles of sea in order to arrive at the oil fields. Hence female workers represent only about 5.5 per cent of the total workers in this activity, all of them being office workers. Male skilled workers represent the majority in this activity, and this industry is also the most important for semi- skilled and un-skilled male workers in other activities. These are the activities of Emirates Petroleum Co, Amco Lubricants, Middle East Lubricants and Plastic Powder Coating Co and Union Carbide Chemicals and plastic from the UAE, Emicos International Limited from Pakistan, and McDermott from the USA.

Clothing, textile and leather activity are to be considered also of first rank importance with the previous activity, because they have the same percentage of workers among the 83 firms. These two activities represent around three quarters of the total workers of the 83 responding firms in the free zone. The total workers engaged in manufacturing clothing, textiles and leather in Dubai and JAFZ in the

1992 was 7 434, The Free Zone represents about 80 per cent of this figure, with 53.8 per cent of the total workers working in the manufacture sector in the JAFZ¹⁴. Some of these firms are Wardah, Gulf Textile, Gulf Denim and Fabritex from Pakistan, Alpine Creations from the UAE and Antenna and Atraco industrial enterprises from India.

This activity is the only one which has a majority of female workers, (63.8 per cent). This percentage represents about 90.1 per cent of the total female workers of the 83 responding firms in JAFZ. This indicates that most female workers came to the Free Zone in order to be involved in these types of manufacturing firms, and on the factory floor because the proportion of female office workers in this activity is less than one per cent. In the Dominican Republic FTZ in 1985 the percentage of female workers in this activity was 72.9 per cent¹⁵.

In 1991 the total workers engaged in this activity in the Dominican Republic Free Zone, 4945, was more than half of the total free zone workers¹⁶. The percentage of increase between 1991 and 1992 was around 18.7 per cent. The total employees of Taiwan's export processing zones in this activity in 1991 was 8395 workers, and it represented about 12.6 per cent of the total employees working there. But in Hong Kong in the same year the total employees in this activity were 291 380 representing about 44.5 of the total employees working there¹⁷. Moreover, the total employees of Penang FTZ in Malaysia in 1982 involved in this activity was 24 496, thus it represented about 62.3 per cent of the total employees working there.¹⁸

This activity is considered a good opportunity for engaging UAE female workers. But there are some difficulties which prevent them working in the free zone:

1. Average wages are considered to be too low for the UAE female workers,

especially as the average of female wages in the UAE is asserted to be the same as male workers. Article 32 of the Federal Labour Act No.8 of 1980 states that " a woman shall be given the same wage as a man if she is practising the same job";¹⁹ although as in Britain this does not prevent employers placing women in separate tasks, which are low-paid. The UAE female workers in 1980 represented about 8.8 per cent of the total of the UAE labour force²⁰.

2. In spite of it not being a long distance between the Free Zone and Dubai City, it still may be considered too far for females.

3. The UAE cultural tradition would not allow female workers to travel alone 35 km everyday to the Free Zone and then to return home alone after spending nine hours there.

Under these circumstances, therefore, we think it is difficult for the UAE female workers to work in this activity in the Free Zone, although the Islamic religion allows them to work in this activity or in others but with some conditions.

Electronic and electrical activity is the most significant activity in many FTZs, not because of it having a large number of employees, but in view of its other significance. In fact the number of employees involved in this sector in JAFZ is to be considered to be poor in comparison with some other FTZs in the world. It represents only 3.1 per cent of the total employees of the 83 responding firms. Moreover, most firms involved in this activity in the JAFZ deal with the trade sector.

In Taiwan's EPZs the total employees involved in this activity in 1991 was 43062; it represented about 64.7 per cent of the total²¹. In Hong Kong the percentage in the same year was less, around 11.3 of the total employees who work there²². But in Mauritius and the Dominican Republic the percentage of employees

in electronic and electrical activity was much lower at about 1.2 and 4.5 per cent respectively²³.

In most FTZs in the world, this type of activity employs a very high proportion of women workers. This phenomenon, as stated earlier, is due to the low wages of female workers and the need for a level of manual dexterity which the majority of males are said to find difficult to achieve, because it needs a high level of attention and is a very repetitive type of work²⁴. In Mexico for example in 1979, the electronic industry had more than 82 per cent of female workers in its labour force. In JAFZ most workers engaged in this activity are men, as they represent about 92.3 per cent of the total employees in this activity.

The low share of female workers in electronic activity in JAFZ is due to the nature of work among the firms which have arrived, because most of this activity, in all the firms as well as in the sample, are involved in trade and not the manufacturing sector. Firms operating in JAFZ prefer to employ males especially that is normally the nature of trade work in the UAE.

The total employees working in food, tobacco and beverages represents about 4.7 per cent of the total employees of the 83 responding firms, male workers representing virtually all employees in this activity. Change in the number of employees in this activity in the JAFZ indicates that this activity has not grown very much. The total numbers of workers in the manufacturing sector of this activity in the Emirate of Dubai and JAFZ were about 4383, so that those who work in this activity in the Free Zone represent only around 21.4 per cent.²⁵

5.13 Conclusion

The main result of this analysis is that UAE employees represented less than two percent of the total employees working in the Free Zone. There are many reasons behind this. But it seems the factor of local employment was not the principal reason behind establishing the JAFZ.

Most workers in the Free Zone are considered "skilled". Therefore it would be a good opportunity for the UAE employees to gain work experience, if the Free Zone were able to persuade foreign firms to employ UAE workers.

Male workers in the JAFZ represent the majority, contrary to other free zones spread around the world. The main reason for that may be because it is difficult to find staff locally. This is in addition to other reasons mentioned in this chapter. In all activities male workers represent the majority except in clothing, textile and leather.

There is a parallel relation between the number of employees and firms, meaning whenever there is an increase in the number of firms there is an increase in the number of employees in the Free Zone. This increase of employees was limited in the last two years in comparison with the 'eighties. But in spite of the negative effects of importing and depending on the large number of employees, there is a positive effect that the firms which have more employees invested more locally in comparison with the others having less employees.

Firms' policies regarding workers differ from one firm to another according to their type of activity. For instance textiles, clothing and chemicals firms require a large number of workers, as these firms are more-labour intensive and rely less on machines than other firms in JAFZ. Firms in trade require fewer workers. In general it can be concluded that most industrial firms in JAFZ prefer to be labour-intensive

rather than machine-dependent. As regards UAE policy towards employing a large or small proportion of foreign employees, it seems there is no clear line. Whilst there is no restriction on bringing foreign workers to the UAE, the UAE Ministry of Immigration does not allow any firm to employ more foreign workers than required. For example, a firm's request for visas for more than 40 workers is not guaranteed automatic acceptance by the Ministry. The Ministry will examine whether the type of activity warrants that number and may accept or reject the request depending on the requirements of the job.

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Chapter Six

Worldwide and Local Trading Relations of the JAFZ

6.1 Introduction

This chapter will focus on the external trade of the JAFZ (imports and exports). The intention is to determine the value and volume of imports and exports and their distribution both locally and abroad. The relationship between the firms operating in the JAFZ and their home countries through their imports and exports will be discussed. Research will also look at the relationship between external trade and the size of investments, the labour force and markets. The volume and value of imports and exports coming through the Jebel Ali and UAE ports during 1992 will be examined and also the total size of imports and exports from the Free Zone through UAE ports. To what extent has a 'free zone' actually encouraged trade, in particular of re-exports? We will refer to Malaysia, Hong Kong or Taiwan in most sections in order to see whether JAFZ is a conventional export processing zone, and if not why not? Also the chapter will discuss briefly the external trade of the other, small UAE Free Zones (Fujairah, Ajman and Um Al Quwain).

6.2 External Commercial Activities of the JAFZ

The most important factor is not necessarily the ratio of imports to exports. Many FTZs in the world import most of their raw material, components and parts from abroad. One of the main factors behind establishing FTZs and attracting foreign

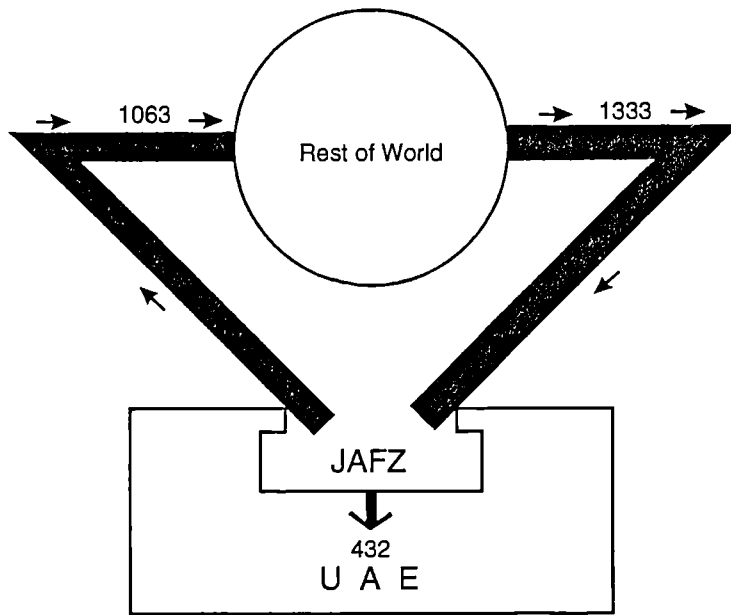
firms to them is to promote exports, especially the export of goods made locally in FTZs. In such cases the narrow ratio of exports to imports may not give us a balanced picture of the success or otherwise of the trading position of the country and the FTZ, and the positive effects of exports on the total balance of trade of the host country may not be realized. Hence it may be that we get a more accurate indication of the impact of FTZ exports by calculating the absolute balance of trade, the total volume or value of exports deducting that of imports.

6.2.1 Exports

Figures 6.1.a and 6.1.b show the total value of all firms' and of the 83 responding firms' imports into and exports from the JAFZ in 1992. Figure 6.1.a shows total imports excluding oil, of all firms operating in the Free Zone (US\$ 1,333 million) and their total exports abroad (US\$ 1,063 million), in addition to the total imports of the UAE market from the Free Zone (US\$ 432 million). But Figure 6.1.b shows the total value of imports and exports of the 83 responding firms into and from the Free Zone (US\$ 984 and 549 million respectively), in addition to total imports of the UAE market from the 83 firms (US\$ 321 million). The sample of 83 firms represents well over half the apparent total trade in both dimensions because it includes some oil company establishments and other larger companies.

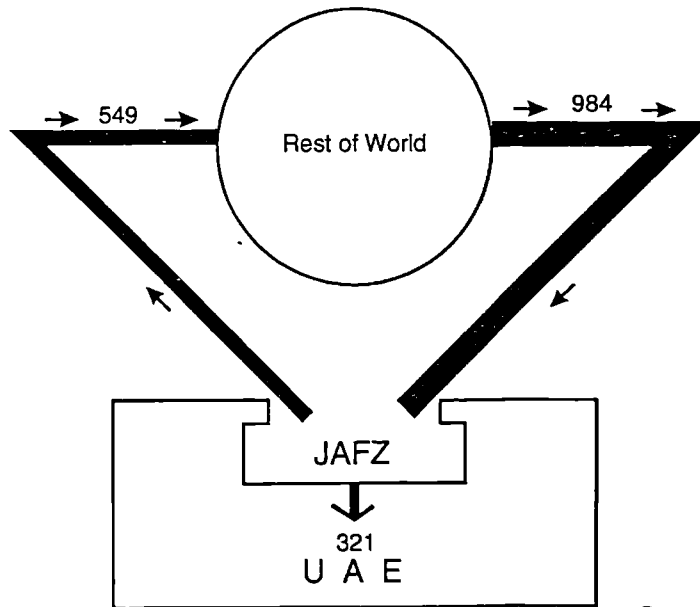
Figures 6.2.a and 6.2.b show equivalent data by volume, but with the addition of the *other* UAE ports. Thus Figure 6.2.a shows the total volume of imports from abroad into the Free Zone (1,400 million tons), total exports from the free zone to abroad (824 thousand tons) and total exports into the UAE market (198 thousand tons). Further, the Figure shows how this volume of imports and exports was

Figure 6.1a IMPORTS AND EXPORTS BY VALUE, \$ MILLION 1992



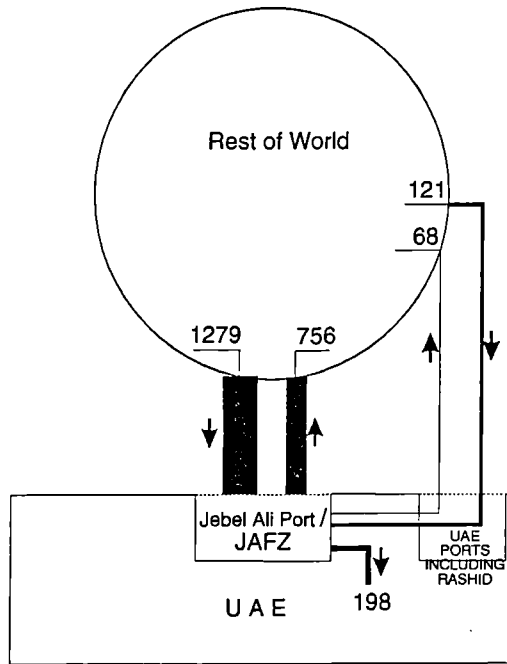
Source: JAFZ data, all firms excluding oil

Figure 6.1b IMPORTS AND EXPORTS BY VALUE, \$ MILLION



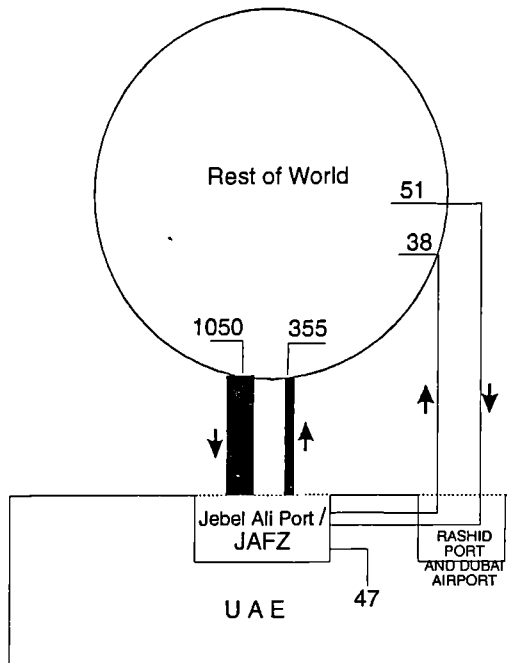
Source: Fieldwork, 83 respondents including oil

Figure 6.2a IMPORTS AND EXPORTS BY VOLUME (ALL FIRMS), TONS '000



Source: JAFZ data, 1992
all firms excluding oil

Figure 6.2b IMPORTS AND EXPORTS BY VOLUME (83 RESPONDENTS), TONS '000

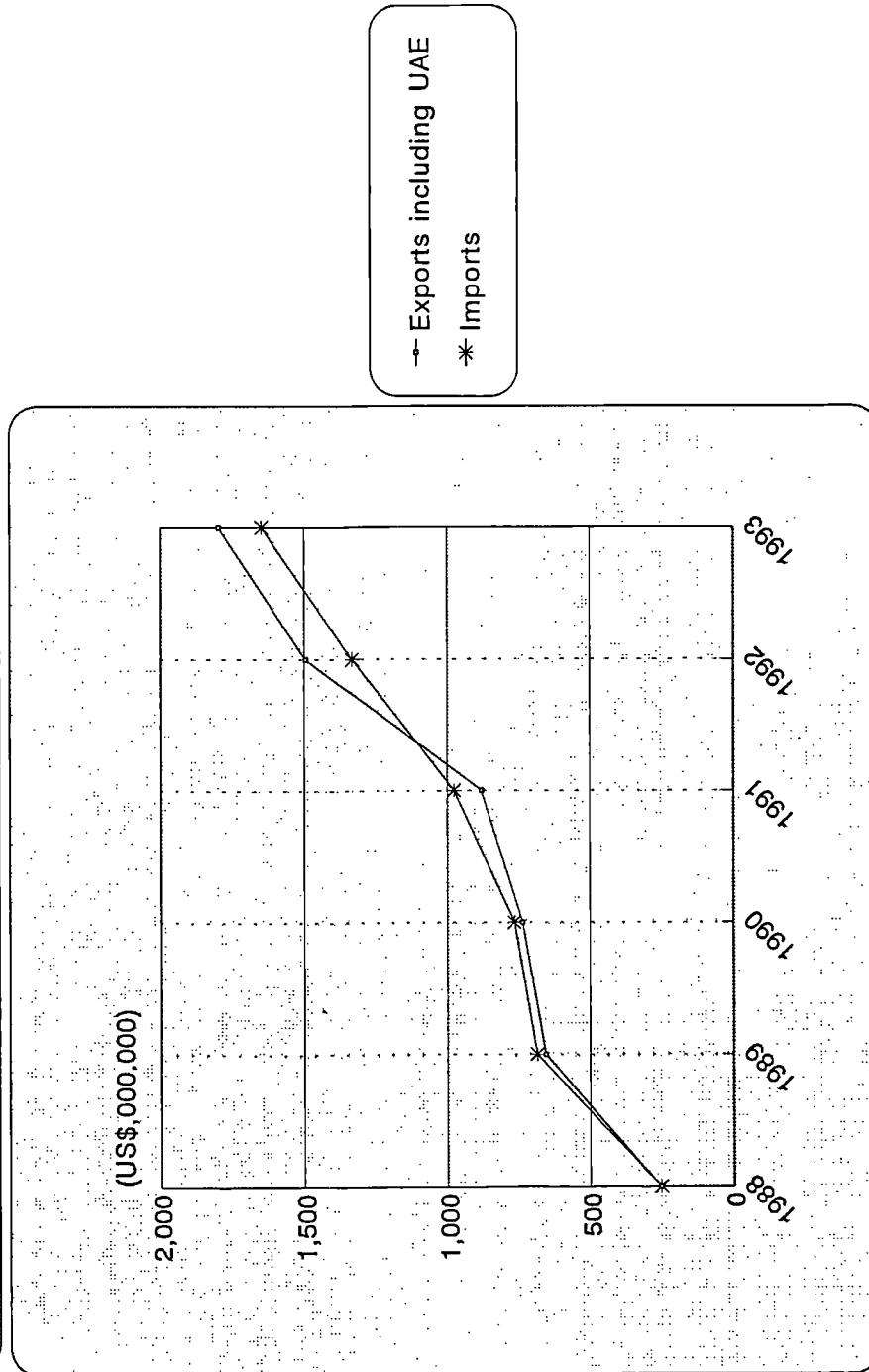


Source: Fieldwork,
83 respondents
including oil

transported. Total volumes of imports and exports via Jebel Ali Port (JAP) are 1,279,000 and 756,000 tons respectively. But the total volume of imports and exports of the free zone through others UAE ports are 121,000 and 68,000 tons respectively. Figure 6.2.b shows the total volume of imports and exports of the 83 responding firms into and from the free zone. These imports and exports represent about 1,101,000 and 393,000 tons respectively with 47,000 tons which goes to the UAE market. These exports and imports passed through UAE ports. This figure includes the main two ports, that is Jebel Ali and Rashid port, although total imports and exports of the free zone through Jebel Ali port are greater than through Rashid port. The aggregate export and import value of the 83 firms in the JAFZ in 1992 amounted to US \$ 549 (not including the UAE market) and US\$ 984 million respectively. These two figures represent about 51.6 and 73.9 per cent of the total exports and imports of the JAFZ respectively. It will be possible from our field survey to split these figures down to see and rank the value of the various categories of imports and exports by percentage; and this will be done later in this chapter.

The total figure for exports from the JAFZ in 1992 was more than double that in 1989. The value of exports from the free zone within the five year period in Figure 6.3 increased yearly (the data including exports to the UAE market). This increase is probably due to the increase in the number of firms operating in the free trade zone. For example, in 1989 there were only 102 firms there, but by August of 1992 the number had increased to 336 firms¹. It follows that the percentage of imports and exports should automatically increase. A significant part of the reversal in the ratio of exports to imports is due to the electronics firms which in recent years have become established in the free trade zone. The electronic products of the 83 firms

Total value of exports and imports from and to the JAFZ (excluding crude oil) from 1988 to 1993
Figure 6.3



Source: Official report from the JAFZ.

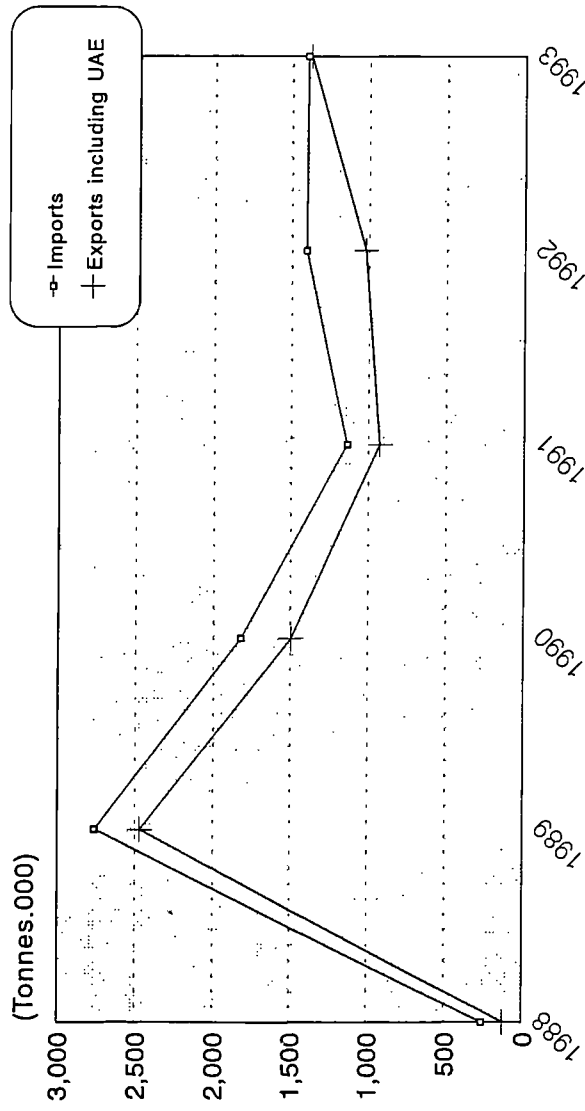
operating in the FTZ form about 51.8 per cent of the total value of the 83 firms' exports (see Table 6.3). However, the exports by weight did not follow the value of exports upwards (Figure 6.4). The reason for that may have been the Gulf crisis, because the Iraqi market was previously importing thousands of tonnes of grains from the JAFZ and exporting thousands of tons of refined oil every year to the Free Zone. Therefore the level of exports by weight from the Free Zone decreased in the 1990s.

A near fivefold increase in the value of the free zone's exports from 1988 to 1992 occurred (an average annual increase of 64.9 per cent). The lowest percentage increase, 12.4 per cent, occurred in 1990 and this indicates the impact of the Gulf Crisis from August on the figures. The crisis led to a diminution in the sale of Free Zone products, and delays in the delivery of raw materials also affected the export figures of many firms (see Chapter seven). In addition commercial shipping in the Gulf was seriously hampered by missiles, etc. and this too hindered trade. On the other hand the highest percentage increase in the value of exports, 69.9 per cent, occurred in 1992 and in this instance the aftermath of the Gulf crisis generated a demand for goods in the market area of the GCC and the Middle East. Market prices increased, and the value of the products increased correspondingly. There was no increase in exports assessed by weight (Figure 6.4) in the years 1990 and 1991. The percentage change was negative during these two years (about -39.4 and -38.1 per cent) respectively. But this measure improved only slightly in the next year, thus the increase in electronics in the total exports of the Free Zone does not greatly affect crude tonnages of trade.

In 1993 the total value and weight of exports from JAFZ (excluding exports to the local market) were US\$ 1,307 million and 840 thousand tons respectively. The

Total weight of exports and imports to and from the JAFZ from 1988 to 1993

Figure 6 . 4



Source: Official report from the JAFZ.

former represented a percentage increase in value over 1992 of 23 percent.

6.2.2 Imports

Imports were clearly greater than exports during the first three of the four years shown in figure 6.3. and more among the 83 responding firms (Imports \$US 984,357 millions, Exports \$US 869,676 millions). However, as imports by value rose, exports also rose at a similar pace.

The biggest difference in the increase of imports and exports occurred between 1988 and 1989 (12.1%). The reason for the difference is probably that before that time the Free Trade Zone was still being established and this necessitated a lot of building work and installation of costly equipment. Thus, this structural stage necessitated the import of a great amount of building materials, machinery and other raw materials. In addition the work required to establish the infrastructure for the FTZ also meant an increase in imports, of road-building machinery and materials, communications equipment, etc.

In 1990 the difference between imports and exports growth reduced. The main reason for the drop appears to have been the Gulf Crisis which had somewhat more of a negative effect on imports than exports from and to the Free Zone. It also meant building work on the FTZ was delayed and transport of goods severely hindered, all of which affected the figures. It may be the effect was not clear with the value data but it was very clear with the reduction in volumes. This difference may indicate that the cost of production was increasing rapidly. The average annual increase of imports in the JAFZ during the six years period under examination here, 1988-93 was 61.5 per cent.

It may be useful at this stage to make some comparisons between the JAFZ's activities and that of other EPZs in the same period. In 1991 the value of imports in Taiwan's EPZs was US \$1,923 million² whilst those of JAFZ for the same year was US \$ 976 million, a difference in Taiwan's favour of about US \$ 947 million. This comparison serves to illustrate not only the difference in scale between Taiwan's EPZs (Taiwan has four free zones) and the JAFZ, but also the early success of the JAFZ. Taiwan's free zones had been operating since the 'sixties and were well developed. In Malaysia, EPZs imports increased by 40.8 per cent between 1978 and 1979 and the average increase for the six years 1974 and 1979 was 28.4 per cent³. If we examine the increase in imports by volume rather than value in the JAFZ, between 1988 and 1992 they rose by an average of 229.0 per cent, but averages are not too useful here as increases in this period varied greatly from year to year, for example the percentage increase between 1988 - 1989 was 965.2 per cent, dropping very sharply in the next two years to minus 34 and minus 37 per cent respectively for reasons mentioned earlier. Thus taking an average does not always give an accurate indication of what is going on and this must be borne in mind.

In the period 1991-92 imports (by weight) began to rise again and increased by 23.7 per cent. Figure 6.4 shows that imports exceeded exports slightly throughout the years reported. However, in the last year studied (1992), the value of exports was higher than that of imports; the percentage of increase by value being 12.2 per cent over that of the previous year. The significance of this will be discussed later in Chapter Seven.

In 1993 the total value and weight of imports to JAFZ were US\$ 1,649 million and 1.4 million tons respectively. This represented a percentage increase in value

over 1992 of about 24 per cent.

6.2.3 Total exports and imports of the other UAE Free Zones

Total exports of the other UAE Free Zones (excluding JAFZ) in 1992 was about US\$ 4.1 million. Fujairah Free Zone represented around 59 per cent of these exports. Total imports of the three zones in the same year was about US\$ 3 million. Fujairah represented about 91 per cent of these of those imports (Table 6.1).

Table 6.1 Total value of exports and imports of the smaller UAE Free Zones in 1992 (US\$'000).

Name of Free Zones	Exports	Imports
Fujairah	2,424	2,722
Ajman 1	899	135
Um Al Quwain 2	815	131
Total	4,138	2,988
Source. Official report, Fujairah, Ajman and Um Al Quwain Free Zones. 1. Excluding the firm dealing with tobacco. 2. Estimation		

Ajman and Um Al Quwain Free Zones do not have a deficit in their balance of trade, the reason being that they do not have firms dealing with trade to the local market as does JAFZ. Therefore they do not import a large quantity of ready made goods for distribution in the local market or internationally. They have only few trade offices importing a small quantity of goods for their local market. This is in addition to importing raw materials for the four factories operating there. But the position in Fujairah Free Zone is different from the other two Zones in that it has a deficit of about US\$ 298,000 in its balance of trade. This may be because trade firms which operate in Fujairah Free Zone are bigger and import more ready-made goods for the

local market. For example in 1992 its exports to the local market were around US\$ 1.4 million. This amount represented about 0.3 per cent of the total JAFZ exports to the UAE market.

Comparing total exports and imports of these three Free Zones with the JAFZ in 1992, they would represent only about 0.4 and 0.2 per cent respectively of the total JAFZ exports and imports.

6.3 Trading patterns among the 83 firms

6.3.1 Exports

There are no official data which desegregate overall trade activity by commodity; thus the fieldwork among 83 firms is especially valuable at this stage. In terms of commodities which are exported, electronic products form the largest category, comprising 51.8 per cent of the total exports by value of the 83 responding firms. One reason why electronics represent such a large proportion of the total export volume is that electronic products are high-value commodities, and though there are firms in the JAFZ whose production levels are much greater, if exports are assessed by value rather than value-added, electronics predominate. Another reason for the dominance of electronic products is the presence in JAFZ of large Japanese firms involved in this type of activity. Such enterprises came to the Free Zone specifically to exploit Dubai as a major centre for distributing their finished products rather than as a manufacturing base. The category of textiles (including clothing, and leather-based goods) is in second place in the value of exports, at 23.0 per cent and the category of chemicals/oil/rubber-based products in third place, with 7.8 per cent of the total value of exports.

In Malaysia, FTZ exports are largely based on electronic equipment and components, which are assembled, and, in a few cases, manufactured in the FTZs. The volume of electronic exports increased very sharply in Malaysian FTZs after 1971. Within a period of eight years (1971-1979), Malaysia's rapid expansion in the electronics industry made it one of the world's leading exporters of integrated circuits, especially computer circuits. It was the Malaysian FTZs which led the country's exports of professional, scientific and technical instruments. By 1979 FTZs contributed more than a quarter of Malaysia's manufactured exports. Most of these exports were electronics components and appliances⁴. The same situation can be seen in Taiwan's EPZs. Electronics products in Taiwan's EPZs in 1991 constituted the largest category of exported goods, representing 74 per cent of the total exports. The category of clothing was in second place with 6.1 per cent and optical products in third with 5 per cent of the total⁵.

The pattern of exports for locally manufactured goods from JAFZ is different from the pattern of goods passing through.

In 1992 in the JAFZ locally manufactured goods comprised 39.3 per cent of the total of the exports of the 83 responding firms. More than half of these exports were in the category of clothing/textiles/leather. Products in the category of chemicals/oil, and commodities involving some form of metal production came in second and third place respectively. The remaining 60.7 per cent of exports came from trading companies. The largest proportion of exports was from electronics firms who contributed 85.3 per cent of exports from trading establishments in the Free Zone. Thus we see the point of great significance that, while JAFZ shares with other Asian FTZs an emphasis on electronics, this is not in production, but simply in trade.

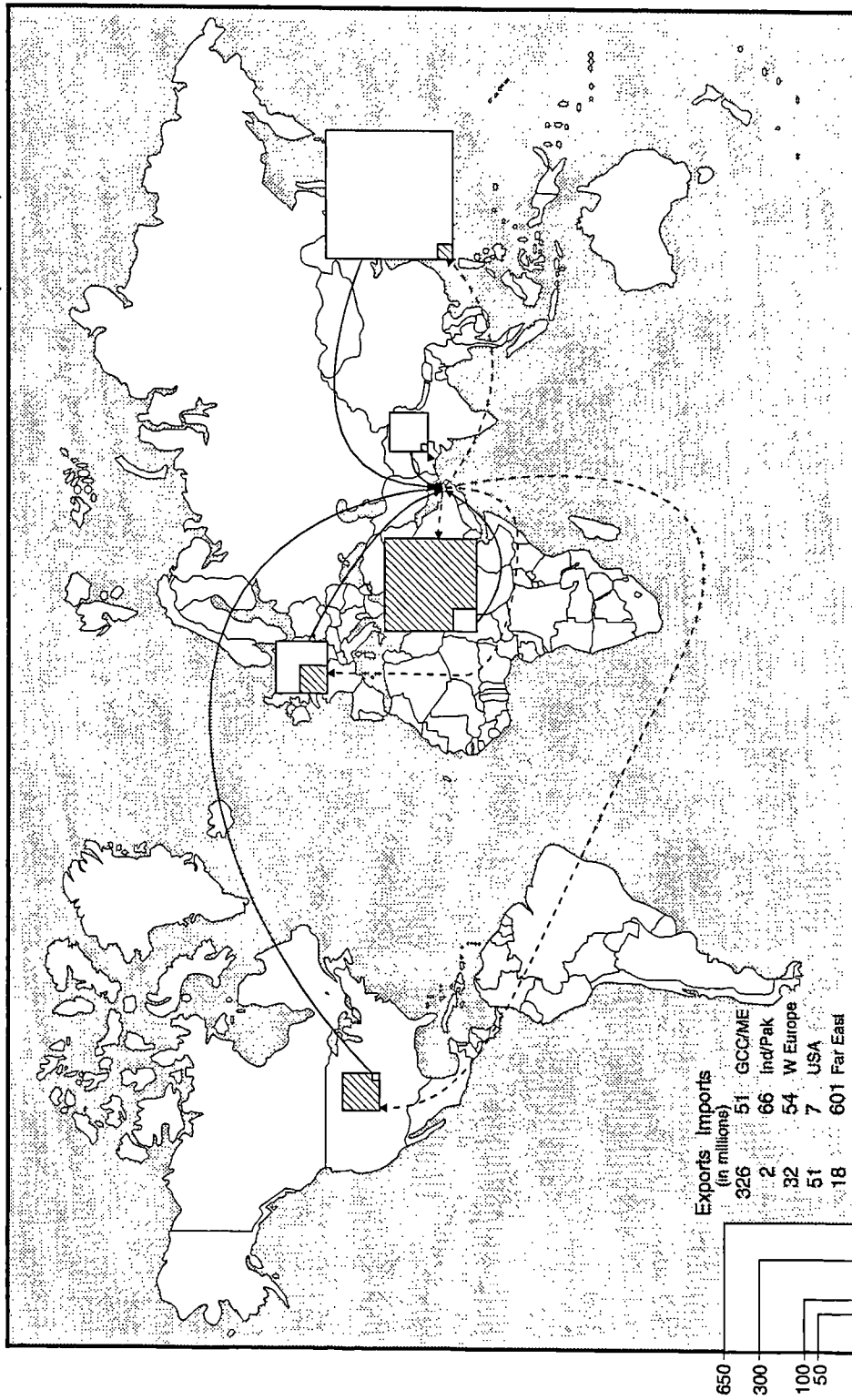
The geographical range of imports and exports covers around 80 countries for the JAFZ. In terms of exports, the GCC and the Middle East are the biggest buyers of goods from the JAFZ, purchasing around US \$ 326 millions (59.4% of the total value of exports from the 83 sampled firms). Next in line is the USA purchasing US \$ 51 millions (9.3%), and West European countries purchasing US \$ 32 millions (5.9%) worth of commodities (Table 6.2 and Figure 6.5).

Table 6.2 The geographical distribution of exports and imports from the 83 responding firms in JAFZ, excluding rest of UAE (US\$'000).

Industrial classification	Exports	Imports
GCC & Middle East	325 635	50 816
India & Pakistan	2 061	65 661
W. Europe	32 260	54 429
USA	51 135	7 198
Far East	17 776	600 984
Miscellaneous	98 530	47 128
Others	21 258	154 445
Total	548 655	984 357
Source: Field work		

In 1992 the electronic products represented two-thirds of the total value of GCC and Middle East imports from the JAFZ. The second largest category of commodities exported to the GCC and the Middle East was that of chemical / oil / rubber - based products which accounted for 10.5 per cent of the total value of commodities exported from the free zone. The third largest category was foodstuffs, representing 7.4 per cent.

INTERNATIONAL TRADE OF JEBEL ALI FREE ZONE, BY COUNTRY GROUPS. (83 FIRMS)



Source: Fieldwork

The category including clothing, textile and leather represents 85.1 per cent of the total value of goods exported to the USA from the JAFZ. This percentage represents about one-third of the total value of these products exported from the Free Zone.

The largest proportion of exports to West European countries is in the category of clothing / textiles / leather products, which represents about half of the JAFZ exports to West European countries. In second place is electronics, which represents about one third of Western Europe's imports from the free zone. All this indicates that the largest flows of exports from the free zone to the Middle East is electronics, but to the USA and Western Europe it is clothing, textiles, and chemical products.

By comparison, the export distribution of Taiwan's EPZs (where in 1991 the value of the total exports was US \$ 3,806 billions), showed that one-third of the total exports went to Asian countries; North America and Europe each imported about 27.0 per cent of the total exports of Taiwans's EPZs⁶. This seems to indicate that location is a major factor in the distribution of the products of the JAFZ in the Middle East and Taiwan's EPZ in Asia.

The ratio of imports to exports among the 83 firms examined in the JAFZ showed significant differences according to the country of origin of the firms. Other determinants were the value, quality and weight of products together with market demand.

Concerning total exports of the 83 firms by nationality, not including the UAE market, developed countries' firms controlled the largest share of exports, representing about 49 per cent of the total of the exports of the 83 responding firms.

This may be due to the fact that they deal with expensive products such as electronics, equipment and machinery. Next come India and Pakistan with 25.1 per cent of the market share, followed in third place by joint venture enterprises with 9.8 per cent.

Most of the firms operating in the JAFZ distribute their products outward from their own countries, especially those firms involved in distribution rather than the manufacturing sector. Therefore it appears the JAFZ is a vehicle for firms of developed countries to export their products to the countries of the Middle East and pick up valuable trade advantages by virtue of their JAFZ base. For example 65 per cent of the total of Japanese exports from the JAFZ is distributed among the GCC states and the Middle East, and the remainder are exported to the USA and 'other countries'. Firms from the United Kingdom and the United States export most of their products to the Middle East (100 and 80 per cent respectively). Indian and Pakistani firms export most of their products from the JAFZ to Europe and the USA (42 and 29 per cent respectively), the remainder of their exports being distributed to different areas such as the Far East (18%), the Middle East and 'other countries'.

However, the position of exports of UAE firms differs greatly from that of other nationalities in the JAFZ; around 73 per cent of the exports of UAE firms in the JAFZ are distributed in the local market, with the remaining exports going to the Middle East (22.5 %) and 'other countries'.

6.3.2 Imports

In terms of commodities in 1992 (Table 6.3, below), electronics comprised the largest percentage of imports in the JAFZ, representing 56.3 per cent of the total

Table 6.3 Total exports and imports of commodities by type among 83 firms, excluding rest of UAE (\$ US '000).

Countries	Export	Import
Electronics	283 990	554 101
Clothing, textiles & leather	126 265	51 208
Chemicals, oil, rubber	42 610	104 260
Metal related	32 342	41 085
Foodstuffs	26 265	20 937
Stationery, paper	21 930	11 127
Building materials	1 230	1 550
Equipment, machinery	427	32 689
Others	13 596	167 400
Total	548 655	984 357
Source. Field work.		

imports of the 83 responding firms. Chemicals, oil and rubber took second place at 10.6 per cent, and clothing, textile and leather goods were third at 5.2 per cent of the total import. We can see a strong dependence on foreign supplies elsewhere. But total imports of the 83 firms from the UAE were considered low, estimated at around US\$ 25,688 million (excluding oil).

In the same period in the Penang FTZ most raw materials were imported from abroad, for instance in 1982 83.6 per cent of raw materials, the remainder being purchased locally within the FTZ.⁷ One reason why a high proportion of raw materials are imported from abroad is the nature of firms operating in the FTZs, being subsidiaries of TNCs which came into the area in order to tap the cheap labour available in the FTZs.

The need to import large quantities of raw materials depends on the type of products manufactured and assembled by FTZ firms. About 85 per cent of the total value of purchases of raw materials in Penang FTZ in Malaysia went to supply the electronics industry. This figure not only indicates that the larger part of activity in the Penang FTZs is concerned with electronic commodities, but also that the nature of the activities is the assembly of electronic components manufactured elsewhere, rather than manufacturing the whole product on site. This is reflected also in the type of imports which include electrolytic capacitors, variable resistors, drum cores, ceramic capacitors, gold wire and silicon rods⁸.

By contrast, the following are the main categories of commercial trade in the JAFZ: (1) electronics; (2) clothing, textile, leather; and (3) chemicals, oil and rubber. These three categories form the bulk of both imports and exports. Some of these industries import more than they export, for instance, the total import and export of electronics activity by value is in the ratio 2.3 : 1 respectively. The total import of chemicals, oil and rubber in comparison to their export is approximately 2.4 : 1 per cent respectively, but in the clothing, textile and leather industries imports were less than exports - in the ratio 1 : 2.5 by value. Therefore, unlike the other two main categories of industry, the clothing/textile/leather products are largely made up in the Free Zone rather than merely being assembled there for the purpose of attracting favourable conditions for re-export. In this commodity, JAFZ does function as an EPZ, supplying exports mainly to the USA and Western Europe. In the electronic industry in the JAFZ, 51.2 per cent of its imports were redeemed as products that were exported, that is the imports were, eventually, re-exported abroad.

Concerning the geographical distribution of commodities among our own

sample of firms, most JAFZ imports come from the Far East, (90% of those in turn from Japan), worth around US \$ 600 millions or 61.1 % of the total imports value of the JAFZ. Next in line is India and Pakistan with purchase of US \$ 66 millions, 6.7 % of the total imports value of the JAFZ. West European countries come third importing US \$ 54 millions, 5.5 % of the total imports by value to the JAFZ.

Electronic products represent about 92.2 per cent of the total exports from the Far East to the JAFZ, more than 95 per cent of these imports coming to the Free Zone from Japan. The second largest category of products exported from Far East countries to the Free Zone is in the categories of equipment and machinery which represents about 2.6 per cent of the total JAFZ imports from Far East countries.

The largest category of products imported to the Free Zone from India and Pakistan is that of raw materials used in the clothing, textiles and leather industries. These represent about 59.5 per cent of the total JAFZ imports from these two countries. The second category of products which JAFZ imports from India and Pakistan are those used in the chemical/oil/rubber industries which represent around 28.2 per cent of total JAFZ imports from these two countries.

Chemicals, oil and rubber products represent the largest category of products imported from Western Europe to the Free Zone, comprising 39.1 per cent of the total imports value of the JAFZ to Europe. One reason why West European chemical firms have set up in the FTZ is because there are stringent environmental restrictions imposed on the chemical industries in their own countries. Therefore they prefer to exploit the location of the JAFZ in order to avoid the prohibitive restrictions of their own countries. The second largest category of products includes equipment and machinery, which comprise 25.8 per cent of Europe's total imports value to the Free

Zone.

Imports to the JAFZ from India and Pakistan are somewhat different from those of the Far East and Western Europe. Most of the firms from these two countries are involved in manufacturing sectors and therefore most of their imports to the Free Zone are of raw materials needed in order to make the finished products, whereas imports from the Far East and Western Europe are usually ready-made products such as electronics, equipment and refined oil.

Similarly, Asian countries were the largest supplier of imports to Taiwan's EPZs, representing precisely two-thirds of Taiwan's EPZs total imports. The second largest importer was Europe with 25.6 per cent of the total imports of the EPZs and the third was North America with 7.3 per cent of the total EPZs imports⁹. While the three largest markets for goods from the JAFZ are the GCC and Middle East, USA and West European countries, the main source from which JAFZ's supplies of raw materials or ready made commodities were supplied were the Far East (Japan), India and Pakistan, and Western Europe. Western Europe was the third largest importer and exporter to the JAFZ.

In terms of nationalities of firms and their imports, firms from developed countries which have established a branch in the JAFZ take the largest share of imports, representing about 61.0 per cent of the total of the 83 responding firms. Second is the UAE, which imported around 24.1 per cent in 1992 and the third nationality is India and Pakistan, which represents 10.2 per cent. Most are products required in their industrial activity. For most of the firms operating in the Free Zone, imports of products required in their industrial activity come from their own country - the one major exception being UAE firms. For example USA and Japanese firms

import 100 per cent of the materials used in their plants in the Free Zone from their own country. The United Kingdom firms import 58 per cent of the products used in the manufacture of their products in the JAFZ from the UK. In 1992 firms from India and Pakistan imported about 51.6 per cent of their total imports from their home countries.

India and Pakistan and the 'other' group purchased only 1.4 per cent of their imports from the local market and the remainder came from abroad. This, naturally, is accounted a negative factor in JAFZ and differs markedly from the situation of the domestic firms. It would be much better if firms purchased materials locally whenever possible as this would encourage the emergence of new indigenous firms to meet the demand and would, thereby, increase the pool of domestic entrepreneurs. In addition it would generate other commercial and industrial activities and support existing firms¹⁰, on the whole increasing the activities and promoting the health of the local economy.

The above indicates, as in other FTZs, that the practice of transnational corporations exporting the materials required in production in the JAFZ from their own countries to the JAFZ is a weakness, with the exception of UAE firms whose purchases in the domestic market are valuable. The position concerning imports is unfavourable; the relation between foreign firms in the JAFZ and their home countries is very strong and most of the TNCs in JAFZ import redeemed products from their home countries in order to distribute them in the Middle East and worldwide. For many firms operating in the JAFZ, their enterprise is in the nature of a branch while the head office (and profits) are at home. These foreign firms working within the JAFZ are able to import finished goods into the JAFZ without

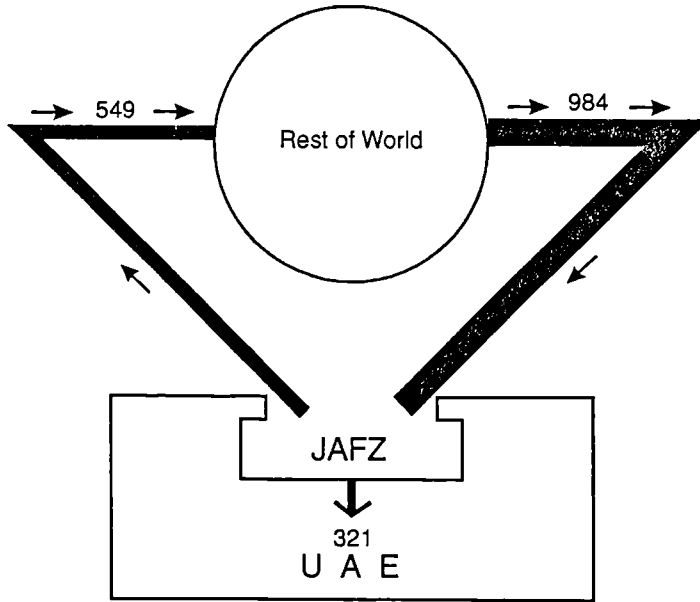
paying either export or import duties, because of the trading agreement which has been set up for firms operating in the JAFZ: consequently the companies based in the Free Zone stimulate the economy of their country of origin rather than that of the JAFZ.

6.4 Exports and imports of the manufacturing sector (83 firms)

The trading pattern of the 48 manufacturing firms is compared with the total 83 at Figures 6.6a and 6.6b.

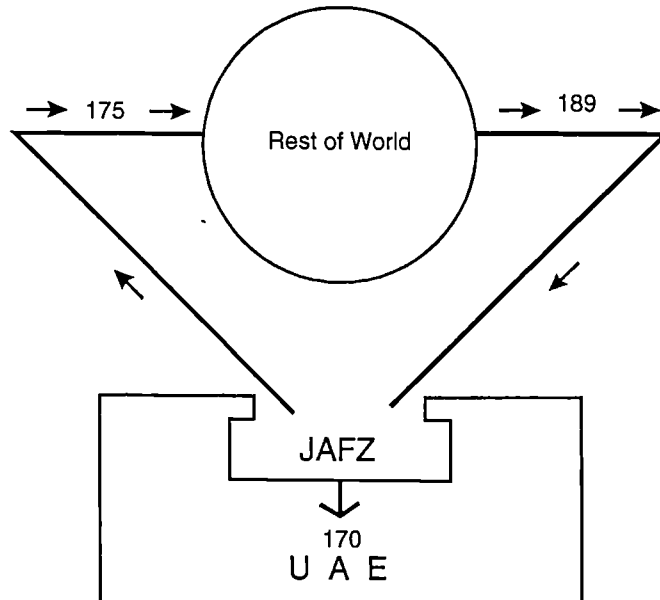
The total exports of the manufacturing sector among the 83 responding firms is about US \$ 345 million (including the local market; Figure 6.6b). This figure represents about 39.8 per cent of the total export of the 83 firms; of this, no less than 50.7 per cent is exported to UAE market. This indicates that the relation between domestic market and the JAFZ's exports is to be considered strong. But concerning imports, the manufacturing sector imported about US \$ 189 million, representing about 19.2 per cent of the total imports of the 83 firms and also indicating a doubling in value through manufacture of the imported materials. It appears that the greater volume of imports in the free zone occurred through the trade rather than manufacturing sector. On the other hand these figures indicate also a significant point, that 65.5 per cent of the total value of imports are re-exported abroad. This percentage we established after subtracting total value of UAE market imports from the Free Zone and manufacturing sector imports from the total imports from of the 83 responding firms. This explanation proved that re-export is to be considered the main activity in the JAFZ.

Figure 6.6a IMPORTS AND EXPORTS BY VALUE, \$ MILLION
83 RESPONDENTS



Source: Fieldwork

Figure 6.6b IMPORTS AND EXPORTS BY VALUE, \$ MILLION
48 MANUFACTURING FIRMS, AMONG 83 RESPONDENTS



Source: Fieldwork

6.5 The relation between the Free Zone and the local market

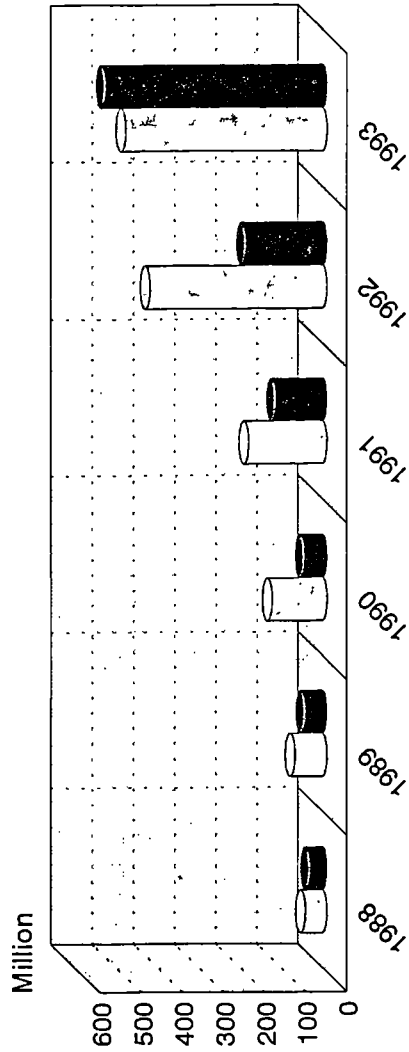
The relationship between JAFZ exports and the local market is strong. However, this relationship is not always beneficial as the JAFZ has negative effects on the local market. Between 1988 and 1993 firms operating in the JAFZ exported to the local market about US \$ 1,380 million (an average of US \$ 230 million per annum) and the total exports value of the 83 responding firms in the local market accounted for only US \$ 321 million.

Figure 6.7 shows that the total exports from the Free Zone into the local market increased progressively in weight and value from 1988 to 1991. But from 1991 to 1992 the indicator of exports increased very sharply. Thus the percentage increase in weight and value from 1988 to 1990 was 33.8 and 60.5 per cent respectively, but the percentage of increase from 1990 to 1992 in weight and value was 114.3 and 220.6 per cent respectively.

The total exports, by weight and value, of the JAFZ in 1992 into the UAE market represented about 19.4 and 28.9 per cent respectively of the total exports of the JAFZ. These figures prove that the relation between JAFZ and the local market is very strong for exports and increases yearly. The sharp increase in the value of imports in the last two years (1991 and 1992) was due to the high demand in the UAE market, especially after the increase in the population of the UAE; and the cost of products increased in the relevant two years. In 1993 the total value and weight of exports from the JAFZ to the local market was about US\$ 491 million and 539 thousands tons. The increase in value was 12 per cent, but increase in weight was around 63 per cent. This great bulk of increase was due to the importing of products which have a heavy weight with high value and others with high weight and less value

Total value and weight of Imports into the UAE from the JAFZ, 1988-1993

Figure 6.7



1000 kg = 1 tonne

□ Value (US\$)

■ Wt (kg)

Source: Official report from the JAFZ.

such as vegetable products, base metals and mineral products which represented about 80 per cent of the total weight in 1993¹¹.

Among the export of products from the JAFZ into the UAE from the 83 firms (Table 6.4), electronics has the largest share of the market, accounting for 27.0 per cent of the total exports into the UAE. Chemicals, oil and rubber commodities come second comprising 25.3 per cent of the total exports into the UAE and clothing, textiles and leathers third with 15.7 per cent. These figures show that there is a very big demand in the domestic market for three categories of commodities - electronics, chemicals/oil/rubber-based products and clothing/ textiles/leather products. As a

Table 6.4 Total value of exports of the 83 responding firms into (the rest of) the UAE, by products and nationality (US\$'000).

Products	Value	Nationality	Value
Electronics	86 784	UAE	143 969
Chemicals, oil, rubbers	81 059	Japan	96 134
Clothing, textiles, leather	50 270	India & Pakistan	59 608
Consumer products	45 000	GCC & Middle East	10 030
Metal related	15 985	W.Europe	4 150
Foods	8 123	USA	400
Building materials	6 950	Far East	150
Equipment & machinery	2 350	Joint venture	6 580
Stationery, paper	1 400	-	-
Others	23 100	-	-
Total	321 021	Total	321 021
Source: Field work.			

policy point for the future, it would be sensible if the JAFZ authority encouraged national firms to deal with these type of products instead of foreign firms.

The clothing, textiles and leather-based industries exported approximately one third of their production into UAE markets and the other two thirds was exported to the USA and to the markets of Western Europe. The greater part of this export activity is discharged through Indian and Pakistani firms. Whilst the demand for food products in the UAE market is high, their trade value is relatively low - at about 2.5 per cent of the total export value into the local market. The reason for this is that the sort of products involved are not expensive.

The nationality of the firms exporting from the zone into the local market virtually reflects the first three categories of products mentioned above and in Table 6.4 UAE firms have the largest share, constituting 44.9 per cent of the total export of the 83 firms into the local market. One reason for this high proportion of exports into the UAE is due to the large number of UAE firms involved in chemical-based production, especially oil-related activities. In addition, exporting to the local market is facilitated by the following: no tax is imposed, transport costs are low, there is high demand for this type of production in the UAE and the Middle East market. Japan comes in second place, with 30.0 per cent and India with Pakistan in third place with 18.6 per cent of their products from the JAFZ finding their way on to the local market. The reason behind the market share of these countries is that their products enjoy good demand in the UAE market (electronics, clothing, textiles, leathers and chemicals).

In interviewing four big traders in the UAE, the author found that, on the whole, they were very unhappy about the impact of the JAFZ on the local market.

They said in interview with the author that it has had a damaging effect on the local market - traditionally, the traders in Dubai itself were the main distributors for the Gulf and Middle East countries, but, with the JAFZ, they had lost this stronghold to companies from other countries, particularly the Japanese companies which had opened branches in the JAFZ. The traders lamented that now they were only agents and distributors for foreign companies like Sony, Goldstar, Citizen, Aiwa etc, for the local market.

In the interviews, traders also maintained that the establishment of the JAFZ had resulted in smuggling from the Zone to the local market. Goods specified as exports and meant to be exported through the ports of other emirates or the airports of Rashid or Dubai were sometimes diverted on to the local market. This had meant that foreign companies established in the JAFZ were competing with local companies in the domestic market and local businesses are losing out, especially in electronic products and food. The traders interviewed wanted changes to prevent this, including more rigorous customs regulations and more heavy taxation of goods which were to be exported overseas via the Emirate's ports and airports if they were to remain in the country.

Leading local businessmen frequently commented on this issue, with, for instance, two of them stating separately that in their opinion and for the good of the state as a whole, the JAFZ should concentrate on attracting firms engaged in manufacturing, rather than trying to attract companies who were mainly concerned with distribution of goods manufactured elsewhere, because manufacturing was seen as the most promising base for industrial prosperity and, they felt, the most essential for the future of the UAE and Dubai.

6.6 The external trade of the JAFZ in relation to firms' size

Because of the distinctions between trade and manufacturing, and between bulky and valuable goods, there is no clear correlation between the size of imports and foreign exports of given firms and the size of the area they have within the Free Zone. The firms whose annual trade is reported at under \$US 1000 would be presumed to have small sites but this is often not the case (Table 6.5). For instance it is not necessary that the firms with a large size of area should have a great size of exports and imports. On the other hand firms which export more than \$ US 20 000 tend to occupy the largest sites. These firms also usually have a large volume of both imports and exports, whilst others, occupying smaller sites, have correspondingly smaller volumes of imports and exports.

Table 6.5 External trade and site area (sq. metres), by number of establishments.

Value US\$'000	Under 100		100-499		500-999		1000-4999		5000-9999		10000&over	
	Ex	Im	Ex	Im	Ex	Im	Ex	Im	Ex	Im	Ex	Im
Under-1000	-	-	-	-	-	-	6	5	3	2	3	-
1000-1999	1	-	-	-	4	2	4	5	-	1	3	1
2000-4999	-	1	-	-	-	3	3	3	2	1	1	6
5000-9999	-	-	-	-	1	2	1	1	2	3	1	1
10000-19999	-	-	-	-	-	-	1	1	2	1	1	1
20000 & over	2	2	1	1	-	-	-	1	-	-	4	3
Total	3	3	1	1	5	7	15	16	9	8	13	12

Source: Field work.

The firms occupying large sites represent about 28.3 per cent of the total number of firms; 46.1 per cent of them have less than \$ US 2 000 of exports and 30.8 per cent of them have more than \$ US 20 000 of exports. On the whole, firms which occupied a small site tended to be in the service sector, for instance, banks, restaurants and freight firms.

A correlation between the amount of *external* trade of a firm and the number of its employees is not clearly identified by the findings of the research, which means it is difficult to discern whether there is a contrary or parallel relationship. For instance, as Table 6.6 (below) shows, firms which exported less than US \$ 1 000 worth of products every year had more than 10 employees but there was no significant correlation between their turnover size and the size of their work force which varied from anything between 10 and 200 employees. But concerning the three firms which have more than 100 employees and exports less than \$ 1000, it is

Table 6.6 External trade and total employees in the JAFZ.

Number of employees

Export value \$ 000	Under 10		10 - 49		50 - 99		100 - 199		200 & over	
	Exp	Impo	Expo	Impo	Exp	Imp	Exp	Imp	Exp	Imp
Under-1000	-	1	3	3	6	2	2	1	1	2
1000-1999	5	3	6	5	-	2	-	-	2	1
2000-4999	-	4	1	3	1	1	2	4	1	2
5000-9999	1	2	1	2	2	1	-	2	1	2
10000-19999	-	1	2	-	2	-	1	1	1	1
20000 & over	2	1	1	2	1	-	4	3	-	-
Total	8	12	14	15	12	6	9	11	6	8
Source: Field work										

difficult to establish a convincing correlation in any case as there are only three firms in this category and their activities are not comparable: one of them packages grains for feed mills and the other two assemble furniture. The two furniture firms are shown on the table as having a relatively low export figure, but in fact this does not mean their production levels are not high, merely that most of their products are destined for the local market - 79 and 97 per cent of their products respectively go to the local market. Consequently the table shows their exports are low.

Of the firms with less than 50 employees, most have exports of between US \$1-2 millions. Of the firms which employ more than 100 people, most have exports of between US \$ 2-5 millions. On the other hand the Table shows two firms which exported more than US \$ 20 million of goods yet employed less than 10 people. Both of these firms are in the trade sector: one of them distributes aviation oil and the other is involved with photographic film, papers and processors. The example of these two firms goes a long way to explaining why there is little or no correlation between size of firms and production on the one hand and the level of employment on the other. The benefits of a Free Zone are provided to attract industry and commerce and are intended to encourage production and employment. However, as the above two firms demonstrate, the system operating in the JAFZ enables firms to set up and claim the benefits of a Free Zone whilst bringing little or no employment or manufacture (and thereby no demand for indigenous raw materials) to the area. It is possible for firms to take up the financial advantages of the Free Zone, use its hinterland for exports and contribute relatively little in return. Most of the firms who do this are involved in the trading rather than the manufacturing sector.

The position is very similar for imports. For instance, there is a great variance

in the number of employees in firms which export less than US \$ one million annually, ranging from less than ten workers up to over 200. There is somewhat less variance in firms importing more than US \$ 20 millions worth of goods, with the number of employees falling into only three categories, the majority of them in the 100-199 range. Most of the firms which have less than 100 employees, have exports in the range of US \$ 1-2 millions and those with more than 100 having exports of between US \$ 2-5 millions.

6.7 Correlation between external trade of the JAFZ and total investment

Table 6.7 shows how the relationship between size of investment and external trade in the JAFZ (exports and imports) is of a parallel nature.

The above Table reveals that when the total value of external trade increases, the size of investments also tends to increase commensurately.

As Table 6.7 shows, it is possible to classify investments and external trade into three categories: the first group includes most firms which have imports and exports of less than one million dollars - their investments are less than five million dollars; the second group comprises of the firms which have imports and exports of more than ten million dollars, whose investments are over ten million dollars; and into the third group fall the firms which export and import between US \$ 1-5 million - most of their investments also fall between US \$ 1-5 million. It was found that most firms had investments between \$ 1-5 millions (to be discussed further in Chapter Seven). Slightly more exporting than importing firms fell into the category of firms with investments over US five million dollars.

Table 6.7 External trade and total investment in JAFZ (US\$'000)

Investment by firms

Value of trade	Under-500		500-999		1000-4999		5000-9999		10000-19999		20000& over	
	Ex	Im	Ex	Im	Ex	Im	Ex	Im	Ex	Im	Ex	Im
Under-1000	2	3	3	1	4	5	-	-	1	1	1	-
1000-1999	1	-	-	1	4	5	2	-	1	-	-	-
2000-4999	1	1	-	-	3	8	-	1	-	-	1	1
5000-9999	1	2	1	-	3	1	1	2	-	2	-	-
10000-19999	-	-	1	-	2	1	-	-	4	2	1	2
20000 & over	1	-	-	-	1	1	1	1	1	2	3	1
Total	6	6	5	2	17	21	4	4	7	7	6	4

Source: Field work.

The increase of investment by firms in the JAFZ must also be viewed in relation to the large proportion of profits of those firms which are transferred to their home country. Whilst this has a beneficial effect on the financial position of the home countries, and often stimulates their economies, it is of little value to the UAE.

6.8 The relation between external trade and expansion

The researcher found that there is not a clear relation between size of export and idea of expansion, but a large majority of respondents had plans for expansion (78 per cent): these included large and small firms. The reason that smaller firms plan to expand may be a desire to increase their share of the UAE and Middle Eastern market, rather than any expansion in their project which may benefit the economy of the host country. For instance 32.3 per cent of the firms considering, or actually, expanding are located in the column whose exports are less than one million dollars.

Those whose exports fall into the categories US \$ 10-20 millions and US \$ 20 million - up represent only 12.9 per cent each respectively. These details categorised by annual turnover, are shown (Table 6.8).

Table 6.8 The external trade of the JAFZ and whether firms had ideas of expansion.

Exports value per annum (\$)'000	Yes		No	
	Exports	Imports	Exports	Imports
Under 1000	10	4	4	4
1000 - 1999	6	6	3	3
2000 - 4999	3	9	2	4
5000 - 9999	4	8	1	-
10000 - 19999	4	3	2	1
20000 & over	4	4	1	1
Total	31	34	13	13
Source: Field work.				

Most of the firms which said they would like to expand had imports whose value was located in the middle category - between US \$ 2-10 million. These firms represented about 50 per cent of the total number of importing firms who answered 'Yes' to the question regarding expansion. Firms who answered 'No' numbered 13, most of them their imports located in the categories whose volume was up to one million dollars and between US \$ 2-5 millions.

6.9 Ports

We may now relate all this activity to the actual use of ports. There are four main seaports and one airport in the emirate of Dubai. The activities of Dubai

International Airport will be touched upon where appropriate but this section will focus mainly on the two seaports: Jebel Ali and Rashid. These two seaports are the only ports that can be termed 'international' in size in the state, and are the two main seaports in the emirate of Dubai. This does not mean that the other two ports are not important but, in comparison with Jebel Ali and Rashid, their turnover is very much less, and therefore, they are less significant to our study at this point, so they will be discussed later in connection with the total value and weight of imports and exports from and to the Free Zone.

Table 6.9 indicates the number of firms by dominant trade operating in the JAFZ which use the Jebel Ali, Rashid and Dubai international ports. Many firms reported that they used all three ports. Although Figure 6.2a showed that Jebel Ali port and the Free Zone dominated trade in terms of volume, the research shows that the firms operating in the JAFZ use the Jebel Ali and Rashid ports in equal numbers, closely followed by Dubai International Airport.

In addition Table 6.10 shows by trade and sector that Jebel Ali Port was the port used by the largest proportion of firms, followed by Rashid Port, and then Dubai

Table 6.9 Firms using Jebel Ali and Rashid ports and Dubai international airport for exports and imports.

Ports	Exports		Imports	
	Yes	No	Yes	No
Jebel Ali port	45	16	64	7
Rashid port	44	14	56	16
Dubai international port	40	18	58	16
Source: Field work.				

International Airport. Whilst the overall proportions in Table 6.9 resemble those in Table 6.10, the two sets of data diverge when the economic sectors (manufacturing and trade) are taken into consideration. Furthermore the proportions of firms using the respective ports in Table 6.10 differ from those broken down by weight in Table 6.11. While Table 6.10 shows many firms, both in trade and manufacture, used all three ports, Table 6.11 shows that the Jebel Ali port handled far more than the others.

Table 6.10 Number of respondents among the 83 firms which use Jebel Ali, Rashid and Dubai Airport, by sector.

Ports	Exports		Imports	
	Manufacture	Trade	Manufacture	Trade
Jebel Ali	28	17	41	23
Rashid	29	15	36	20
Dubai air port	23	17	34	24
Source: Field work.				

Table 6.11 shows the volume of imports and exports of the 44 firms replying to the relevant question among the 83 responding firms: the Jebel Ali seaport dealt with the largest percentage of exports, 89.8 per cent, with the seaport of Rashid in second place with 9.5 per cent and Dubai Airport in third place with 0.7 per cent only. For imports, a similar situation exists - Jebel Ali represents about 95.0 per cent of total imports activity with Rashid seaport and Dubai Airport having 4.6 and less than one per cent of imports respectively.

In a further breakdown of the data it can be seen that manufacturing firms export more through the Jebel Ali seaport, 80.4 per cent, than through that of Rashid,

Table 6.11 Total weight of imports and exports among the 83 responding firms, passing through the Jebel Ali, Rashid and Dubai airport, by sector.

Ports	Manufacture		Trade		Total	
	Export	Import	Export	Import	Export	Import
Jebel Ali	147 240	384 639	208 035	665 825	355 275	1 050 614
Rashid	35 090	26 749	2 600	6 000	37 690	50 749
Dubai Airport	913	592	1 925	3 810	2 838	4 402
Total	183 243	411 980	212 560	675 635	395 803	1 105 765

Source: Field work, data supplied by 44 firms.

19.2 per cent. The import figures are different in that Jebel Ali is sharply ahead with 93.4 per cent to Rashid's 6.5 per cent. In the trade sector the Jebel Ali seaport dominates in both imports and exports, with 98.6 per cent of the total number of trade firms (83 responding) importing from JAFZ which also handles 97.9 per cent of the total of exports for trading firms. That, is, the seaport of Rashid handles only 1.2 per cent of the total exports and less than one per cent of the total imports of trading firms. Dubai airport handled even less.

This account indicates that the percentage of firms using these three ports among the 83 sampled is nearly the same as in the official statistics used as the basis for Table 6.12. But there is a difference in the relative weight of exports and imports. That the weight of exports and imports among the 83 firms in some sectors approaches the total weight of all firms operating in the Free Zone in 1992 need not cause surprise, because the weight of exports and imports mentioned in Table 6.12 excludes oil, whereas the 83 firms included some oil-related firms. We should also take into account that the 83 firms include the ten largest firms for exports and imports; for instance the Emirates Petroleum Products Co, Caltex Al Khaleej and

Table 6.12 Total exports from and imports to the JAFZ in 1992 by route (tons) (excluding oil).

Ports	Exports	Imports
Jebel Ali (Dubai)	756 213	1 279 171
Rashid (Dubai)	35 604	83 061
Dubai creek (Dubai)	10 652	13 732
Hammriyah (Dubai)	7 024	1
Fujairah	5 121	12 346
Dubai airport (Dubai)	3 665	2 932
Khor Fakan	3 236	4 723
Khalid	2 604	3 496
Zayed	11	45
Total	824 130	1 399 507
Source: Jebel Ali port authority.		

Gulf Import & Export Company represent about 80.6 per cent of the total imports of the 83 firms through the Jebel Ali port. These three firms have their head offices outside the Free Zone. Therefore these statistics include their total imports through the Jebel Ali (JAP), Rashid ports and Dubai Airport whether inside the Free Zone or outside of it.

There are some firms among the 83 which mentioned in the questionnaire their total exports and imports through these ports but did not state the total value of those exports and imports (question 13 and 14).

6.10 Total imports and exports of the 83 responding firms through Jebel Ali, Rashid port and Dubai airport, by the type of products

The type of products imported and exported by the 83 responding firms

through the three ports are as follows: oil- related products are exported and imported through all of the three ports, but the largest proportion go through Jebel Ali seaport, with Rashid seaport in second place and the airport coming third. Most chemical products are exported and imported through the Jebel Ali port with Rashid port in second place. The total export of all oil firms operating in the Free Zone through the Jebel Ali port represents about 618 205 tones (81.8 %) of total exports through Jebel Ali port in 1993. But the total imports of all oil firms operating in the Free Zone through the Jebel Ali port in the same year represents about 838 772 tones (65.6 %) of the total imported through the Jebel Ali port¹². Only two oil related firms import and export through Dubai airport. The reason for the above distribution of imports and exports through the Jebel Ali port is proximity and acreage - Jebel Ali is nearer to the location of the industry, and this is especially important given the bulk and weight of products required in the chemical and oil industry and its finished products. The storage of bulky products also favours the Jebel Ali seaport where there are large areas available for this purpose.

Given the nature of the products involved in the chemical and oil industries (heavy and taking up much space), it is of course easier and cheaper to export and import through the seaports rather than the airport. In addition the cost of transportation to the ports is much cheaper, especially for firms importing liquid chemicals, because there is a pipeline which allows liquids to be imported directly from tanker to factory. This has the advantage also of being more secure. The pipeline had already attracted chemical and oil firms to operate from Jebel Ali before the Free Zone was established (see Chapter Four).

Table 6.13 shows the use made of the three main ports by different types of

Table 6.13 Total firms (among the 83) with imports and exports through the Jebel Ali port, Rashid and Dubai airport, by product.

Type of products	Jebel Ali		Rashid		Dubai airport	
	Export	Import	Export	Import	Export	Import
Oil related	3	5	3	2	2	2
Chemicals	6	12	6	8	2	6
Electronics	6	8	8	11	8	12
Textiles, clothing & leather	10	12	7	8	9	11
Foods	3	6	3	3	1	4
Equipment & machinery	5	5	5	5	6	6
Source. Field work						

products among the 83 firms sampled. Electronic products are usually imported through Dubai airport rather than seaports, and when they do come by sea, the Rashid port is used more often than that at Jebel Ali. For these goods, the choice of airport rather than seaport is determined by the nature of the industry - imports usually consisting of fragile, sensitive components. The choice of Rashid for the seaborne carriage of electronic products is arguably more a historical factor than geographical. Electronic products have been imported and exported via the Rashid seaport for a long time, before the Free Zone was established. Consequently firms which have exported their products to Dubai long before they established in the Free Zone, still prefer to use the port they have always used, even when Jebel Ali sea port is nearer to the branch of their enterprise now in the Free Zone.

The research also showed that most firms dealing with equipment and machinery preferred to use the airport for their exports and imports rather than the

sea ports, whereas firms dealing in textiles, clothing and leather goods use the Jebel Ali port more often than the other ports. On the whole, firms requiring large, heavy raw materials in their manufacturing process, and large quantities of oil and chemicals, opt for the Jebel Ali seaport but the firms which deal with ready made products usually prefer to use Rashid seaport and Dubai International Airport rather than Jebel Ali seaport. This is especially the case for firms dealing in electronic equipment and machinery products¹³.

6.11 Total imports and exports to and from the JAFZ through the UAE ports

In terms of the carriage of both export and import products by weight Jebel Ali seaport has the largest share, constituting 91.8 and 91.4 per cent respectively. This figure includes most of the heavy products exported from and imported to the JAFZ, especially oil products which are imported and exported through the Jebel Ali seaport. The nearness of the port to the site of factories involved in the heavy products is a determining factor. Rashid port trails very far behind Jebel Ali, in second place with 4.3 per cent of the total exports and 5.9 per cent of the total imports and Dubai Creek comes third with 1.3 per cent of the total exports and one per cent of the total imports.

Dubai airport has a much smaller share of the carriage of imports and exports than Dubai's seaport, largely because of the expense of transportation by air. In spite of this, its imports and exports to the Free Zone are greater than many of the other seaports located outside the Dubai emirate. The total imports and exports to the JAFZ through Dubai's ports, including the airport, represents 98.5 and 98.7 per cent

respectively. This demonstrates how unsuccessful the ports of other emirates are in trying to compete with Dubai's ports, even those with a strategic location such as Fujairah and Khor Fakkan which are located on the Gulf of Oman. The ports of Fujairah and Khor Fakkan have only about one per cent of the total exports to and imports from the JAFZ. The reason for Dubai taking the lion's share of the JAFZ import and export trade in the region is probably that the facilities which Dubai's ports have to offer are not found in other ports. In addition, the proximity of Dubai's ports to the Free Zone makes them attractive choices, and Jebel Ali seaport is especially favoured in this way.

The volume of imports through UAE ports (including Dubai ports) to the JAFZ is considerably greater than that of exports. The reason is because a proportion of them are exported to the local market, which means they are consumed locally, especially oil products. However, some ports handle more exports than imports, for instance the port of Hammriyah where the proportion of its exports of the firms operating in JAFZ passing through the port is considerably more than its imports. One reason for this may be that most of the products exported through this port go to Iran, East Africa, India and Pakistan, and the amount of raw materials and redeemed products coming from these countries to the JAFZ is not great. Hammireyah has more exports than imports passing through it, partly because it does not deal at all in oil products.

6.12 The use of other UAE ports by JAFZ firms

It was found that the majority of the 83 responding firms preferred to use Dubai's ports rather than those of the rest of the UAE. Some firms, however, did

prefer to use these other UAE ports and a variety of reasons were given by them for this choice. Whilst these 33 firms represent 35.4 per cent of the total number of firms¹⁴, considered by weight of imports and exports to and from the JAFZ, their trade is relatively small - at less than 2% of the total of the sample - and they pose no strong competition for the ports of Dubai. (see Table 6. 14 and Figure 6.8)

Of the ports outside of Dubai, the port of Fujairah has the largest share. 48.5 per cent of the total number of firms choosing non-Dubai ports chose Fujairah. Sharjah is in second place with seven firms (21.2 per cent) and Khor Fakkan in third four firms (12.1 per cent). This indicates that the amount of trade available after Dubai has taken the lion's share is mainly located on the Gulf of Oman (Fujairah-Khor Fakkan). The reasons behind these ports being chosen are as follows. Some shipping lines do not call at the ports of Rashid or Jebel Ali. This accounts for about six JAFZ-based firms using ports outside Dubai. That certain vessels are not available from Dubai - accounts for around eight JAFZ firms using alternative ports.

Table 6.14 Firms operating in JAFZ and using other UAE ports (among 83 respondents).

Ports	Frequency	Percentage
Fujairah	16	48.5 %
Sharjah	7	21.2 %
Khor Fakan	4	12.1 %
Ras Al Khaima	3	9.1 %
Abu Dhabi	2	6.1 %
Ajman	1	3.0 %
Total	33	100.0 %
Source: Field work		

MAJOR PORTS IN THE U.A.E.

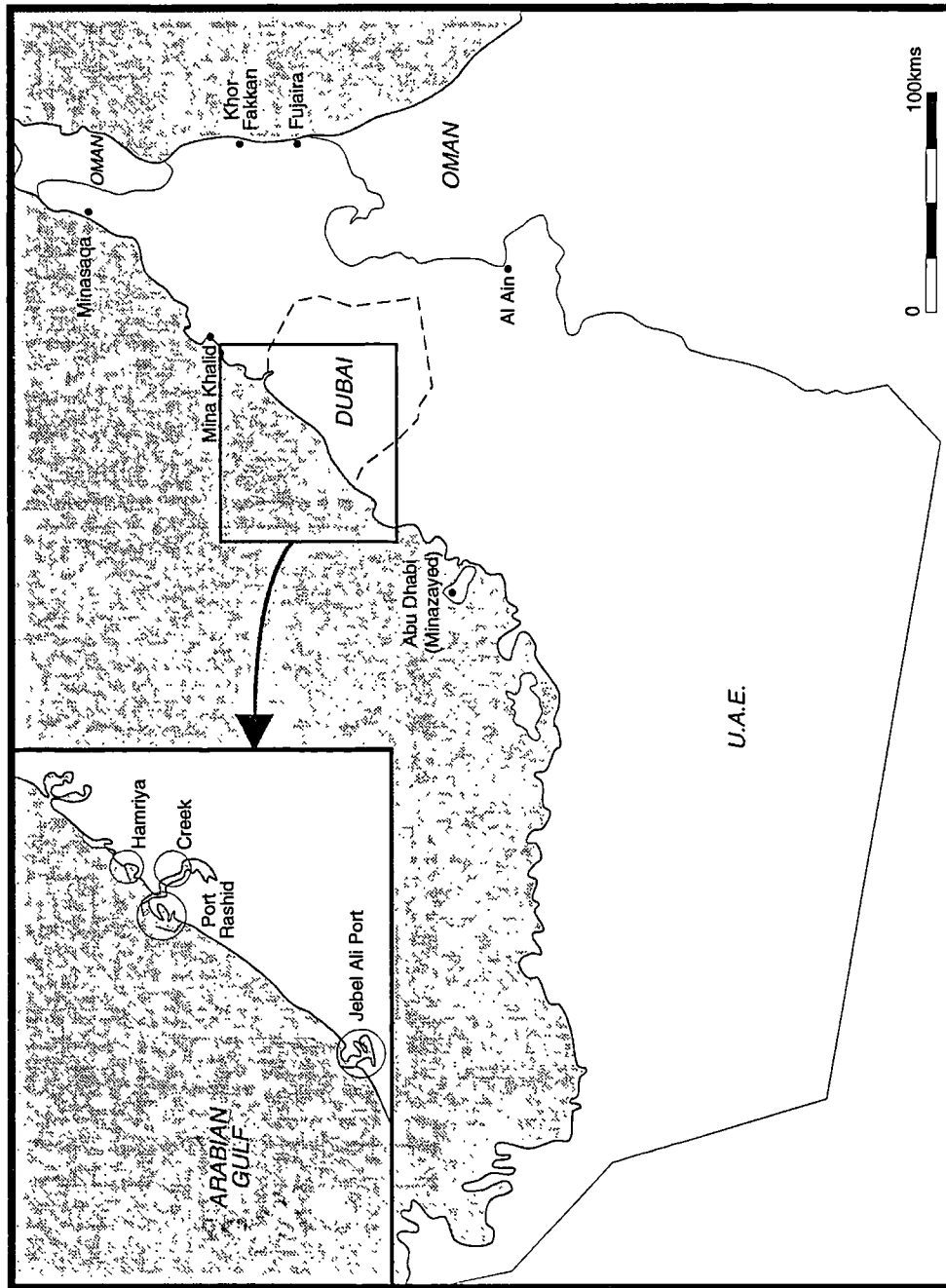


Figure 6.8

In addition to these main reasons for opting to use ports outside Dubai, others given included: the specific shipping requirements of clients; some consignors considered other ports preferable due to access and availability of ships and containers; many carriers preferred to call at ports which are located outside the Arabian Gulf and considered more safe; some firms considered other ports offered better services and rates for certain destinations. One company said that because they had a factory in Ras Al Khaima, they preferred to use the port of there but that they had started to use Fujairah port during the Gulf Crisis.

6.13 The significance of ports to the importing and exporting firms in JAFZ

Whether in imports or exports, most firms chose from 1 - 6 in evaluating the attraction of locating in JAFZ (Table 4.10, above). These scores are used in Table 6.15, indicating that the availability of suitable and accessible ports nearby was considered to be one of the main factors which attracted firms to the JAFZ in the first

Table 6.15 The relation between firms' evaluation of ports and their total imports and exports in the JAFZ.

Evaluation	1 - 3		4 - 6		7 - 9		10 - 14	
	Export	Import	Export	Import	Export	Import	Export	Import
Below - 999	2	1	3	3	3	2	1	-
1000 - 1999	4	2	4	3	1	-	1	2
2000 - 4999	2	6	-	4	1	2	1	1
5000 - 9999	2	-	2	3	-	1	1	1
10000 - 19999	-	-	1	2	-	-	2	1
20000 - Up	2	3	2	2	1	1	-	-
Total	12	12	12	17	6	6	6	5

Source: Field work

place. The significance of the availability of ports as regards firms operating in the JAFZ was as follows: the total number of firms exporting and importing less than two million dollars is 19 and 13 respectively, most of which considered the availability of port facilities crucial, although two of them considered this factor not very significant. Importing firms numbered 13 in all, nine of them considered port facilities of crucial importance and two as not very significant in their choice of location. The number of firms involved in both importing and exporting with a value of between US \$ 2-10 million was nine, six of whom chose ports as a significant factor and two of whom said it was not a significant factor. In the category rated by volume of business as between US \$ 2-10 million were 18 importing firms, 13 of whom considered ports to be of prime importance and two of them as not being too significant. Finally in the category of firms importing and exporting more than ten million dollars of goods, 62.5 per cent of them rated port facilities as crucial and 25 per cent as not too important. Of the total number of importing firms with this volume of trade (six firms in all), all of them considered the availability of a port as a significant factor in the decision to locate in the JAFZ.

Thus it can be concluded that the percentage of the three groups of exporting firms which rate the availability of a port as crucial is about two-thirds of the total, but for firms who import, this figure is increased to nearly three-quarters.

6.14 Customs and Excise

The main concern of the customs department in the JAFZ is to control the Free Zone's exports to the local market. The responsibilities of the department are limited to the supervision of the activities of clearance and inspection of commodities

which are exported to the domestic market, whilst commodities which are intended for export overseas are not subject to customs inspection.

A similar situation exists in Singapore. Mr Abdul Razaq, the Deputy General Manager of Singapore's customs, explained that any type of manufacture produced in a free zone for export overseas and raw material which are imported to Singapore's free zone are not subject to inspection, except in suspicious circumstances, when the customs officers are allowed to inspect commodities in warehouses. The government department which is mainly involved in such inspections is the Central Narcotics Bureau and it is they who decide the procedure and the fines to be levied. Therefore custom regulations in free zone areas are few and are mainly confined to preventing drugs entering the country illegally, and other forms of smuggling.

Smuggling often takes the form of moving goods from the free zone to the domestic market. Therefore for commodities produced in JAFZ and exported other than through the port of Jebel Ali, the customs officers supervise the operation of exports until the goods are outside the state. The customs officials in the JAFZ coordinate their activities with those of the other emirates in order to ensure that goods are actually exported.

The customs authorities in the Free Zone impose a levy of one per cent of the value of the goods as a bond on commodities which are intended for export through ports other than that of Jebel Ali. However, after the Free Zone firm concerned shows the port bill, then the levy is returned. Customs also try to identify containers which are destined to be exported from ports outside of the Free Zone with a mark which is ineradicable. The reason for this levy is to prevent the company from selling their commodities on the domestic market. The non-return of the one per cent levy

is not enough to discourage smuggling but it is not the only penalty for firms which fail to meet these regulations to prevent commodities coming illegally onto the domestic market - the customs authorities also place the name of the firm on a 'black list' and they are not then allowed to export from UAE ports outside the Free Zone.

In spite of these preventative measures, many Dubai firms complain that goods are smuggled from the Free Zone to the domestic market and provide unfair competition for their own goods. Firms questioned on this recommend that the jurisdiction and responsibilities of customs of Free Zone areas be extended to include rigorous checks and inspection in the Free Zone in order to prevent smuggling from it.

Commercial enterprises operating in the domestic market also felt that liaison between ports in the different emirates is poor as regards customs regulations and might usefully be improved. It was also suggested that more rigorous checks would increase the income for the port, as with fewer goods being smuggled in, more would have to pay port charges. This point also hints that co-operation between the UAE ports is very poor and that each emirate is acting solely in its own interests and autonomously, not taking into account the overall effect upon the economies of other emirates of the loss of revenue due to smuggling. Nevertheless it is felt that the level of smuggling is low.

Customs clearance is very fast in both Dubai and JAFZ - it takes only one hour from arrival to clear a consignment of raw materials. Also the inspection operation is very fast and simple in the Free Zone in order to facilitate operations, whether goods are destined for the local market or for export. Unfortunately, the simplicity and speed of the inspection do mean that in most cases it is of a cursory

nature, and this may be a contributory factor in the success of smuggling to the local market. This is not the case in other free zones, for instance in Singapore's free zone the inspection operation includes the commodities passing through three gates before being allowed on to the local market. This demonstrates how much more stringent is the customs procedure in Singapore and how much more seriously they take preventive measures to halt the illegal movement of commodities from the free zone to the local market. This stringency is designed to prevent smuggled goods competing unfairly with domestic production.

The customs office in JAFZ is located near the main check-point which is placed centrally on the main entrance road, with four large windows facing the direction where goods are to be checked. This is in addition to two other check-points which are located at other entrances to the zone, the latter being responsible for checking the movement of workers' cars in and out of the zone. In fact the great majority of the sampled firms operating in the JAFZ were satisfied with customs operation on their commodities, whether for the local market or outside (Table 6.16). The researcher has personally observed the customs procedure and can confirm its simplicity and speed. This factor is crucial in attracting foreign firms to the Free

Table 6.16 The views of the 83 firms'; is the procedure of inspection and clearance in the JAFZ satisfactory?'

	Yes	No
Inspection	67	7
Clearance	70	5
Source: Field work		

Zone. The total number of firms answering 'Yes' to the importance of speedy inspection and clearance represents about 90.5 and 93.3 per cent respectively of import and export firms. Only a total of eight firms said that they were unhappy about inspection and/or clearance in the Free Zone. Four firms were dissatisfied with both operations. They are involved in different activities: two of them are in manufacturing (furniture & food) and the other two are in service (oil) and trade (electronics). Three firms were unhappy about inspection only, all in the manufacturing sector, but producing different types of commodity: paper, clothing and adhesive labels. The nationalities of these firms were various. Most of them, it would seem, were looking for faster handling, too much time being spent on documentation, inspection, etc.

6.15 Conclusion

The total value of exports in JAFZ in the five years 1988-1992 was considerably less than that of imports. This means there was a deficit in the balance of trade of the JAFZ in those five years. This fact highlights a negative side of the external trade of the Free Zone. The biggest markets for the JAFZ are the Middle East and the local market. Electronic products represent the largest export from the Free Zone, followed by chemical, oil and rubber-based products. In effect the UAE is a market for promoting sales of JAFZ products, sales whose profits go elsewhere. The reason appears to be the preponderance of ready-made products being imported from abroad, which suggests that the Free Zone is not performing one of its major functions - promotion of a healthy balance of trade and of the type of industry most profitable to the state.

The study found that whenever there is an increase in the size of investment in a JAFZ firm, there is a parallel increase in the size of its external trade, especially imports. There is however, no significant benefit accruing to the JAFZ economy from increased company investment, because a large part of this is investment transferred abroad (see chapter seven).

As regards imports and exports of the Free Zone through the UAE ports, more than 90 per cent of JAFZ products are imported and exported through the ports of Dubai, especially the seaport of Jebel Ali. Here too, the JAFZ economy does not benefit significantly. It is unlikely that other UAE ports will be in a position to compete successfully for this trade with the Dubai ports within the next ten years, and it is also unlikely that even those ports located on the Gulf of Oman such as Fujairah and Khor Fakkan will significantly benefit from the proximity of a Jebel Ali free zone in the foreseeable future. The reason for this is that other UAE ports are less well equipped with facilities than the Dubai ports. Moreover firms operating in JAFZ, regardless of whether they are involved in trade (warehouses) or manufacturing sector (factories), prefer to use Dubai ports, especially Jebel Ali Port, because of proximity to their site.

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Chapter Seven

The economic evaluation of the Jebel Ali Free Zone

7.1 Introduction

This chapter focuses on the role of JAFZ in the economic development of Dubai and the UAE, and whether the different aspects of this role are positive or negative. Specifically, the chapter examines the role of JAFZ regarding the following points:

- a) Its effect on the total value of Dubai's exports;
- b) the extent to which JAFZ has managed to increase export values from JAFZ to the local market;
- c) the income of employees and their expenditure patterns in JAFZ;
- d) the extent of capital investment, and in particular how the Free Zone benefits from foreign investment;
- e) the relationship between JAFZ and the UAE internal market, in particular JAFZ's purchasing requirements, the need for raw materials and manufactured goods from the UAE market, and the use made of local services by companies within JAFZ, e.g. of electricity, fuel, water, communications, rent, and so on;
- f) the role of JAFZ in attracting modern technology to Dubai, and the development of the industrial sector in JAFZ, Dubai and the UAE;
- g) Its effect on the political stability of Dubai Emirate and the competition between

JAFZ and other free zones, specifically: other UAE free zones, other GCC free zones, free zones in Iran, and other free zones in the Middle East.

7.2 Balance of trade of the JAFZ

In Chapter Six, it was mentioned that a principal reason for establishing a free trade zone is to promote exports, and in particular the export of manufactured products. While the JAFZ has increased Dubai's exports, imports have increased even faster.

Table 7.1 The external commerce of Dubai and JAFZ (excluding oil), (US\$'000).

Years	Dubai 1		JAFZ 2		83 Firms 3	
	Exports	Imports	Exports	Imports	Exports	Imports
1989	2 342 271	7 355 481	654 845	684 870	-	-
1990	2 697 244	8 442 914	735 839	764 214	-	-
1991	2 809 452	10 347 979	879 957	975 575	-	-
1992	3 351 783	12 897 872	1 495 422	1 332 911	869 676	984 357
Total	11 200 750	39 044 246	3 766 063	3 757 570	869 676	984 357

Source: 1. Dubai external trade statistics, 1990-1993 annual review, excluding JAFZ.
 2. Official report from Jebel Ali Authority, includes transactions with rest of UAE.
 3. Field Work, includes oil-related industry.

Table 7.1 summarizes the available evidence on this issue: it shows the total of exports and imports of Dubai and JAFZ for four years. The Dubai data exclude any figure related to imports from or exports to the Free Zone from the local market. Any import to the Dubai market, whether from JAFZ or abroad, is an import to the UAE market as a whole, as there are no boundaries between the Emirates.

Total exports from JAFZ in 1989 represented about 28.0 per cent of the total of Dubai's exports; a percentage which increased to 44.6 per cent of the total by

1992. But it is reduced to 31.7 per cent if the total exports of the JAFZ to the local market are not included. Averaged over the four year period, exports from JAFZ represented 33.6 per cent of Dubai's exports with a year on year average growth of 8.4 per cent.

In terms of the balance of external non-oil trade (i.e. not simply between JAFZ and Dubai), there is a deficit for Dubai but not for JAFZ. The principal reason for Dubai's balance of trade being shown in deficit in Table 7.1 is the exclusion of oil. This revenue is, of course, Dubai's principal income. However, there are two problems associated with oil revenue. Problematically, firstly Dubai forbids disclosure of accurate oil revenue figures. Also, because of their size, oil revenues tend to overwhelm and obscure the role of JAFZ in the balance of Dubai's trade. One of the aims of Dubai's economic planning is to develop an economy independent of oil revenue, but for the moment that is not feasible hence these trading figures, which show a large apparent deficit, because the period under consideration was in fact the structural stage of JAFZ's growth which required a great many imports, such as machines, raw materials and building, coupled with a very high volume of electronics imports. However, there was, at the same time, a rapid increase in the volume of sales on the domestic market. For instance, in 1992 the export value of electronics products among the 83 sampled firms was about 284 million dollars, but the overall value of electronics imports, more than half of which was bound for the domestic market, was 554 million dollars i.e. imports outstripped exports by 2:1. In contrast, the total value of exports exceeded imports of textiles, clothing and leather, at 126 and 51 million dollars respectively.

Over the four year period shown in Table 7.1, Dubai's balance of trade deficit

not only increased, but accelerated: the imbalance became more acute as imports grew more rapidly than exports. In complete contrast, the balance of trade of JAFZ moved progressively from a deficit of 30 million dollars in 1989, to a credit of 163 million dollars in 1992. Despite the growth in imports, exports increased even more rapidly, to the extent that, averaged over the four year period, the balance of JAFZ trade was in credit.

The JAFZ does not have a positive effect on Dubai's overall position, however, because despite providing an increase in Dubai's exports, it has also contributed to an increase in Dubai's imports as well. This is because most raw materials used in the Free Zone are imported from foreign markets. Moreover, the JAFZ has had a negative effect on Dubai's other export points; this is because before establishing the Free Zone UAE traders were importing ready-made goods from abroad and they were distributing them to the Middle East market as re-exports. But after the establishment of the Free Zone many of these firms which exported their goods to Dubai and then re-exported them through the UAE traders established warehouses in the Free Zone and distributed their goods themselves. Therefore we can say that the Free Zone does not have a strongly positive or negative effect on Dubai's balance of trade, although already it has created a considerable growth in both parts of such trade.

It might also be useful to find out the net exports measured on the basis of exports minus imports. In particular most industrial firms in EPZs and FTZs tend to import most of their raw materials, parts and semi-finished goods from abroad. The net exports from JAFZ stood at -4.6 per cent in 1989, worsening to -10.9 per cent in 1991, perhaps due to the Gulf Crisis. The following two years (1992 -1993) there

was a major turnaround, with a balance of +10.9 and 8.3 per cent respectively of exports over imports. To achieve some comparison with other FTZs and EPZs, it is useful to consider the proportionate net export/import balance elsewhere. In Taiwan, the net exports of the three EPZs represented about 34.4 per cent of total exports in 1991¹. In South Korea, net exports increased from 34.5 per cent of total exports in the early 'seventies, to more than 50 per cent in the mid 1970s. It may be that this percentage has increased even more by 1994, because most evidence indicates rapid economic growth, especially from the industrial sector. In Mauritius the average of net exports was about 24.2 per cent from 1983 to 1986. The percentage of net exports was also positive in the Dominican Republic, for instance in 1984 the percentage was about 28 per cent. In Malaysia (1977-79) and Sri Lanka (1980-1981), however, net exports were a very small fraction (in the five per cent range) of the total exports. In Barbados, the net export ratio was -36.5 per cent in 1980².

These figures on net exports are a very significant indicator of the effective economic contribution of the free trade zone or export processing zone to the host country but show JAFZ to have a much smaller surplus on this than other free zones, or rapidly industrializing countries.

7.3 Taxation

The UAE, and in particular Dubai, is among the countries which considers freedom from customs duties to be the best way to attract foreign investment and to promote local business. In the belief of Dubai's leaders, the tax free status is a significant factor behind all the business which has recently been established in the Emirate of Dubai. A study by Badri supports the assertion that tax is one of the main

factors attracting business and foreign investment to the Emirate of Dubai ³.

The rate of customs duty imposed on goods imported into Dubai is one per cent. Some commodities are tax exempt, such as raw materials for construction, medical equipment and medicine, and foodstuffs. Goods exported beyond the UAE are not subject to customs duty. Additionally, 100 per cent repatriation of capital and profit is permitted, and there is no income tax on foreign personnel. The tax facilities which JAFZ offers to its customers include the following remarkable range:

1. Income tax: the salaries and wages of foreigners engaged in on - site enterprises are all exempt.

2. There are no import duties or commodity taxes on capital goods, raw material components and semi-finished goods; this exemption initially lasts for 15 years, and is automatically extendable for another similar period, 15 years on request.

3. Commodities produced in JAFZ and intended for export to the local UAE market are liable to a one per cent duty. Production from local and GCC firms is excluded from the duty, as are commodities in which the value added of local production is equal to or greater than 40 per cent. Some types of goods (foods, medical tools, building materials) are tax exempted, as mentioned above, this being a regulation applied to some, although not all, GCC countries.

Specifically, exemptions do not apply to Saudi Arabia and Oman. This reflects the point that Saudi Arabia has exerted a negative influence on the trading exchange between GCC countries, particularly between the UAE and Saudi Arabia. Saudi Arabia has broken the agreement exempting GCC commodities from customs-duty, which stipulates that any commodities in which the value added is 40 per cent from a GCC country should be exempt from customs-duty, because it argues that JAFZ is,

in effect, not in Dubai but is for trading purposes regarded as foreign.

The value of imports into Dubai (excluding JAFZ) from Saudi Arabia in 1992 was about \$141 million, which represents one per cent of the value of Dubai's total imports. In contrast, the value of total imports into Saudi Arabia from Dubai (excluding JAFZ) in the same year was about \$35 million, which represents 4 per cent of the value of Dubai's total exports. The value of JAFZ imports from Saudi Arabia is estimated to be about \$28 million, whereas the value of JAFZ exports to Saudi Arabia is \$144 million. The total value of imports into Dubai (including JAFZ) from Saudi Arabia is, therefore, about \$169 million, and the estimated total value of Dubai's exports (including JAFZ) to Saudi Arabia is about \$179 million. These figures show that after including JAFZ the commercial balance of trade between Saudi Arabia and Dubai is to the advantage of Saudi Arabia by about 6 per cent. When the other UAE Emirates are also taken into account, the commercial balance of trade tips further in favour of Saudi Arabia. The figures also show the huge amount of trade that takes place between Dubai and Saudi Arabia, even though the overall percentages do not seem that high. In recognition of the size of the trading imbalance, there is constant consultation between the leaders of Dubai and the other Emirates to solve this problem.

It could be argued that, from the tax viewpoint, Dubai was itself virtually a Free Trade Zone before JAFZ was established, because one percent is a very low rate of tax.

Table 7.2 shows that the amount of duty collected both in the Emirate of Dubai and JAFZ increased from 1991 to 1992, the percentage increase of total duty being about 29 per cent. The total duty of JAFZ in 1992 represents something over

Table 7.2 Dubai Customs duty collection during 1991 and 1992.

	1991 (\$)	1992 (\$)
Total duty collected (excluding JAFZ)	163 125 187	208 788 325
Total duty collected from JAFZ to UAE	4 586 217	7 197 376
Total	167 711 404	215 985 701
Source: Dubai customs, 1992.		

three per cent of the total duty receipts of Dubai Emirate. This figure shows that imports into Dubai Emirate from JAFZ are very low, even taking into account importation of commodities by local and GCC firms, and the tax exempt status of some commodities.

Duty revenues in Dubai are low, whether in Dubai or JAFZ. This is due to the low duties imposed on the import of materials into Dubai, particularly in comparison with other GCC countries.

Table 7.3 indicates the lack of co-ordination of customs duty imposed on imports of foreign commodities into GCC countries. The UAE is seen to have the lowest rate of import duty. There are two reasons for this. First, the low rate attracts foreign investment, which in turn stimulates the local economy in each Emirate. This applies to some Emirates with the financial wherewithal to profit from investment, particularly regarding the operation of a distribution infrastructure for neighbouring countries. However, these Emirates did not start off by reducing import duty to one per cent immediately, for the rate began at four percent, which was later reduced to one per cent in response to competition from within the different member states of the UAE. For example, they started with imposing four per cent of duty on foreign commodities. But because of non co-ordination between each other, every Emirate

Table 7.3 Percentage customs duties in the GCC countries.

Country	Tax Percentage
U.A.E	1
Saudi Arabia	12 and 20
Kuwait	4 and 15
Qatar	4 and 20
Bahrain	20
Oman	5 and 100 ¹
Source: The commercial departments of GCC embassies in UK. Note: 1. Oman General Department of Custom, Custom Clearance Directory, p. 29.	

tried to reduce its duty rate in order to attract as much as it could of foreign investment and use of its port. Therefore as a result of that competition (during the period of reducing tax) they arrived finally at one per cent. It means that each Emirate was working for their own interests rather than the interest of the federal state. This disagreement also has a negative effect on the commercial future of each Emirate. Saudi Arabia exploits this point to its own benefit, imposing a duty on GCC commodities imported from JAFZ. The second, and main, reason was the competition between Emirates to increase the volume of imports and exports, and thereby to increase the income from imports and exports. This explains the past disagreement between Emirates regarding the levy of duties on foreign commodities.

The Table also shows that some GCC countries have two tax bands. One band is a general tax levied on general commodities. The other band is levied on the import of commodities also produced locally. The latter is usually set at a higher rate than the former, in order to offer limited protection to local manufactures from foreign competition. This higher tax band is not available in the UAE. The reason for

this was mentioned by J. Al Fardan, Under Secretary of the Ministry of Finance & Industry for Industrial Affairs in a radio interview: " To avoid the imposition of tax on our principal export which is oil, the UAE cannot increase the rate of the tax as 90 per cent of our exports depend on oil. Were the UAE to raise taxes, that would mean other countries would impose taxes on our exports, which would not be to the benefit of the country". It is possible that the caution expressed in this notion is somewhat exaggerated. All GCC countries impose a relatively high rate of tax on commodities which are also produced locally with the exception of the UAE. The effectiveness of the individual role played by the UAE in levying low taxes on imported commodities, in order to avoid the imposition of tax on GCC oil and petrochemical products, is questionable.

The vice-chairman of JAFZ noted during an interview that the GCC countries plan to standardize import tax or customs-duty rates at around 9 to 12 per cent, which means the proportion of tax in Dubai and UAE will increase about 9 to 12 times. This sharp increase in tax or custom-duty rate, from one to twelve per cent, may have a negative effect on UAE and JAFZ commercial activity, because tax 'free' status has been shown to be one of the main reasons behind attracting foreign firms to the Free Zone. Therefore if it is the intention to impose customs-duty on foreign commodities it may be helpful if the increase is gradual rather than sharp. On the other hand there should be co-ordination between the GCC states in order to standardise the rate of tax, particularly for members whose economic states are similar. But the point which should be taken into a consideration is the present rate of tax imposed, in order to avoid any negative effect which may occur for members as a result of the new rate of tax.

7.4 Wages and working conditions

According to the investors guide handbook issued by the JAFZ Authority in 1991⁴, the average monthly basic wage for skilled workers in all types of activity ranged from US \$270 to \$540, the rates for unskilled workers being from US \$140 to \$220 (see Chapter Five).

Wages in JAFZ for the same category of worker generally vary according to the particular industry and sex of the worker. The average monthly basic wage for a skilled male and female worker is about \$735 and \$520 respectively. The average monthly basic wage for an unskilled male and female worker is about \$282 and \$205 respectively. Accommodation and transport are normally provided where the average monthly salary is less than \$540. Also accommodation is normally provided by the employer for men whose salary is between \$490 and \$820. Therefore, according to their wages, most workers in JAFZ should benefit from this facility. For example, the average salaries of skilled, semi-skilled and un-skilled workers (male & female) in the Free Zone in Table 7.4 is shown to be less than \$540 monthly. There is no law controlling this point, but usually there is agreement between employer and employee. This means there could be some workers among them who do not benefit from this facility. Other benefits provided by the companies include annual travel tickets home for each worker, 98 per cent of whom are foreign, together with free medical attention and hospitalization. This is provided for employees sponsored by the Free Zone Authority by the Department of Health and Medical Service. Initial registration is US\$ 82.00 renewable after one or two years; compensation is paid to workers according to the Free Zone regulations, US\$ 10,000 for death or total disability; compensation for partial disability is proportionate - all compensation is payable by

the employer; the facility includes group personal accident insurance, a uniform, end of contract bonus (often one month's salary for each year worked), a night shift allowance in the region of 125 per cent of the basic rate for overtime hours and an annual paid vacation of 30 working days.

7.4.1 Wage levels by employment sector in JAFZ

Wage levels in JAFZ differ between economic sectors. For instance, the average monthly wage for workers in the manufacturing sector was about US\$ 385. The average basic monthly wage for workers in the trading sector was higher than in the manufacturing sector: about US\$ 652. The reason for this may be because most firms in the trading sector have owners in developed countries, whereas most of the firms involved in the manufacturing sector have owners in India, Pakistan and the UAE; they employ about 87.3 per cent of the total unskilled workers among the 83 firms sampled in JAFZ. Therefore this sector has a tradition of low wages partly related to the low wages of the parent countries and partly related to the low levels of payment associated with textiles manufacture in general, making it the lowest paying in the Free Zone.

In contrast, the average basic monthly wage for workers in the service sector (excluding distribution) is about US \$ 1200. This sector pays the highest wages in JAFZ. Around 90 per cent of its workers work in offices, which again attracts the highest wages in JAFZ (see Chapter Five).

The total annual wages bill for the 83 firms sampled in JAFZ was about US \$ 53 million but this was not evenly divided between the different economic sectors. The annual wages bill of the manufacturing sector among the 83 responding

firms totals about US\$ 24,811,000; that for the service and trading sectors about US\$ 7,207,452 and US\$ 20,493,000 respectively. This indicates that the manufacturing sector in JAFZ has the highest wages bill yet one paid to only 47.3 per cent of workers of the 83 responding firms. The second highest wages bill is in the trade sector, paid to 39.0 per cent of total employees who work in the 83 respondent firms of JAFZ. The annual wages bill for the service sector is the smallest being paid to only 13.7 per cent of the total workers. The reason for the manufacturing sector being paid a high proportion of wages is because they represent the highest proportion of the 83 firms (29 excluding 'mixed' group).

Table 7.4 shows average manufacturing sector wages and salaries in JAFZ. From the Table it can be calculated that the average hourly wages for male and female office workers in JAFZ are about US \$ 4.76 and US \$ 2.84 respectively. The average hourly wages for skilled male and female workers are about US\$ 2.14 and US \$ 1.25 respectively for the same sector. Unskilled hourly workers are the poorest paid at US \$ 1.25 for male and US \$ 0.70 for female. Most firms in JAFZ prefer male skilled workers to female skilled workers despite the latter being cheaper; the reasons for this were discussed in Chapter Five. The differential between average male and female wages in the manufacturing sector is accordingly large in comparison with other sectors. Table 7.4 shows the rate of semi-skilled female workers is lower than unskilled. The reason for that is because there is one company from Hong Kong (textiles and clothing) which has a large number of semi-skilled female workers, all of them from Sri Lanka and pays them \$ 120 per month (These account for 42.2 per cent of the total manufacturing semi-skilled female workers). On the other hand there is one Indian company (textiles and clothing) which has a large number of unskilled

Table 7.4 Average manufacturing sector monthly wages and salaries of the 83 firms in JAFZ, 1992 (US \$).

Sex	Office	Skilled	Semi-skilled	Unskilled
Male	990	445	396	259
Female	590	171	136	146
Source: Field work				

female workers of different nationalities: Indian, Bangladeshi and Sri Lankan. (These make up 63.4 per cent of the total manufacturing unskilled female workers in the sample). This firm pays relatively high wages compared to wages paid (US\$ 150 per month) for semi-skilled workers. In the trading sector (Table 7.5), average hourly wages for female workers are higher than for male workers: US\$ 4.27 against US\$ 4.09. The reason for this is because these averages represent four levels of employment (office,skilled,semiskilled, and unskilled).

Most female workers in the trading sector (97 %) work in better paid offices, whereas male workers are distributed throughout all four employment levels.

Table 7.5 Average trade and services sectors monthly wages and salaries of the 83 firms in JAFZ, 1992. (US\$).

Sectors	Male	Female
Trade	851	931
Service	768	1239
Source. Field work.		

7.4.2 Wages by nationality groups

Firms paying the highest wages to workers in JAFZ are those belonging to developed countries. Most of these firms are involved in the trade sector, in which 86 per cent of workers are considered skilled and work in offices. Therefore the workers engaged in developed countries' firms receive the highest wages (Table 7.6). The second highest average wages are paid by (non-UAE) GCC and Middle East firms. Below them come the UAE firms. The firms paying the largest proportion of annual wages in JAFZ are from developed countries, accounting for half the total annual wages paid by the 83 responding firms. The reason for that is because the number of workers employed by firms belonging to the developed countries group represents the highest proportion (with 32 per cent of the total workers among the 65 firms) responding to this question. One company in particular, Mc Dermott, has 44 per cent of the total workers of this group of firms and pays 76 per cent of the total

Table 7.6 Average annual wages of 83 firms in JAFZ by nationality group

Nationality group	Total wages (annual) (US \$.000)	Number of employees	Average wages (monthly)(\$)
UAE	7 560	1 297	486
India and Pakistan	10 416	2 356	368
GCC & Middle East	3 656	366	832
Developed countries	26 175	2 480	880
Joint ventures	3 933	923	355
Others	538	324	138
Total	52 278	7 746	562

Source: Field work.

wages of this group. The second reason is that these countries are used to paying high wages to their workers in comparison to other nationality groups in the Free Zone. The second highest proportion is paid by Indian and Pakistani firms, with 20 per cent of the JAFZ wages bill. The reason for ranking second in terms of the total wages bill is that, despite offering low wages in comparison with firms of other nationalities, Indian and Pakistani firms employ the second largest numbers of workers among the 65 firms (30.4 per cent). These firms actually pay relatively poorly for office work, which usually attracts a higher rate, because 56.0 per cent of their workers are skilled and work in offices. This indicates that these two nationalities are used to paying low wages because average wages of workers in their countries are low. Ranking third in total are UAE firms, with 14.4 per cent of the JAFZ wages bill and 16.7 per cent of employees.

7.4.3 Average wages according to activity classification

Table 7.7 shows wages in the JAFZ for the different level of worker according to activity classification. Electronics firms pay the highest average wages for office and unskilled workers in JAFZ. This may be because most workers in this sector are engaged in electronics activities in the trade sector, which requires relatively few skilled workers. Perhaps more significantly, the companies themselves have a high income from their products, and so can afford to pay high wages.

Skilled workers in chemical and oil activities receive the highest average wages at that level, possibly because the industry requires skilled workers such as engineers and technicians who customarily receive high levels of wages everywhere. The lowest wages paid in JAFZ are by textile, clothing and leather firms. Whereas

Table 7.7 Average monthly wages by industry and type of activity (US \$).

	Electronics	Chemicals, oil & plastics	Textiles, clothing & leather	Food
Office	1 071	923	488	798
Skilled	624	798	205	528
Unskilled	380	300	161	196
Total	772	470	235	485
Source: Field work				

electronics' office and unskilled workers receive about \$ 5.1 and 1.8 per hour respectively, the same level of workers in textile, clothing and leather firms receive only \$ 2.3 and 0.77 per hour respectively, a major contrast.

Labour costs in JAFZ can be compared with other FTZs across the same international company. In a report on plant location by Plant Location International on wage costs in JAFZ in 1988, it considered those in textiles, clothing and leather them to be lower than in Masan (Philippines), Bahamas, Kaohsiung (Taiwan), Jacksonville (USA) and Shannon (Eire)⁵. When it comes to electronics, it is more problematic to compare JAFZ with other FTZs in the world, because most of the workers engaged in this sector in JAFZ work with the trade sector not with manufacturing.

7.4.4 The demand for high wages as a reason for not employing UAE workers

The survey asked what were the reasons for employing low proportions of UAE workers. Table 7.8 shows the pattern of firms which said the reason for not employing more UAE workers in JAFZ was their demand for high wages.

The purpose of this cross-tabulation between these two variables is to find out whether firms which said ‘Yes’ also pay out large amounts in wages every year. The relationship between these two variables is strong. An increase in the size of the annual wages bill tended to increase the proportion of firms responding ‘Yes’. For instance, 69 per cent of firms with an annual wages bill below US\$ 100,000 said ‘Yes’. This percentage increased to 72 per cent among firms whose annual wages bill was between US\$ 100,000 and US\$ 500,000 and approached 90 per cent among firms

Table 7.8 The relation between total wages per annum and high wages as a reason for the lack of UAE workers in JAFZ; numbers of establishments:

Annual Wages Bill (\$ '000)	Yes	No	No answer	Total
Below 100	11	5	1	17
100-499	22	8	1	31
500-999	6	3	0	9
1,000 and over	9	1	0	10
Total	48	17	2	67
Source. Field work.				

whose annual wages bill exceeded US \$ 1 million. Of the 83 responding firms, 72 per cent said that demand for a high wages was one of the reasons for not employing more UAE workers in JAFZ.

7.4.5 Relation between annual wages bills and possible new policies

The survey asked about the possibility of demanding a minimum percentage of UAE labour to be employed, which would be administered by the Authority of the Free Zone. However the main aim of this question was only to find out to what extent

these firms are prepared to employ UAE labour. UAE employees constitute the smallest nationality among the groups, representing about 1.9 per cent of the total employees among the 83 responding firms. This means that the majority of wages are paid by companies within the JAFZ to the workers brought from outside, as this is cheaper than employing UAE workers.

Of firms willing to employ more UAE workers, 74 per cent (17/23) were firms with an annual wages bill below US\$ 500,000 (Table 7.9). Of firms whose annual wages bill exceeds US\$ 1 million, 40 per cent were willing to employ more UAE workers. There may be a possibility of employing more UAE workers in the long run. Four out of five of the firms which answered that they were not ready to employ more UAE workers were firms with annual wages bill below one million dollars.

Table 7.9 Relation between total wages per annum and a policy of employing citizen workers number of establishments:

Annual Wages Bill (US\$'000)	Accept	Accept conditionally	Reject	Total
100 and below	5	9	2	16
100-499	12	16	2	30
500-999	2	7	0	9
1,000 and above	4	5	1	10
Total	23	37	5	65

Source. Field work.

7.4.6 Wage bills and labour supply

Table 7.10 explores the relationship between availability of labour in the UAE (either its cheapness or volume) and a firm's annual wages bill. For instance, firms which chose rank 1 mean that availability of labour is very significant for them whereas, at the other extreme, those choosing rank 14 mean it is of the least importance for them (see Chapter Four).

For firms with annual wages below 100,000 dollars, 13.3 per cent (2/15) were ranked 1-6, and 86.7 per cent (13/15) 7-14, that is, of little significance. The percentage of firms ranking 1-6 increased for firms with an annual wages bill in the band 100,000 - 500,000 dollars to 39.0 per cent (9/23). This percentage reached 44.4 per cent (4/9) among firms with an annual wages bill in excess of one million dollars. In general we can say that as the size of the annual wages bill increases, the availability of labour becomes more significant.

Table 7.10 The relationship between the availability of labour and firms' annual wages bill (US\$'000).

Annual Wages Bill, \$'000	1 - 3	4 - 6	7 - 9	10 - 14	Total
Below-100	1	1	6	7	15
100-499	6	3	7	7	23
500-999	1	1	2	3	7
Above-1000	3	1	4	1	9
Total	11	6	18	19	54
Source: Field work					

7.5 Investment in JAFZ

The annual investment in JAFZ by 62 firms out of the 83 responding firms amounted to 348 million dollars. Seven advantages which encouraged this investment were discovered to be particularly significant and can be summarised as follows:

1. The availability of power from two main sources, namely, Dubai Aluminium Company, in addition to the new electricity power station in Jebel Ali. These projects also provide the water supplies for JAFZ by sea-water desalination.

2. An excellent road infrastructure, involving the construction of an international road network, and highways linking Dubai with other Emirates and GCC states.⁶

3. The availability of 15 ports and five airports in the UAE.

4. An advanced, world-wide telecommunication system.

5. The non-imposition of taxes or duties on raw materials imported to the Free Zone.

6. The availability of capital, with no restriction on transferring foreign currency abroad, and no personal income taxes.

7. 100 per cent foreign ownership is allowed.

Work permits and restrictions on the engagement of expatriate staff, introduced by the UAE in recent years, created considerable problems for potential investors. The JAFZ decree overcomes these difficulties. For example, whilst companies may face difficulties outside the Free Zone in employing whom they wish, the JAFZ Authority acts as the nominal employer of staff whom companies wish to hire. Companies can recruit for themselves, or, if preferred, the authority will provide employees to a company's specification. In spite of this, however, some Arab

companies in JAFZ, in responding to the questionnaire, stated that they were facing difficulties in applying for visas for some workers of Arab nationalities.

7.5.1 Total investments by nationality group

A notable feature of the typical EPZ is the attraction of foreign investment in order to stimulate the local economy, though there is an argument which says that the investment of foreign firms in EPZs is relatively low. Foreign investment of individual firms in EPZs during the 'seventies did not normally exceed a total of one million dollars US (at then prevailing values) in any one of them. A capital investment by an individual firm of more than one million dollars was exceptional. In Masan (Republic of Korea), in 1977, the average investment of all occupant firms was about US\$ 990,000, and increased to approach US\$ 1.2 million in 1979. Average foreign investment per firm in JAFZ and the UAE has been, in real terms (i.e. taking inflation into account), of a different order in comparison, for example, with the Masan Export Processing Zone in the 1970s.⁷ Average foreign investment per firm in JAFZ in 1992 amounted to about five million dollars. When domestic investment is added, this figure increases to US\$ 5.6 million per firm. Investment in other UAE free zones was as follows: in Fujairah the total investment per firm in 1993 was 2.6 million dollars, but in Ajman and Um Al Quwain Free Zones the average was less at 65,395 and 50,296 dollars respectively.

Also it may be useful to compare further the total investment per worker in some Free Zones with the JAFZ. For example, in the Maquiladora of Mexico in 1976, the average investment per worker amounted to US\$ 840.⁸ In JAFZ the total investment per worker among the 60 firms who responded to both questions relating

to the number of worker and size of investment was 63,335 dollars. In Fujairah Free Zone in 1993 the average was about 27,297 dollars, whereas in Ajman and Um Al Quwain the average was US\$ 1,054 and US\$ 716 only. The reason behind the low level of investment per worker in the latter two Free Zones is that there are four textile manufacturing firms operating in each one of them. Each involves many workers but little investment.

Investments in JAFZ by the 62 firms which responded to this question can be divided into three sections. Firms which invested less than one million dollars US represent about a quarter (16/62) of total firms. The second section includes firms which invested between one and ten million dollars and represents about half (32/62) of the 62 firms. The third section are those firms which invested more than ten million dollars, and they represent about a quarter (14/62). This means a majority of investments in JAFZ (32/62) are between one million and ten million dollars.

Of the 83 responding firms, 14 are UAE firms. Of these, seven firms invested more than ten million dollars each (Table 7.11). Of all firms investing more than this amount, 50 per cent (7/14) were UAE firms, none of the rest chosen to invest less than one million dollars. Of Indian and Pakistani firms, one third (5/15) made a total investment of less than one million dollars, and only 20 per cent (3/15) invested more than ten million dollars.

Investments by GCC and Middle Eastern firms are at medium levels with no firms investing more than ten million dollars. A majority (8/17) of investments by developed countries' firms are under one million dollars, and only 17.6 per cent (3/17) are more than ten million dollars. Joint venture investments are located firmly

Table 7.11 Total investments by nationality of firms (US\$'000).

Countries	Below 500	500-999	1000-4999	5000-9999	10000-14999	15000 & over
UAE	0	0	6	1	5	2
India & Pakistan	1	4	6	1	1	2
GCC & Middle East	1	1	3	3	0	0
Developed countries	4	4	5	1	2	1
Joint venture	0	0	4	1	0	1
Others	1	0	1	0	0	0
Total	7	9	25	7	8	6
Source: Field work						

in the middle levels with five out of six firms investing between one million and ten million dollars.

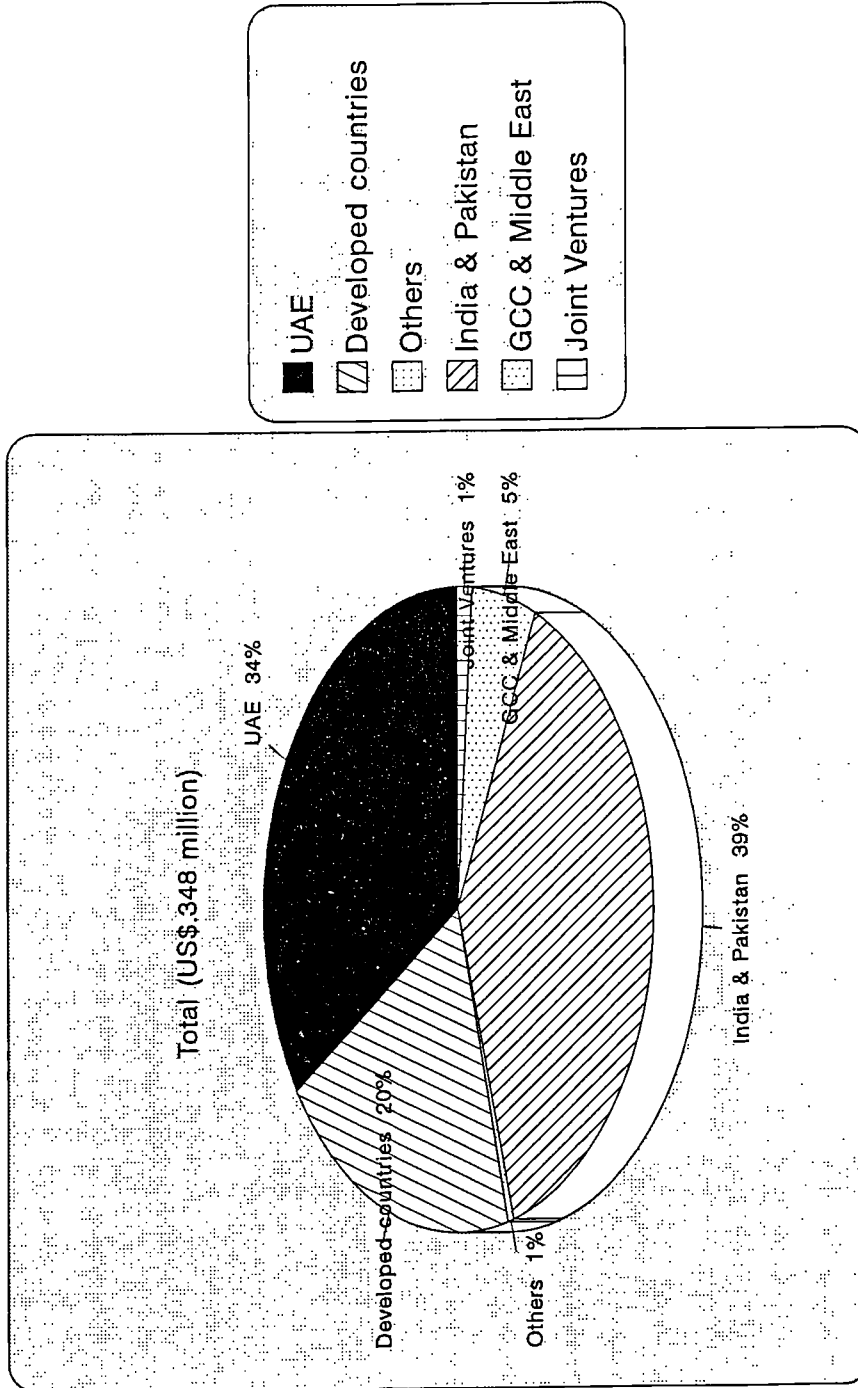
In terms of the size of overall investment by nationality (Figure 7.1) among the 62 (of the 83) responding firms, these were distributed as follows: Indian and Pakistani firms have the highest investment at US\$ 122 million. The second ranking nationality group is UAE investments estimated to be about US \$ 108 million. Developed countries come next with US\$ 61.6 million (Japan 38.5%, USA 33.5%). Fourth come the joint venture firms, which invested nearly US\$ 38 million. The last two groups are GCC with Middle East and "other" firms, which invested 16.7 and 1.6 million dollars respectively.

By early 1993, the *total* size of investment in JAFZ had exceeded one billion dollars. This accumulated total increased by 4 per cent in the three months to the end June, 1993 to 1.095 billion dollars.⁹

Table 7.12 shows total investments in JAFZ. UAE firms made the highest

Total investments of the 83 responding firms and their nationalities in the JAFZ.

Figure 7 : 1



Field work

proportion of investments in JAFZ with 43.8 per cent. The second nationality grouping is India and Pakistan with 21.8 per cent, and the third, developed countries with 18.3 per cent. This shows that the size of investments of each nationality lies in the same order as for the 83 responding firms, with small difference because Table 7.12 does not mention joint venture firms' investments separately.

Table 7.12 Size of investment by nationality in the JAFZ (April 1993, US\$'000).

Countries	UAE	GCC & Middle East	India & Pakistan	Developed countries	Others	Total
Investments	461 600	136 600	229 200	192 400	33 200	1 053 000
Source: Official report from JAFZ authority						

The JAFZ data compares interestingly with other free zones around the world. The total investment in Taiwan's EPZs in 1991 was about US\$ 868.8 million for the three zones. Within this, foreign investment has become the largest capital source making up 71.07 per cent of the total investment value¹⁰ (see Chapter Three). In Egypt's FTZs the total investment in 1982 was US\$ 65.5 million, and foreign investment was the largest source of investment making up about US\$ 65.1 million (99.4 %). Between these extremes, the Philippines FTZs investment in 1983 was US\$ 47.1 million, of which domestic investment represented a majority with US\$ 30.5 million (64.8 %).¹¹

Concerning the UAE other Free Zones (Fujairah, Ajman and UM Al Quwain Free Zones), the total investment in 1993 was US\$ 42 million. This amount is distributed as follows: Fujairah has the highest proportion at 41 million (97.3 per cent), second is Ajman with US\$ 653,951 (1.6 per cent) and third is Um Al Quwain with US\$ 502,962 (1.2 per cent). The total investment in these three Free Zones

represents about four per cent of the total investment in JAFZ.¹²

7.5.2 Total investment in JAFZ by sectors

Investment in JAFZ is distributed unevenly between the three sectors of manufacturing, trade and services (Table 7.13 and Figure 7.2). Manufacturing takes the largest share, constituting about 61 per cent of total investment. Trade trails in

Table 7.13 Total investment in JAFZ by type of sectors in March, 1993 (US\$'000).

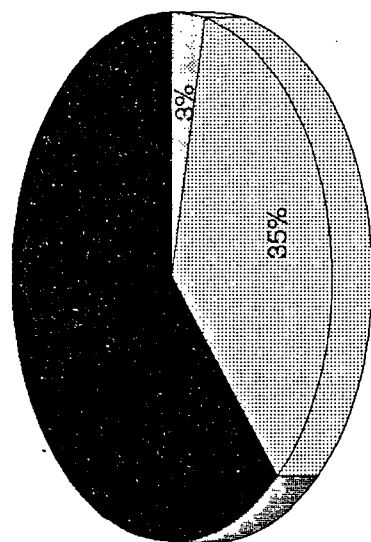
Investment	Manufact.	Trade	Services	Total
Total investment in JAFZ	647 500	369 700	35 800	1 053 000
62 of 83 responding firms	255 015	81 195	12 010	348 220
Source: 1. Field work. 2. Official report from JAFZ authority.				

second place with 35 per cent, and service investment is a poor third with only 3 per cent. Of investments made by the 62 firms among the 83 responding firms, the rank order of the sectors is the same as for total investments, though trade was apparently under represented by some 50 per cent.

The majority of the UAE firms' investment was directed towards the manufacturing sector (Table 7.14), accounting for 70.8 per cent of its total investment in the Free Zone, which is one of the positive effects of establishing the zone. Moreover, this position has led to the establishment of a significant industrial base in JAFZ. This facility represents about 18.5 per cent of total industrial domestic investment in Dubai Emirate for 1992.¹³ But the trade sector was in second place representing 23.9 per cent of the total investment of this group in JAFZ. The second

Total investment in the JAFZ by type of sectors, up to April 1993.

Figure 7 . 2



■ Manufacturing
▨ Trade
▩ Service

Total (US\$ 1,053 million)

Official report from the Free Zone Authority

Table 7.14 Sectoral investment in the JAFZ by groups of nationalities (January, 1975-March, 1993 US\$'000).

Countries	Manufacturing	Trade	Service	Total
UAE	327 000	110 500	24 100	461 600
GCC & Middle East	111 800	24 300	500	136 600
India & Pakistan	156 100	72 100	1 000	229 200
Developed countries	27 800	154 600	10 000	192 400
Others	24 800	8 200	200	33 200
Total	647 500	369 700	35 800	1 053 000
Source: 1. Official report from the JAFZ, (April 1993).				

highest percentage of investment came from India and Pakistan, with 24.1 per cent of total investment of the manufacturing sector in JAFZ, which was 68.0 per cent of the total investment of this group in JAFZ. The manufacturing sector also attracted a large proportion of GCC and Middle Eastern investment in JAFZ. Developed countries firms' investment in the manufacturing sector is the lowest at only 4.3 per cent of the total. This is because the majority of developed countries firms' investment is engaged in the trade sector. This sector represents about 80.4 per cent of the total investment of this group.

Manufacturing sector investment in Dubai Emirate as a whole in 1992 was US\$ 2.640 billion. Of this, 84.4 per cent was domestic investment and only 15.6 per cent was foreign. Therefore, total manufacturing sector investment in the Free Zone represented about 24.5 per cent of total manufacturing sector investment in Dubai Emirate including JAFZ. Foreign manufacturing sector investment in JAFZ was greater than in the rest of Dubai Emirate, and represents about 71.7 per cent of the

total foreign manufacturing investment in Dubai Emirate.¹⁴ This analysis indicates that JAFZ plays a positive role especially in increasing the proportion of foreign manufacturing investment in Dubai Emirate.

The reasons why manufacturing sector investment is usually larger than the trade investment, is that the former normally demands a greater relative proportion of workers than does trade, and this leads to increased size of wages in the manufacturing sector yearly, as well as requiring greater capital investment in machinery and buildings than is needed for trading establishments.. In addition, raw materials represent a significant cost to manufacturing. The manufacturing sector therefore usually requires greater investment than does trade.

Table 7.15 explores the relation between size of investment and economic sectors. For example, only one firm investing less than US\$ 500,000 was in the manufacturing sector; rising to 44.4 per cent (4/9) of firms investing between US\$

Table 7.15 Relation between size of investment and different sectors in the JAFZ, number of establishments.

Investment US \$ '000	Manufacturing	Trade	Service	Total
below 500	1	5	1	7
500-999	4	5	0	9
1,000-4,999	18	7	0	25
5,000-14,999	6	1	0	7
15,000 and above	9	4	1	14
Total	38	22	2	62
Source: Field work.				

500,000 and US\$ 999,000; rising again to 72 per cent (18/25) of firms investing between one million and five million dollars; and again to 85 per cent (6/7) of firms investing between five million and 15 million dollars. This suggests a direct relationship between size of investment and the representation of manufacturing firms. The position of the trade sector is completely different from that of the manufacturing sector. For instance, 71 per cent (5/7) of investments below five million dollars were in the trade sector. Service sector firms are also small but of the 83 responding firms only two firms from the service sector answered this question in the questionnaire.

7.5.3 Investment of firms in JAFZ by commodity sector

Table 7.16 shows total investment in different commodities among the 62 firms which responded to the question on investments. Clothing takes the largest share with 31.8 per cent. The reasons for this size of investment include the great number of firms among the 62, with large working areas and big buildings; much of this activity is involved in the manufacturing sector in JAFZ. Therefore it requires machinery which accounts for a large portion of expenditure. Investment in chemicals, petroleum and rubber products takes second place, constituting 24.1 per cent of total investment. This sizeable percentage of investment arose not solely through the setting up of the Free Zone, for many oil companies were operating in that part of the UAE before the establishment of JAFZ. The reasons for this activity taking the second highest share investment are that there is a big demand for this type of activity in the local economy, costs are high, and the sector needs a large area of land (discussed further below). Ranking fourth in size

Table 7.16 Total investment in 62 responding firms among the 83 in the JAFZ by type of activities.

Type of commodities	Size of investment (US\$ '000)	Number of firms
Clothing, textiles & leather	110 890	12
Chemicals, petroleum, rubber	83 930	12
Food, beverages & tobacco	36 020	6
Electronics & electrical	31 980	10
Stationery & paper	25 216	2
Metal related	16 200	5
Equipment & machinery	12 549	6
Services	12 010	2
Building materials	7 115	2
Others	12 310	5
Total	348 220	62
Source: Field work		

of investment are electronic and electrical products with 9.2 per cent. In many FTZs, where electronics is concerned with assembly, and this activity falls within the manufacturing sector, it usually attracts the greatest investment. However, in JAFZ, the activity is within the trade (and service) sector, and accordingly requires less investment.

In Malaysia, in 1982, textiles and clothing took the largest share of total paid-up capital, with 62.5 per cent, followed by electronics with 18.2 per cent.¹⁵ In Sri Lanka, in 1983 the ranking was the same.

Total investment by the chemical, petroleum and rubber industry in JAFZ and in the rest of Dubai Emirate in 1992 amounted to about US\$ 46.251 million and US\$ 2.565 million respectively. Investment in JAFZ therefore represents about 94.4 per

cent of the total investment of this industry’s activities in Dubai Emirate. The situation was less extreme in the textiles, clothing and leather industry with JAFZ receiving 68.5 per cent (\$ 70.890 m) of Dubai emirate’s total investment of US\$ 103.416 million in this sector.¹⁶

7.5.4 Total investment and size of area and wage bill

Table 7.17 shows the relationship between the size of area occupied by a firm and the size of its investment. No firms which have invested less than US\$ 500,000 occupy more than 5,000 sqm. In contrast, firms which have invested more than US\$ 15 million do not occupy less than 5,000 sqm. Most firms in JAFZ occupy large areas, reflecting the relatively cheap land cost.

There is also a statistically significant relationship (Table 7.18) between size of investment and size of wages per annum ($pr = 0.078$). For example, as the Table shows, a majority (5/7) of firms which invested and less than US\$ 1 million have an annual wages bill of less than US\$ 0.5 million.

Table 7.17 Size of investment in JAFZ by area of site and number of establishments.

Investments, US'000	under-500	500- 999	1000-9999	5000-14999	15000 & over	Total
Area (sq m)						
under-500	3	0	1	0	0	4
500-999	2	4	3	0	0	9
1000-4999	2	1	7	5	0	15
5000-9999	0	3	3	3	1	10
10000-above	0	0	7	5	4	16
Total	7	8	21	13	5	54
Source: Field work						

Table 7.18 The relationship between size of investment and total annual wages bills among the 83 responding firms in JAFZ.

Wages, US'000	under 100	100-499	500-999	1000 & over	Total
Total 76-92 Investments US\$'000					
under 500	4	3	0	0	7
500-999	1	4	1	1	7
1000-4999	7	12	5	0	24
5000-14999	1	2	0	2	5
15000-above	0	6	2	5	13
Total	13	27	8	8	56
Source: Field work					

It seems normal that an increase in the annual wages bill will correspond with an increase in investment. It is therefore inevitable that wages accompany investment, which means the expenditure of firms will increase. But this need not be the case in every FTZ or in every activity. For instance some activities involve large investment, such as the oil sector, but do not have a large number of workers. The total investment per worker in the oil sector among the five firms that answered these two questions is about \$ 297,000. On the other hand there are other activities which require a large number of workers, such as clothing and textiles. The total investment per worker in this activity among the ten firms that answered these two questions is about \$ 39,000.

7.5.5 Size of investment and per cent of profit transferred

In terms of improving the UAE economy, there is a positive point that 64.0

per cent of firms among the 50 that answered the question on profit transfers do not transfer their profit abroad. UAE firms represent about 22.0 per cent of them (11/50), the other (21/50) firms being of different nationality groups. This does not mean that most of their income is spent locally, because most firms import the majority of their raw materials from foreign markets, due to the non-availability on the local market. These statistics indicate that another 30.0 per cent of the foreign firms included in the 50 firms do not completely transfer their profit abroad. But there are three firms that said that they transfer about 99.0 per cent of their profit abroad.

Table 7.19 shows that there is a positive, but not statistically significant, relationship between size of investment and the percentage of profit transferred abroad through firms operating in the JAFZ ($pr = 0.346$).

profits and size of investment. For instance, 45.5 per cent (5/11) of firms that invested below one million do not transfer any of their profit abroad. On the other hand 45.5 per cent of firms which invested between five million and more did not transfer any profits. But the majority of firms which do not transfer any profit abroad

Table 7.19 Size of investment and percent of profit transferred annually (US\$'000); numbers of establishments.

Investment	0%	1% - 49%	50% - 79%	80% - above	Total
Below 500	2	0	1	2	5
500-999	3	1	1	1	6
1000-4999	11	3	0	2	16
5000-14999	2	1	1	1	5
15000-above	3	1	2	0	6
Total	21	6	5	6	38
Source: Field work					

were those that had invested between one & five million dollars (11/16). The reason for this could be the large number of textile and clothing firms included in this number. This type of activity represents the largest proportion of firms which do not transfer their profit abroad, 8 of 10 firms involved in this activity.

Six firms said they transferred less than 50 per cent of their profit abroad. Four of them are involved with textiles and clothing and electronics, and the other two dealt with building products and metal related goods. Of 11 firms which transferred more than 50 per cent of their profit abroad, five of them dealt with chemical and oil related products.

From the above explanation it can be concluded that most firms which do not transfer their profit abroad are involved in textiles and clothing, and the majority of firms which do transfer their profit abroad are involved in chemical and oil activity.

It seems that there is no relationship between the length of time a firm has been established in JAFZ and the transfer of profit abroad. For example, of the 11 firms which transferred more than 50 per cent of their profit abroad, six of them were established in the 'nineties, and the other six in the 'eighties. In terms of nationality, six of the firms belong to developed countries, and three belong to another GCC country and Middle East (Two of them are from Jordan and the other one is from Bahrain).

7.6 Value added

It is very important for the UAE to encourage foreign firms to add value to commodities from the local market which manufactured in the Free Zone. For example, local raw materials, electricity, water, wages paid to workers, and other

local services are all considered part of value added. This situation plays a role in developing the domestic economy of the country, as intended for the JAFZ.

Most firms in JAFZ purchase the majority of their raw materials from outside markets, due to their unavailability on the local market. Even so, value can be added but there are difficulties in establishing the value added by all 83 sampled firms operating in JAFZ, because of the inclusion of trade and services sectors that deal with ready made products. These two sectors do not handle goods which require the local adding of value, through local raw materials, water and electricity. This is particularly true of the service sector which does not deal with producing commodities. It is therefore necessary to focus on the manufacturing firms in the sample to establish value added. One approach is to look at the costs of the goods and services they use locally.

7.6.1 Cost of goods and services provided from the local market and the JAFZ.

Table 7.20 shows that goods and some raw materials, most especially oil, from the local market (these items are broken down in Table 7.23) represent the largest item of expenditure in the UAE by JAFZ firms. The annual wages bill takes second place in terms of expenditure, and third place is occupied by utility services including electricity, water, telecommunications, etc..

The manufacturing sector also represents the leading sector for spending on local services (excluding wages and supply of goods). Factories in the sample spend about US\$ 12.8 million (73.5 %) of the total expenditure of the 83 firms on local services. It seems reasonable that this sector should take the highest share, because

Table 7.20 The 83 firms: use of goods, raw materials and services provided by both the JAFZ and the UAE market (US\$'000).

Type of services	Numbers out of 83 firms			Value	Column percent	Average of each firm
	Claiming use	Non use	No reply			
Raw materials-goods	40	35	8	77 723	52.6 %	1 943
Wages per annum	67	-	7	52 511	35.6 %	784
Utility	58	-	25	8 092	5.4 %	140
Rent	65	-	18	3 778	2.6 %	58
Fuel	47	11	25	3 539	2.4 %	75
Licenses	62	-	21	163	0.1 %	3
Other payments to JAFZ	55	5	23	1 860	1.3 %	34
Total	-	-	-	147 666	100.0 %	-

Source: Field work

they have extensive land and buildings on which to pay rent. They also need much fuel, electricity and water. The trade sector ranks second in spending with US\$ 3.9 million (22.6 %), and the service sector trails a poor third place with US\$ 688,000 (4 %).

But of the total amount spent on local services (including wages and supply of goods), the trade sector represents the leading sector. They spend about US\$ 79,5 million (53.8%) of the total for the 83 firms on local services. The reason why this sector stands in first place is that the spending of one of the UAE's oil trade firm, Caltex Al Khaleej represents about US\$ 51 million of refined oil products from UAE refineries. Manufacturing is in second place with US\$ 59,7 (40.4 %) million and services is in third place with US\$ 8,5 million (5.8 %).

The total annual local spending of 54 firms (which answered all questions

related to Table 7.21, Figure 7.3 and size of investment) represents about 27.4 per cent of total investment. But this percentage is reduced to 14.3 per cent if we discount total wages, which may be better not added to total spending locally, because 100 per cent of these wages goes to foreign workers. If we estimate that foreign workers spend 50 per cent of their total income locally, then the percentage of the total spending locally in the UAE as a proportion of firms' total investment is about 20.9 per cent.

Including only 50 per cent of wages the service sector is considered to spend the largest percentage of its investment locally, at 39.3 per cent. Next in rank for purchasing from the local market is the manufacturing sector with 20.6 per cent of the total of its investment. Trade trails third with purchasing only 18.0 per cent of its total investment locally. The reason why trade trails in the third place is that

Table 7.21 Local purchases and total investments by 54 responding firms in the JAFZ (US\$'000).

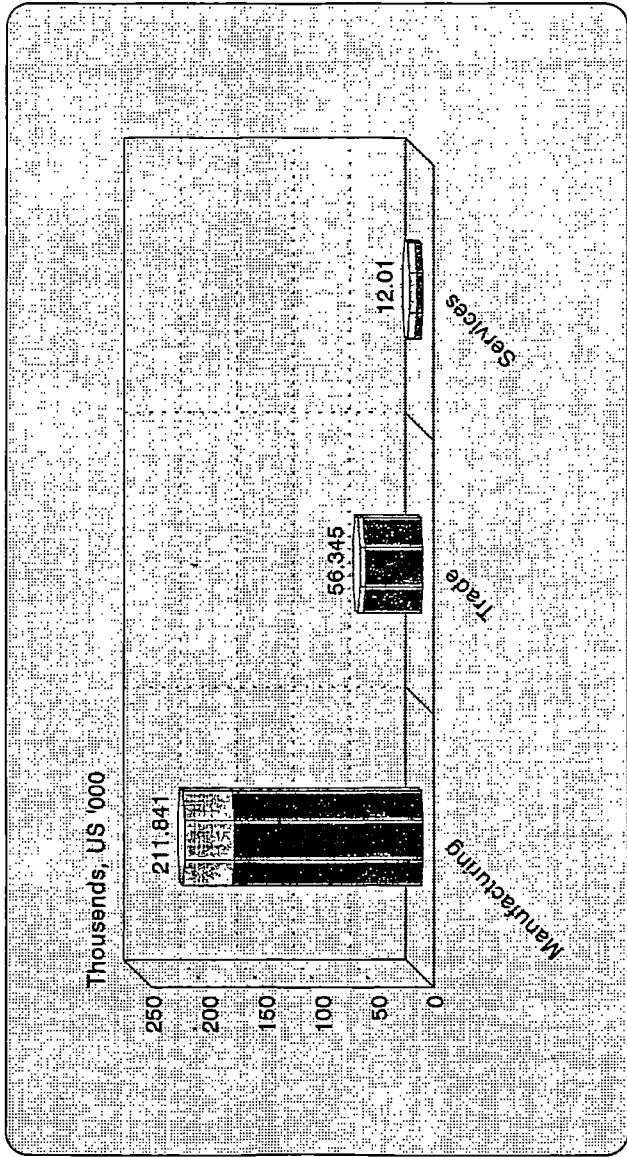
Type of services	Manufact	Trade	Services	Total
Local purchase	32,372	6,549	1,254	40,175
Wages per annum	22,459	7,236	6,937	36,632
Total investment	211,841	56,345	12,010	280,196
Source. Field work.				

Caltex Al Khaleej, which spends US\$ 51 million locally, is not included among the 54 firms in Table 7.21. Not only are rent and licence fees a tiny percentage of this total, but if one firm's US\$ 52 million purchase of oil is removed, the total expenditure and use of local raw materials by all these firm looks very low.

Rapidly increasing consumption of electricity and water in JAFZ is shown in

Total of investment consumed locally by 54 firms, by sectors.

Figure 7.3



Locally consumed

Field work.

Table 7.22. The price of electricity and water in JAFZ is lower than in many other places in the world, because the government of Dubai subsidizes it. This incentive acts as a major attraction to foreign firms, especially Indian and Pakistani. Electricity costs in the free zone are the same as outside it: US\$ 0.02 per kWh. Water costs are divided into two sections, because the rate for domestic water differs from that for

Table 7.22 JAFZ water & electricity, annual consumption (figures in '000).

Year	Water consumption in Gallons	Value US\$	Electricity consumption in Units	Value US \$
1990	242 500	991	87 411	1 786
1991	281 115	1 149	133 411	2 726
1992	382 867	1 563	148 221	3 029

Source: Electricity and Water Supply Department of Dubai.
Note: Water consumption for 1990 is estimated.

industrial water. The former costs US\$ 4.09 per 1,000 gallons, and the latter US\$ 9.91 per 1,000 gallons (over 250,000 gallons/day). In India, the average price of electricity in the 'eighties was between US\$ 0.074 and \$ 0.927 per kWh. In Taiwan, during the same period peak, rate electricity cost about US\$ 0.053 per kwh. In Hong Kong, the cost of electricity for general service tariff graduated charges, was about \$0.07 per kwh.¹⁷

Land rent in JAFZ costs from US\$ 1.47 per sqm per year. The minimum plot size is 7,500 sqm although there are some 5,000 sqm plots available for a standard cost of US\$ 9,460 per plot per year. Minimum term of lease is five years with an option for an additional five years. Ready built factories and warehouses cost from US\$ 43.60 to US\$ 47.70 per square metre per year. The standard size of warehouse

/ factory is approximately 543 sqm including office space of 33 sqm. Office space costs from US\$ 231.00 per square metre per year, with a standard size of approximately 27 square metre.¹⁸

The average cost of land in 1980s in some FTZs was as follows: In Hong Kong the annual cost was US\$ 102.5 per square metre. In South Korea cost of land leased up to ten years extendable for a further ten years, per square metre per year in the eighties was about US\$ 4.7, and the cost of leasing factories US\$ 8.7 per sqm. In Taiwan in the eighties, rent for self-designed factories per sqm per year was US\$ 27.4¹⁹.

Whilst rates for land and factory rental in JAFZ are high compared with Taiwan and South Korea, they are low compared to Hong Kong. The reason for that is Hong Kong's popularity and the very short supply of new sites for factory development.²⁰

7.6.2 Goods provided from the UAE market

There are several types of commodities supplied by the UAE market to firms operating in JAFZ, a few manufactured locally but most imported from abroad. Those manufactured locally or available as a raw material are: oil, packing materials, some types of foods, some metal-related goods, and animal skins. Goods imported from abroad and available on the UAE market to manufacturing firms in JAFZ include: foods, spare parts, animal skins, most metal-related goods, chemicals, electronics, various types of carton, and office equipment.

Very few materials are manufactured locally in the UAE and purchased by firms within JAFZ. This is in contrast to other EPZs. In Taiwan, before the EPZs

were established, there were already small factories which are now able to supply most of the spare parts and semi-conductor materials to industrial firms operating in the free trade zone.²¹ This means there is now a strong relationship between the local market in Taiwan and the EPZs. In the UAE, however, the relationship between JAFZ and the local market is still considered weak, despite the large annual export of goods from JAFZ to the UAE market. The UAE would benefit were the JAFZ Authority to encourage trade co-operation between the UAE market and JAFZ, so that the JAFZ purchased more from the local market.

In terms of providing goods from the UAE market (Table 7.23), oil takes the largest share, constituting 66.9 per cent of total goods purchased there. No other item exceeds five per cent; packing materials trail in second place with 4.3 per cent, with foodstuffs in third place with 2.7 per cent. Most of these three goods should be considered either non-manufactured or semi-manufactured.

Not surprisingly, the nationality of firms on the JAFZ with the strongest relationship with the local market is the UAE. Most of their goods and raw materials are purchased through UAE firms. In 1992, they bought about US\$ 62,762,000 (80.8%), of the total purchases from the local market (goods & raw materials) of the 40 firms among the 83 that responded. This amount represented about 31.8 per cent of the total UAE's export from the Free Zone (including UAE market). Indian and Pakistani firms are the second largest purchasers of UAE goods: US\$ 6,735,000 (8.7%), represent about 3.3 per cent of their total export. Developed countries' firms are the third largest purchasers of UAE goods, purchasing US\$ 3,903,000 (5.0%). This amount represents a poor share in their total export, one per cent. The reason for this is that most firms from developed countries in JAFZ are in the trade sector.

Table 7.23 Local purchases by 83 responding firms in the JAFZ (US\$'000).

Commodities	Value	Percentage
Oil	52 035	66.9
Packing materials	3 344	4.3
Foods	2 112	2.7
Spare parts	1 711	2.2
animal skins	1 200	1.5
Metal related	678	0.9
Chemicals	610	0.8
Carton type / poly bags	297	0.4
Electronics	260	0.3
Office equipment	158	0.2
Other raw materials	12 221	15.7
Services	3 097	4.0
Total	77 723	100.0
Source: Field work.		

This means that they import ready-made goods from outside the UAE which do not need value added to them and do not therefore involve purchases from the UAE.

7.6 3 The manufacturing sector and value added among the 83 responding firms in the JAFZ

Table 7.24 distinguishes manufacturing firms from the rest of the 83 responding firms, in order to find out the local value added by them. For this analysis 'value added' refers to the firms' local expenditure on wages, raw materials and services which, together, represent the total sum of direct financial input into the local economy. This relatively small total is detailed in the Table which is divided into two

Table 7.24 Manufacturing sector and value added among the 83 responding firms in JAFZ (US\$'000).

	Manufacturing firms among the 83	
	(a) Total	(b) of which, established in 1980s
a. Number of firms.	48	34
b. Size of investment.	224 355	161 535
c. Workers wages.	24 811	14 828
d. Imported raw materials.	339 267	129 205
e. Local raw materials.	21 943	14 706
f. Expenditure on local services / utilities.	12 811	6 612
g. Total export of manufacturing firms among the 83 firms.	344 851	228 297
h. Export to the UAE	170 187	147 957
Domestic value added (items c+e+f).	59 565	36 146
Source: Field work.		

parts, in order to include the firms established before 1990 as subset of the total. Many manufacturing firms among the 83 sampled were established in the 'nineties which means that they are much less likely to have yet achieved a favourable balance of exports over imports. This position is the same throughout most of the FTZs in the world, as in the first three years of establishment of any firm most of its expenditure goes towards building construction, land and machinery, importing raw materials and so on. Therefore they have imports without exports. This fact carries two negative points for the total exports and value added. Firstly a firm's balance between total exports and imports is likely to be unfavourable. Secondly, present reality will not reflect the potential value added to come. For this reason, it is preferable to ascertain

only the value added of the 34 firms which were established in JAFZ before 1990.

The data show that linkage between JAFZ and the local economy is not very significant from the point of view of purchasing local raw materials, and that firms in JAFZ purchased US\$ 21,943,000 (the total 48 manufacturing firms) or US\$ 14,706,000 (the 1980s 34). The former represents 36.8 per cent, and the latter 40.9 per cent, of total value added. It would be a more accurate guide to the present and future to take into account the second percentage (40.9 per cent), which is concerned with the 34 firms established between 1985 and 1989, for the reason mentioned previously. Despite this figure, it should be noted that all 34 firms exported to the UAE market in 1992 a total of US\$ 148 million; this means that what these firms bought from the UAE market represented only 9.9 per cent of the total of their exports.

In Penang EPZ in 1982 firms there purchased about US\$ 25 million of raw materials from the Malaysian market and 8 million dollars of capital goods from local firms. Even so these local purchases accounted for less than five per cent of the total purchases of raw materials and capital goods by Penang export processing zones.²² In Taiwan in 1991, domestic purchases reached 21.7 per cent of total imports, an increase from 2.2 per cent of total imports in 1967. This scale of domestic purchases indicated the closer business relationship between the enterprises inside and outside the zones in Taiwan than in JAFZ.²³

The evidence from JAFZ indicates that the wages paid to the workers constitute the major proportion of these value added costs. Among the 48 firms, this is about 41.7 per cent of the total domestic value added, and 41.0 per cent among the 34 firms established before 1990. This percentage would be significant were the

workers in JAFZ UAE citizens. But more than 98 per cent of workers in JAFZ are foreigners. Therefore the significance of the value of wages paid in JAFZ is lower compared with other FTZs throughout the world, even if one assumes that the foreign workers spend half of their wages locally .

In Mexico, in 1979, wages and salaries represented about 71.0 per cent of domestic 'value added' as previously defined. In Tunisia, in 1975, wages and salaries represent about 77.8 per cent of domestic value added.²⁴ The obvious conclusion therefore, is that, in such circumstances, wages would have played a more important role in firms' calculations in these other countries' FTZs than in JAFZ. Turning to the role of total expenditure on the local services such as electricity, water supply, and rent paid for land and factory buildings leased from the JAFZ administration, as well as private sector services such as transportation and repairs, the amount spent on these items represents the lowest percentage of 21.5 per cent of total domestic value added among the 48 firms, and an even lower 18.3 per cent among the 34 firms.

In conclusion, value added (including 50% of wages) in JAFZ represents about 13.7 per cent of the total exports of all (48) manufacturing firms, and 12.6 per cent of the total exports of the 36 firms. This percentage is not very significant, and is further reduced when domestic value added resulting from the total value of workers wages is removed completely (see above). In Batan EPZ (Philippines), in 1979, total domestic value added amounted to US\$ 21.6 million or 19.1 per cent of total exports. In Mauritius, in the same year the share of value added amounted US\$ 18.8 million or 23.7 per cent of total exports.²⁵

From this explanation we can conclude that the share of value added in the

total exports of JAFZ is low. When workers' wages are removed from the total domestic value added the percentage reduces to 10.1 per cent of total exports of the 48 manufacturing firms and 9.3 per cent of total exports of the 36 manufacturing firms.

7.7 JAFZ and industrial development in the UAE

This section examines the role of JAFZ in developing the business and industrial sector in JAFZ, in Dubai emirate and in the UAE as a whole. To address this issue, it is necessary to explore a number of points relating to the business and industrial sectors.

Of the 83 firms questioned, 61 firms (73.5%) *claimed* to play a role in stimulating local business in the UAE. Only 17 firms (20.5%) of the 83 said they did not stimulate any type of business in the UAE. Four firms claimed the question did not apply to them, and one failed to answer.

The largest number of firms saying 'No' were from India and Pakistan (Table 7.25), most of them being involved in clothing and textiles. The nationality of the second largest number of firms saying 'No' was Japanese. They deal with ready made commodities, and therefore their percentage of purchasing from the local market is nil.

Table 7.25 Firms in the sample which reported that they did not stimulate local business in the UAE.

Country	Number of firms	Activity	Sector	Purchasing from local market US\$ '000	Spending on local services US\$ '000
UAE	1	Insurance	Service	-	14
	1	Leather	Manufacturing	1 800	216
India & Pakistan	4	Clothing & textiles	Manufacturing	90	3 358
	1	Chemical	Manufacturing	245	164
	1	Aluminium	Manufacturing	-	158
Japan	2	Electronic	Trade	-	112
	1	Photo film	Trade	-	25
Denmark	1	Foods	Trade	1 468	1 300
USA	1	Oil related	Trade	-	412
S.Korea	1	Electronic	Trade	1	222
Jordan	1	Instrument	Trade	-	17
Joint venture	1	Clothing & textiles	Manufacturing	100	164
	1	Stationery	Manufacturing	60	97
Total	17	-	-	3 764	6 259
Source: Field work.					

Table 7.26 shows the perceptions of firms operating in JAFZ over their role in the development of the industrial sector. Not surprisingly the largest proportion of firms said they helped develop the industrial sector in Dubai, the next largest number made claims about developing the industrial sector in JAFZ, and the smallest number made claims about the UAE as a whole. What it is impossible to clarify is just how firms, in answering this question, interpreted 'helping development'. The figures apply to all responding firms in JAFZ, weighted toward manufacturing firms (which are responsible for investing about 61.5 per cent of total investment of the 83 responding firms). The question considered the development of the industrial sector

Table 7.26 Total firms confirming that they did help to develop the industrial sector, (through advanced technology etc.) in JAFZ, Dubai and the UAE.

	JAFZ		Dubai		UAE	
	Yes	No	Yes	No	Yes	No
Developing industrial sector	35	24	41	17	31	27
Source. Field work						

in JAFZ, as well as the extent to which the Free Zone has encouraged the development of the industrial sector in Dubai and the UAE.

A few firms in JAFZ have opened branches in Dubai, such as AEG, a German company which manufactures electronics and electrical goods. This company owns shares in a local firm, and has opened a branch in Dubai. Another example is Union Camera, the shares of which are owned by a Finnish company and a local company from Al Ain (Abu Dhabi), wanting to establish a new firm in JAFZ. This company is now producing fertilizer. Apart from these few examples, the impact of JAFZ on developing the industrial sector in Dubai and the UAE is modest to say the least.

There are other types of development of industrial sectors and local business as a result of firms operating in JAFZ. For example, Citizen Watches has a well-established branch, for providing goods to local traders, and bulk facilities improve productivity and costs, and make use of local services.

7.7.1 The significance of purchases from local business.

Of the 61 firms claiming to stimulate the local economy (Table 7.27), 29 purchase goods and raw materials from the local market; the total value of their purchases amounted to 74 million dollars. Of the 17 firms which said, 'No', nine

Table 7.27 The relation between firms saying they have a role in developing the industrial sector in JAFZ, Dubai and UAE, and the total value of their purchasing of raw materials and goods from local market (US\$'000).

	Total firms saying 'Yes'			Total firms saying 'No'		
	No.firms	Value	Average	No.firms	Value	Average
JAFZ	16	63 262	3 954	13	9 641	742
Dubai	19	64 462	3 393	8	6 197	775
UAE	15	11 427	761	13	7 294	561

Source. Field work.

purchase goods and raw materials from the local market. The total value of the purchases of these nine was much lowest at US\$ 3,764,000. The average value of purchases of goods and raw materials from UAE markets by each of the firms in the first group was about US\$ 2,550,000. The average of the second group which said 'No' was about US\$ 418,000. The greatest number of firms which answered 'Yes' and purchased raw materials and goods from the UAE market considered their influence to extend to Dubai. The second largest group considered its influence to be confined to JAFZ. The smallest group considered its influence to spread throughout the UAE. This may indicate that most firms operating in JAFZ purchase their raw materials and goods from the Dubai market. This would not be strange because Dubai is the trading centre of distribution for much of the Middle East. Its market contains many commodities unavailable in other Emirates. Moreover, the Dubai market is, of course, the nearest one to JAFZ.

The greatest value of exports into the UAE market occurred through firms which claimed to promote the industrial sector in Dubai (Table 7.28). The second highest value of exports occurred through firms which claimed to promote the

Table 7.28 The relation between firms which said they have been developing the industrial sector in JAFZ, Dubai and the UAE and their export of production to local market (US\$'000).

	Firms which said 'Yes'			Firms which said 'No'		
	No.firm	Value	Average	No.firm	Value	Average
JAFZ	18	32 517	1 807	11	27 951	2 541
Dubai	20	49 654	2 483	9	10 814	1 202
UAE	16	39 964	2 498	13	20 504	1 577
Source. Field work						

industrial sector of the UAE. Least in value, although far from insignificant, were those which claimed to have an impact on JAFZ. This ranking can be explained by the fact that most exports from JAFZ go to the Dubai market. Firms exporting a high value of goods into Dubai often claim not to promote the industrial sector in the UAE. The reason behind this may be because a proportion of the goods is re-exported abroad, in particular to Iran, East Africa and other Middle East countries. Not all goods exported to the local market are necessarily sold and consumed locally.

Exporting to the local market from the Free Zone may have a negative effect regarding some type of goods which are manufactured locally. Thus these export materials might compete with those produced more locally. For instance, clothing and textiles represent about 15.7 per cent of the total value of exports from the Free Zone to the local market, though there are many UAE firms operating outside of the Free Zone which produce the same commodity.

Table 7.29 shows that the biggest reported impact of UAE firms' promotion of the industrial sector locally is in Dubai. 18 UAE firms among the 25 said they promote the industrial sector locally, 13 of them being involved in the manufacturing

Table 7.29 Total firms which said they promote the industrial sector in the JAFZ, Dubai and the UAE according to their nationality.

Nationality	JAFZ		Dubai		UAE	
	Yes	No	Yes	No	Yes	No
UAE	13	6	16	3	10	9
GCC & Middle East	2	5	4	2	4	2
India & Pakistan	7	4	8	3	7	4
Developed Country	6	7	7	6	6	7
Joint venture	6	1	4	3	3	4
Other	1	1	2	0	1	1
Total	35	24	41	17	31	27
Source. Field work						

sector, indicating their prominent role in developing the industrial sector. The GCC and Middle East group, with nine firms among the 83, have four which contribute to promoting the industrial sector locally, all of them engaged in the manufacturing sector. India and Pakistan with 11 firms, have eight of them involved in the manufacturing sector. The contribution to this of the manufacturing firms of developed countries is low, because most of their firms deal with the trade sector.

Very generally, most firms play a role in developing Dubai's industrial sector, even though this impact may not be significant. The top ranking nationality behind developing this sector was the UAE itself.

7.7.2 Size of investment and the stimulation of local business

Table 7.30 shows the relationship between firms which claim to promote industrial sector in JAFZ, in Dubai and in the UAE, and their size of investment. In

Table 7.30 Total investment by firms claiming to promote the industrial sector. (US\$'000).

	JAFZ		Dubai		UAE	
	Yes	No	Yes	No	Yes	No
Investments	194 241	45 279	192 942	45 605	147 194	90 835
Source. Field work.						

all three columns the size of investments of firms which said 'Yes' is greater than the firms which said 'No'. The Table supports the view (mentioned above) that most firms in JAFZ believe they are stimulating local business in JAFZ and Dubai, and less so in the UAE. Therefore the size of investment of firms which said they helped the economies of JAFZ and Dubai were little different, and greater than those that felt they helped the whole UAE.

It can be concluded that the positive benefits from the 34 responding firms lay not in developing the industrial sector in Dubai, but in its effect on stimulating the *local business* in Dubai and the UAE in general, through their purchasing goods, raw materials from domestic market, and their spending on the local services.

7.8 Technology

Many studies undertaken by the United Nations examine the transfer of advanced technology through foreign firms operating in FTZs^{26 27} Most of the studies have proved that foreign firms do not transfer advanced technology to developing countries through FTZs. Most foreign firms operating in FTZs and involved in the industrial sector depend on intensive labour not on advanced technology, and most industrial activities are not particularly advanced, as instanced

by textiles and clothing, toys, food and furniture. Industrial activities which require advanced technology such as electronics, electrical goods, machinery and computers deal with assembly operations. Most technology transfer happens through training, when local technicians are trained how to use machinery. Japanese TNCs prefer to send key workers from their overseas plants to Japan for training before the initial start-up. For instance, one of the Japanese electronics manufacturers in one FTZ sent about 160 of its 640 workers to Japan for training. When they returned, most of them occupied the supervisory rank or above.

Chapter Two examined technology transfer in detail, with examples from many FTZs throughout the world. This part of this chapter focuses on technology transfer in JAFZ, with a brief comparison of the way in which South Korea imported advanced technology.

Table 7.31 Number of firms reporting ‘Yes’ and ‘No’ to the transfer of advanced technology.

Yes	No	Not applicable	Not answer	Total
24	34	22	3	83
Source. Field work.				

A majority of firms among the 83 said that they did not transfer advanced technology to JAFZ. Only 28.9 per cent (24/83) of firms stated the opposite. This percentage should in effect be reduced to 20.5 per cent (17/83) because seven of them are trading firms, not manufacturing, so that their responses were not relevant. It may have been aspiration more than reality which drew these answers from them. This means 17 of the 48 manufacturing firms said that they transferred technology to JAFZ, and another 34 said that did not transfer technology.

The industrial activities of the 17 firms which claim to have imported advanced technology are as follows: four are involved with steel products, three with clothing and textiles, two in food, three in oil and the remainder with various activities.

It would be good for the UAE if all 17 firms (20.5 %) really did transfer advanced technology to JAFZ. Unfortunately they did not do that, judging by their type of activity. They may have answered 'Yes' simply because they deal with manufacturing and industry. For example, one of these firms had imported an outdated mechanical system of paper production from Denmark. Another had imported from Belgium an old system of making packaging materials, mainly aluminum foil food containers and platters. No firms making machinery and equipment claim to have imported advanced technology. The same applies to the

Table 7.32 Total firms reporting 'Yes' and 'No' to importing advanced technology to JAFZ, by nationality.

Countries	No. firms	Yes	No	Not applicable	No answer
UAE	25	14	5	6	0
GCC & Middle East	9	2	4	2	1
India & Pakistan	18	4	7	6	1
Developed countries	18	3	10	5	0
Joint venture	10	2	5	2	1
Others	3	0	2	1	0
Total	83	25	33	22	3
Source. Field work.					

electronics firms, of which three said they had imported advanced technology. This response was because most electronics firms among the 83 are trading firms not manufacturing. They import advanced technology, but only as ready-made products which contain advanced components. No local manufacture is involved.

No more than five firms are actually involved in assembly which requires advanced technology. These include Tamco Middle East Ltd and York Conditioning & Refrigeration. Of the manufacturing firms which claim to import advanced technology, 14 are UAE firms, three of which also deal with trade.

The second ranking nationality is firms from India and Pakistan, with 23.5 per cent (4/17). The third ranking group, developed countries, provides the only other firm among the 17, apart from trading firms, claiming to import advanced technology. This means that only one of the manufacturing firms among the 83 as a whole both belongs to the developed countries and can claim to have imported advanced technology. This firm is the Geophysical Research Corporation. The main activity of this firm is the import and export of oilfield tools including pressure elements and gauges, in addition to electronic and mechanical work. It also repairs laboratories, the technology for which is not particularly advanced. Because manufacturing does not have a place among them, the proportion of their dealings with assemblies (20%) is very low and therefore it does not appear that they brought with them advanced technology, even though they are capable of dealing with advanced technology.

Furthermore, the proportion of UAE workers among the 83 responding firms is less than two per cent, and they work in offices. This means that even in those few firms which actually imported advanced technology into JAFZ, UAE citizens

probably are not benefitting from it at the moment, although they may in future.

In summary, it is safe to say that there has been no significant technology transfer by firms located in JAFZ, particularly from developed countries.

Technological know-how takes a long time to learn. It cannot just be bought as a blueprint. There are different stages to technology transfer, which can be divided into activities resulting in: imitation, modification, redesign and major innovation. These different activities require different levels of labour. For instance, imitation requires manufacturing, assembly and organizational skills. To approach innovation the skills should increase automatically as a result of previous experience with imitation and so on, with more and more concentration on design capability such as the ability of how to make effective use of technology.²⁸

Beyond JAFZ, it is helpful to look at how technology has been transferred to an East Asian country such as South Korea, which has established a reputation for rapid industrial advance. The principal reason behind attracting advanced technology in South Korea was the interventionist role of the government in obtaining and developing technology. The state increased and promoted the foreign training of Korean managers and engineers. The government did its best to encourage the use of technical assistance from abroad. Moreover the state engaged in negotiations to obtain technology licenses. State co-ordination of technology bargaining has been extensive in South Korea. In addition to these procedures of how to import foreign technology, the state also has placed emphasis on human resources, via such schemes as targeted training, throughout the 1960s and 1970, having committed itself to the education of young people, especially in the field of technology.²⁹

The UAE only recently started to encourage technical education. If technology

is going to be transferred successfully, this effort needs to increase, in order to increase the number of qualified technically able people, and to teach them how to use advanced technological equipments. This may be the prime route to importing technology to the UAE. (This matter is discussed further in Chapter Eight).

7.9 The effect of the Gulf Crisis on activities in JAFZ

The Gulf crisis had a negative but short-term effect on the activities in JAFZ and on the economic activity of Dubai Emirate as a whole. The effects on JAFZ activity was more severe than for the rest of Dubai Emirate.

Table 7.33 shows economic activity for the external commerce of Dubai during the Gulf Crisis. The Table shows that the value of imports and re-exports fell during the Gulf Crisis in comparison with the seven months before and after. The changes in Dubai's export figures differ from those of its import figures: Dubai's exports were less affected during the Gulf Crisis. For instance, Dubai's exports during the crisis were up by about seven per cent over the seven months before the Crisis. A reduction in imports could be expected, traders reducing their imports

Table 7.33 Dubai's rates of export, import and re-export during and immediately after the Gulf Crisis.

Activity	Before Gulf crises, from Jan 1990 to Jul 1990	During Gulf crisis, from Aug 1990 to Feb 1991	After Gulf crisis, from March 1991 to Sep 1991
Export	356 817 901	382 923 860	440 192 714
Import	5 160 220 207	4 345 594 927	6 092 177 827
Re-export	1 190 966 656	1 132 305 444	1 220 011 521

Source: Statistics Office of Central Accounts section of Dubai Emirate, (1992).

slightly in view of the departure from Dubai of many foreigners, and therefore reducing market demand. Imports bounced back after the Crisis, increasing by about 40 per cent in comparison with the period of the Crisis. This percentage was 19 per cent above imports in the seven month period before the Crisis. This may have been due to the market needs for commodities after the Crisis to make up for stock depletion and shortages during the Crisis. On the other hand, it may also have been due to increasing activity within the local market. Dubai's re-export trade before and after the Crisis was greater than during the Crisis, the percentage being five per cent higher before, and eight per cent higher afterwards. These figures show that the external commercial position of Dubai was not affected badly for long.

Concerning Kuwaiti firms, there are only three firms operating in the Free Zone (June 1994), all of which came before the Gulf crisis. The main effect of the Crisis on Kuwaiti firms was the transfer of the Kuwait Oil Company which came to the Free Zone during the Gulf Crisis. It established many offices there in order to import the raw materials, and to deal with foreign companies which entered in Kuwait after the Gulf Crisis, such as to extinguish oil field fires which Iraqi troops set alight before leaving Kuwait. After this KOC returned to Kuwait.

The effect of the crisis on economic activity in JAFZ during the Gulf Crisis differed from that in other parts of Dubai. The study of the responses of the 83 companies indicates that several of these companies suffered to a greater or lesser extent. Table 7.34 shows that the Crisis did not have a serious impact on several firms, because some of them were dealing with oil which meant that they got 50 per cent of their input from the local market, and those in production could sell up to 100 per cent to the local market. However, some firms had no production during that

period, or otherwise lost business. But others, especially with service activities, such as consulting engineering, could switch the work to safe areas. However, this does not mean that the Gulf Crisis did not have a negative effect on JAFZ economic activity overall. For instance, 18 companies reported reduced demand for their

Table 7.34 The effect of the Gulf Crisis on economic activity in JAFZ.

Type of effect	Number of companies
No effect on our activity in JAFZ	25
Effect on our export process, therefore little demand for products.	18
Affected shipments and delayed raw material	9
Activities are stopped	6
Loss of business	6
Increased cost of production	4
Banks are squeezing and refused to advance facilities	3
Heavy demurrage to shipping because of attacks by air force	3
Others	10
Source: Companies operating in JAFZ.	

products, nine companies reported that the Crisis affected shipments, and accounted for the delayed arrival of raw materials: freight companies were afraid of war conditions, particularly following experience of the war between Iraq and Iran, and they therefore wanted to avoid similar problems in the Gulf Crisis. Other negative effects of the Crisis on the commercial activity in JAFZ not mentioned in the Table (because they were mentioned by only one or two companies) include:

Insurance charges were increased; large number of workers returned or wanted

to return to their own country; marine insurance was cancelled; building projects and warehousing facilities development were delayed considerably.

In spite of the negative effects of the Gulf Crisis and before that the Gulf War, the political stability of Dubai and the UAE was still considered desirable in the view of the companies. 6 to 10 companies, therefore, still applied monthly to operate in JAFZ increased, even during the Gulf Crisis.³⁰ For instance, in 1990 the total number of establishments which came to JAFZ was 69, in 1991 the number increased to 84, in 1992 the number jumped to 111.³¹

7.10 Conclusion

It is difficult to prove within this study whether or not the Free Zone in Jebel Ali is successful. In order to do so we would need to make a very comprehensive study. Therefore the aim of this research was to establish the advantages achieved by JAFZ and those still to be achieved. There are many advantages considered significant for the local economy, some of which have been achieved by the Free Zone in Jebel Ali within the eight years since it was established. For instance, the Free Zone has played a partial role in increasing Dubai's exports, as total exports from JAFZ by 1993 represented about 34.7 per cent³² of the total of Dubai's exports (not including exports to the local market, but including re-exports). But this role should not be given too much importance, because part of JAFZ's exports contributed to Dubai's exports even before the Free Zone was established for the reason mentioned in the early part of this chapter. More importantly, re-export represents a big proportion of the total, which means that most exports are not manufactured locally, and the small amount which are manufactured in the Free Zone are made

from raw materials which are generally imported.

Regarding taxation revenue, the UAE, and in particular Dubai, is among the countries which consider freedom from customs duties to be the best way to attract foreign investment and to promote local business. But as a result Dubai's tax revenue is very low, especially in the Free Zone which has had 100% repatriation of capital and profits and no corporate taxes for 15 years.

The Free zone in Jebel Ali has played a major role in attracting more than one billion dollars of foreign investment. But a large portion of this investment of foreign investment. transferred abroad, because raw materials and machines used for production are imported from abroad, in addition to a large portion of wages paid to workers as well as profits. In spite of this fact, part of the proceeds of this investment is spent locally, in particular that which is spent on local services such as rent, water, electricity, fuel, licenses and communication. Also some goods and raw materials are purchased from the local market. The Free Zone has also had a role in stimulating local business. Many UAE companies came to JAFZ in order to serve firms already operating there, such as firms dealing in: insurance, banking, transportation, travel agencies and restaurants. This is in addition to construction companies responsible for providing buildings and roads in the Free Zone.

In view of the increase in the proportion of exports and imports in Dubai after the Free Zone was established, there was an increase in movements at UAE ports, especially in Dubai. This situation led to an increase in port revenue.

In other ways the Free Zone has provided few benefits. It has done little to develop the industrial sector in Dubai and the UAE.

As regards wages, more than 98 per cent of workers in the Free Zone are

foreigners, which means the JAFZ has not played a role in creating jobs for local workers; therefore the UAE citizens do not benefit directly from those wages, although the local economy does benefit from the fact that part of these wages are spent locally.

Advanced technology has not been transferred on a significant scale to the Free Zone up to now, although it has had some role in importing technology. This point might be useful to note for a country still in the early stage of industrialization. The Free Zone Authority should pay more attention to persuading developed countries to import their factories to operate in the Free Zone, especially those companies which have already come to the Free Zone as a means of introducing technology.

In the end we can conclude that the Free Zone has achieved some points considered significant for developing the local economy. But there are others still to be achieved. It might be a long time before certain objectives, such as employing local workers, increased purchasing from local market, and developing the industrial sector locally outside of the Free zone, are achieved.

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Chapter Eight

Conclusions

This study has examined the role of free trade zones (FTZs) and export processing zones (EPZs) in economic development. The research has instanced FTZs around the world, with a particular focus on JAFZ as a principal example. The aims and objectives behind the establishment of FTZs in general have been examined, along with the extent to which the aims and objectives of the FTZs covered in this study have been fulfilled.

In order to carry out this work, some specific objectives were identified which permitted the role of FTZs in economic development to be identified (see section 1.3 above). The study attempted to reflect linkages between the economic role of an FTZ and the economy of a host country. Accordingly, FTZ advantages and costs, in particular those for JAFZ, were compared with the rest of the host country, i.e. the UAE. The study also demonstrated the ability of JAFZ to compete very successfully with the other small FTZs located in the UAE.

In order to assess the true situation in FTZs, rather than relying on theory, statistics and marketing data, some FTZs in South East Asia were visited, and an extensive survey provided new information on JAFZ.

The number of FTZs/EPZs in the world increased sharply after 1970. In that year there were about 20 operational EPZs in developing countries. This number shot up to 175 by 1986, at which point 85 more were under construction, and more than

25 were at the planning stage.¹ This means there are now well over 200 FTZs around the world. This number may increase further in developing countries. The mushrooming in the number of FTZs might indicate that the concept is considered successful. However, it is difficult to give a general opinion whether the FTZs/EPZs can be considered successful projects: This uncertainty is mainly because different FTZs/EPZs experience different degrees of success and subsidy. Most observers would agree, however, that the more successful FTZs of the world are those in Taiwan, Malaysia, Singapore and Hong Kong.

Measuring the degree of success can be about assessing the extent to which an FTZ has achieved, and is achieving, the aims behind its establishment. This point is made in relation to the increase in expenditure incurred by the government in establishing an FTZ. For example, JAFZ cost around US\$ 2.7 billion to establish. To be successful, therefore, JAFZ has to do better than FTZs which were cheaper to establish: it is harder for JAFZ to be viable. Success should be measured in proportion to outlay.

The extent of an FTZ's success can be measured against the following axes:

1. The volume of employment provided to local workers (as distinct from expatriate workers) by foreign firms operating in the FTZ. Most developing countries suffer domestically from high unemployment and underemployment.
2. The size of foreign investments attracted.
3. The extent to which export trade is promoted
4. The extent to which advanced technology can be attracted.
5. The extent to which industrial sectors locally are developed as a result of the FTZ.

6. The extent to which raw materials are made more available locally through firms operating in the FTZ.

7. The increase in domestic value added as a share of sales.

8. The extent to which the local economy is stimulated as a result of foreign firms using local services such as electricity, water, transport and communications.

No FTZ in the world has managed to achieve success in every aspect listed above. Differences in the level of achievement of these aims are connected with domestic conditions, whether political or economic, of each host country. These conditions include financial agility, which most of the developing countries lack, the labour market situation, the availability of a large market, strategic location, political stability and the availability of high standards of infrastructure. This strongly suggests that an FTZ which fulfilled most of the objectives behind its establishment in one country would not necessarily be so successful in another country: success for an FTZ is firmly connected with domestic conditions, which obviously differ from one country to another. Some existing research regarding FTZs, through the United Nations and other agencies, comes out variously both in support of and against the idea of FTZs, enumerating the aims which individual FTZs have or have not managed to achieve. For example, some FTZs play an important role in increasing the size of exports, and may also attract large scale foreign investment. On the other hand, other FTZs may not attract as much investment, but may achieve other aims such as employing a large volume of local workers through foreign firms in the FTZ. In this quite common case it may be difficult to say whether it has been successful or failed. All we can do in this position is to give our opinion that one particular FTZ achieved these principal aims and another fulfilled a different set of aims, whether overlapping

or not. In any individual case, it may be said that an FTZ failed if it has not managed to achieve most of its aims.

Some commentators say that the success of an FTZ should not be connected with the amount of revenue it provides the host government, not least because this point is difficult to establish. The amount of revenue yielded directly by an FTZ to a host government cannot be used to prove whether the FTZ has achieved its aims. For example, workers are paid wages by firms within the FTZ, which benefits the domestic economy outside the FTZ. The purchase of raw materials and goods from the local market, which may not benefit the host government directly, is likely to make a positive impact on the domestic economy. Payments for the use of private services such as transport and accommodation do not appear as direct revenue in government calculation of the revenue and income from an FTZ, but still have some impact on the domestic economy. Therefore, the advantages of an FTZ are not necessarily always to be felt in a government's pocket. Justifying government expenditure on an FTZ solely on the basis of revenue would be problematic, and would not convey the true picture. In order to avoid getting caught up in this problem, governments could try to avoid heavy expenditure on infrastructure. However, this could be self-defeating because the availability of high standards of infrastructure is considered one of the significant factors behind attracting foreign investments, as we saw in chapter 3 ; we noted also that good facilities and administration were important in competition between FTZs.

The main aim behind establishing JAFZ was to create future diversification away from the oil industry. The Government of Dubai planned to attract foreign investment in order to stimulate local business and develop an industrial area, as well

as increase the volume of exports.

The number of firms operating in JAFZ to 6 June 1993 was 600 . The study reported on the total activities of 83 responding firms in JAFZ. These 83 firms divided into three sectors: trade (including warehousing and distribution), manufacturing and services. In terms of the total activities in JAFZ, trade, unlike many FTZs, represented about 63.0 per cent of jobs, manufacturing 28 per cent and services, 9 per cent. The main factors which attracted the 83 responding firms to JAFZ were in order of importance: nearness of the Middle East market, tax free facilities, the need for no sponsorship, availability of ports and airports, position in the Gulf, the political stability of Dubai and the quality of infrastructure. Thus most of the Japanese electronics companies came to JAFZ in order to exploit Dubai as a base for distributing their products around the Middle East.

International research has concentrated on the role of FTZs in creating jobs for domestic workers. Some FTZs have indeed created new jobs for domestic workers and thereby contributed to the solution of the unemployment problem. The structure of employment in most FTZs exhibits some general characteristics: the majority of workers in FTZs in developing countries are women; most of the workers in FTZs are employed as production workers; most FTZs create jobs for only a low percentage of workers in comparison with the number seeking work; most workers in FTZs are aged between 20-30²; most jobs in FTZs are unskilled or semiskilled; average wages are relatively low. These characteristics of employment apply to most FTZs. However, there are differences. For instance, in Mauritius, the percentage of workers in Mauritius FTZs is 25.9 per cent of the total worker population of the country; in Singapore's FTZs the figure is 18.9; in Colombia and the Philippines the

figures are very low: 0.2 per cent.

The position in JAFZ and other UAE Free Zones is completely different again in that domestic workers in the FTZ represent less than two per cent of the FTZ work force for the former and are absent from the latter. It is, therefore, not particularly useful to compare it with the rest of the host countries. Mr Bin Selayem, the Chairman of JAFZ,³ reported that JAFZ was not established to employ citizen workers. In spite of this, however, it should be possible to employ some technical graduates from Dubai Technician College in Japanese and other *manufacturing* firms in the future, once they have been persuaded to relocate more factories to JAFZ. Whilst this idea is theoretically achievable, in practice, even if it proves possible, it will take a long time to achieve. This would mean the employment of UAE workers in JAFZ would be connected mainly with only one nationality of employer. It is not even known to what extent the Japanese firm will accept them. Only two of the six Japanese firms among the 83 said that they would accept UAE workers: the other four said either that they might accept UAE workers conditionally, or that they would reject UAE workers. Japanese manufacturing firms are not easy to entice into relocation, not least because the UAE market is considered too small. Moreover, many Japanese companies already have factories in South East Asia, with a ready availability of a cheap and skilled labour force, and that of a large market.

The relative absence of UAE workers in JAFZ means that little benefit to labour market skills will accrue from manufacturing firms using, or planning to use, advanced technology. This is in spite of the fact that the UAE workers in JAFZ are considered skilled, and work in a Japanese firm would be a good opportunity for UAE employees to gain work experience. The JAFZ Authority employs 32 UAE

employees in its administration, paid by the Dubai Government. This number represents only 11.4 per cent of the employees working under the JAFZ Authority. In summary, to date, JAFZ has totally failed to match the volume of employment of domestic workers common in FTZs around the world.

The main reason for the low number of UAE workers in JAFZ is that they expect high wages which firms in the Free Zone are either unable or unwilling to pay. 66 per cent of the 83 firms gave this reason for UAE workers not wishing to work in the Free Zone. Generally speaking the reaction on this issue was positive with 37 per cent of responding firms stating that they would be willing to employ UAE staff without any conditions. A further 55.6 per cent said they would accept them but with certain conditions.

This explanation indicates that it would be difficult for companies in the JAFZ to pay the same rate as the Government sector outside the Free Zone. An office workers in the Government sector earns around US\$ 2700 per month whereas the wage in the Free Zone for someone doing the same job is only US\$ 900.

This makes it difficult for foreign firms in the Free Zone to employ UAE workers and the Government and the indigenous workers are the losers in this matter.

Male workers in JAFZ represent the majority with 67 per cent (1993)⁴ of the total, in contrast with other FTZs around the world. This is good to normal Islamic eyes, because it avoids a morality problem with women workers in JAFZ spending excessive time away from their family. Average wages in JAFZ are high in comparison with wages in many FTZs around the world.

This research examined the transfer of advanced technology through FTZs to the host country. The transfer of technology through foreign firms to the FTZs differs

from country to country, and depends on local conditions. FTZs can play a role in transferring technology, under conditions mentioned in Chapter Two. Much work in FTZs is in the electronics sector and involves assembly work (radios, tape recorders, black and white televisions, and more recently colour television and computers), and need not involve more than the maintenance of machinery. Taiwan is a much stronger example of the transfer of technology. Much of its FTZ's production is now related to advanced technology such as computers and its peripheral equipment, sophisticated chips, automated single-eye cameras, and computer compatible typewriters. These are all high-quality products⁵.

Some FTZs have imported technology by sending their labour abroad for training, as happens in Malaysia. Other FTZs have tried to benefit from having foreign key workers working in its FTZs, such as in Taiwan from 1991: there were 103 approved technological co-operation programmes in its FTZs, and an additional 743 people from abroad were employed as technicians and management personnel, bringing to 3,704 the accumulated employment of foreign technicians and management personnel. Over the years, these foreign technicians and management personnel have made distinct contributions to upgrading the country's technology and enhancing the local standards of industries as well as production technology.⁶

The transfer of technology in JAFZ is barely begun compared with some longer-standing FTZs. Economically-developed countries are not keen to import advanced technology into their overseas factories in the short space of four or five years. To date, technological transfer is still awaited and it will take at least ten more years before technological transfer in JAFZ starts to mature. Only one of the developed country firms among the 83 respondents claimed to have brought in

advanced technology. This firm deals with the import and export of oilfield tools including pressure elements and gauges, in addition to electronic and mechanical work. It also repairs laboratories, the technology for which is not particularly advanced. Because the proportion of their dealings with the manufacturing sector is only 20 per cent of this firm's total activities, it would appear that they have not brought much advanced technology to the country. It is probable therefore that only very few among the total number of firms, which now exceeds 600, deal with advanced technology.

There are several factors which may contribute to the lack of technological transfer to JAFZ now or in the future: the absence of a sizeable market in the UAE and the GCC states may not encourage developed countries to establish factories in JAFZ; the Gulf War between Iraq and Iran, the subsequent Gulf Crisis, and the recent occupation by Iran of three UAE islands, may make the location of JAFZ look less desirable for technically advanced activities; the relative absence of firms, inside or outside JAFZ, to supply factories dealing with advanced technology (such as electronics, electrical and machinery with semi-finished items, computer monitors, semi-conductor products) with components or advanced services may discourage the transfer of technology to JAFZ. On the other hand, some factors might encourage foreign firms to consider introducing technological transfer: the availability of many skilled workers in JAFZ (as mentioned by firms in the questionnaire); high quality of infrastructure; financial facilities; proximity to the Middle East are all relevant here.

This study focused in detail on the financial advantages associated with FTZs/EPZs in general, and JAFZ in particular. In terms of the balance of trade, the

FTZs in many countries have played a positive role in increasing exports. The size of this positive role differs from one country to another. For example, the total value of FTZs exports from the Philippines in 1983 and Taiwan in 1991 represented respectively 5.1⁷ and 5.3⁸ per cent of the total value of their country's exports. The JAFZ contribution to exports is much higher: 34.7 per cent in 1993. This is understandable from a much smaller country but it also means that JAFZ played a lead role in increasing the total value of Dubai Emirate's exports. But we should take into account that JAFZ has taken part of these exports from Dubai's own exporters (see chapter seven).

Regarding the balance of trade in the Free Zone from 1989 to 1991, imports exceeded exports. The situation reversed in 1992 and 1993 when the total value of exports exceeded the total value of imports. This balance is in general a very significant indicator of the effective economic contribution of an FTZ or EPZ to the host country. But the situation is different in Jebel Ali, where the balance of net export resulted a large proportion of these exports being re-exports. Also the proportion of manufacturing sector goods among them is not very significant and most materials used are imported from abroad.

The contribution of most FTZs to domestic value added is low, and this is especially so in JAFZ and other UAE Free Zones. The use of local raw materials and wages paid to local workers are part of domestic value added. However, JAFZ receives little benefit from these, because UAE workers represent less than two per cent of the JAFZ work force: whilst wages paid by manufacturing firms among the 83 responding firms represent the largest part of value added at 41.1 per cent of the total. At least half of these wages will transfer abroad. Therefore the total value of

wages cannot be considered when calculating domestic value added. Furthermore, total purchasing of goods by JAFZ firms from the UAE domestic market is low. For instance, the percentage of investment spent on purchasing in local markets among the manufacturing firms among the 83 sampled represents about 9.8 per cent of their total outgoings. Few firms outside JAFZ supply firms inside JAFZ with semi-finished manufactured goods. The relationship between JAFZ and the local market is poor. The position of many FTZs in South East Asia is much brighter. For example, in Taiwan, Mr K.G. Wang, former general manager and now advisor of Taiwan EPZs⁹ said that a factor encouraging the establishment of the EPZs in Taiwan was the availability of domestic firms to supply foreign firms in EPZs with semi-finished manufactured goods. In Malaysia, there were many domestic firms outside the EPZs supplying foreign firms operating in EPZs, in particular supplying semiconductors and semi-finished manufactured items to electronics firms.

The contribution of expenditure on local services in JAFZ to domestic value added is also low, at 11.8 per cent. Therefore, it would theoretically be possible for JAFZ to increase the percentage of value added by increasing the use of local services and labour. It seems, however, that the percentage of value added will remain static until the JAFZ Authority encourages a change of policy in this field. Even if it does, change will only be very slow, not least because of the absence of UAE workers in JAFZ (to receive wages to contribute to the domestic value added) and because of the dearth of locally available raw materials.

The relationship between the UAE domestic market and JAFZ has positive and negative aspects. The trade relationship from JAFZ to the domestic market seems strong. Total exports in 1992 from JAFZ to the UAE market represented 29.0 per

cent of total JAFZ exports. The positive side of this relationship is that 44.2 per cent of these exports were through UAE firms. This means that JAFZ has increased the proportion of domestic products on the domestic market. On the other hand, it is also necessary to take into account that many firms which are now exporting from JAFZ to the UAE market were formerly exporting from their parent countries to Dubai directly, especially Japanese firms dealing with electronics (which represents 29.9 per cent of the total value of exports from JAFZ to the local market). The presence of these firms in JAFZ may have a negative effect on the domestic market and local traders. Dubai has long been a centre for the distribution of commodities to/from G.C.C. countries, the Middle East and East Africa. These days, now that JAFZ has been established, many of Dubai's traders have lost the distributorship for these countries, because foreign companies, especially Japanese companies, came to JAFZ and established their own warehouses from which to organize their own distribution. The Dubai distribution companies have become distributors only for the local market.

It would seem also that the local market has been affected somewhat by the smuggling of goods from JAFZ, both as regarding goods destined for the local market itself and for export through the UAE ports. This smuggling takes place despite the Dubai customs requirement that firms exporting through UAE ports produce appropriate documentation proving the completeness of their export of goods through UAE ports. The sanction is prevention by Dubai customs of further export through those ports. However, as the separate port authorities are relatively autonomous, there is little co-operation between them concerning such sanctions, and each port attempts to maximize its individual benefit.

JAFZ has succeeded in attracting considerable foreign investment. By June

1993 the total investment reached 1.095 billion US dollars.¹⁰ Whilst the proportion invested locally outside JAFZ is low (14.3 per cent of the total in UAE not including wages), the investment has stimulated local business somewhat. The construction and services sector has benefitted the most from this investment. In response to a stimulated demand, the investment has increased the income of UAE ports. Many workers and administrators of JAFZ live elsewhere in Dubai Emirate, which has stimulated the real estate market in the emirate. A further positive aspect of investment in JAFZ is that 61 per cent of total investment is invested in the industrial sector. This means that a major part of the investment is relatively immobile, such as equipment, machine tools and machinery used in production, which will therefore probably remain in JAFZ, though imported from abroad. (In contrast, were the investment heavily in the service sector, in which staff wages form the major outlay, the investment could be moved elsewhere at relatively short notice.) Most of this equipment and machinery uses yesterday's technology, and belongs to firms from the developing countries. UAE firms represent a majority of this investment (43.8 per cent) and developed countries represent the lowest contribution to manufacturing sector investment, the majority of their investment being in the trade sector. This all creates a pattern in which the industrial sector, without a serious contribution from developed countries, will not develop. To underline this point, some of the developing countries' manufacturers in JAFZ are using obsolete equipment and machinery disposed of by Western countries.

Views had been expressed that when Hong Kong is returned to Chinese rule in 1997, some companies there will wish to move to JAFZ, rather than to China's free zones. Interviews which the researcher had with some Hong Kong traders

rejected this possibility for the following reasons: firstly, traders themselves say they would prefer to move to the Chinese free zones due to local availability of labour; China has a huge population from which both skilled and unskilled workers can be recruited, this is not the case in JAFZ where most of the workforce has to be brought in from abroad. Secondly, China provides a much bigger market as the Shanghai Free Zone for example potentially serves a vast area of Asia. On the other hand the Gulf is a very small market. Thirdly, the people of Hong Kong, being Chinese, would prefer to benefit China rather than contribute to a foreign economy. Fourthly, it is more convenient to transport equipment and machinery the shorter distance to China rather than to JAFZ. Therefore Mr Dunning, the Director, Far East office of Dubai Commerce and Tourism Promotion Board in Hong Kong reported, that he was facing some difficulties to persuading firms there to go to JAFZ.¹¹

The study also discussed the role of JAFZ in stimulating local business in the UAE, and in Dubai Emirate, and the role played by JAFZ in developing an industrial sector in JAFZ, in Dubai Emirate, and in the UAE. Most firms which claimed to have a positive effect on development of the industrial sector in Dubai Emirate are UAE-owned, whereas companies owned by developed countries least claimed to develop the industrial sector. In reality, JAFZ has not yet had a positive impact on the industrial sector in Dubai or the UAE. There are a mere two or three firms in JAFZ with a domestic partner which have opened a branch outside JAFZ. Moreover, the industrial sector in JAFZ has not yet encouraged domestic firms outside JAFZ to supply them with semi-finished manufactured goods. The study did indicate that JAFZ has stimulated some local business in the UAE. For example, many firms in JAFZ use UAE ports, and purchase some, albeit only a small part, of their goods from the

UAE market. Beyond Dubai, some JAFZ workers live in Sharjah and Ajman, because rents are cheaper than in Dubai.

Regarding the relationship between FTZs in the UAE, it seems there is absolutely no co-operation between the Jebel Ali and other UAE Free Zones. They operate autonomously and individually. However, neither is there significant competition between the Jebel Ali and other UAE Free Zones. The size differential is significant. The number of firms operating in Fujairah to the end of 1992 was only 14. The monthly increase in the number of firms in JAFZ exceeds the annual increase in Fujairah. The reason for this is because Fujairah and other UAE Free Zones do not have the financial capability to expand. An increasing number of firms requires, or demands, an expanding and improving infrastructure, water supply, electricity, port facilities, residences and other local services. The governments of Fujairah, Ajman and Um Al Quwain cannot provide all these facilities. Although Fujairah's strategic location could be considered slightly better than that of Dubai, especially during wars in the Gulf, the strategic advantage over Dubai is too small to outweigh Dubai's other benefits. (The land distance between Dubai and Fujairah is only 130 km.) It is unlikely that many foreign firms will prefer Fujairah merely because of its location on the Omani Gulf, and forego all of Dubai's facilities.

In the other Gulf states there are five FTZs: four of them are in Iran and a further one, shared between Yemen and Oman, is under construction on the Omani Gulf. Iran's FTZs are unlikely to compete on an equal basis with JAFZ because of the political climate in Iran, and the semi-disconnected relationship between it and most developed countries, especially Western Europe and the USA. On the other hand, the economic policy of JAFZ differs markedly from that of Iran's FTZs. JAFZ

concentrates on trade and light industry, whereas Iran's FTZs concentrate on heavy industry. There is, as yet, no information about it on the Yemen-Oman FTZ. In Iran's FTZ have a negative effect on Dubai's exports. That is clear because after Iran established these its FTZs its imports from Dubai reduced, because of its imports through its FTZs instead. The Free Zone in Jebel Ali is considered by the Government of Dubai to be a very important economic project that all gain in importance in the future. In order to secure its future as an industrial zone of importance a number of general recommendations are relevant.

This huge project and the Jebel Ali port cost around 2.7 billion US dollars. The amount spent on these two huge projects is significant, as most of it was spent on building infrastructure which is essential in attracting foreign firms. Even if the Government had not established the Free Zone it would have been necessary to spend this amount in order to establish an industrial area, because a portside industrial sector is in turn considered a main factor in developing a country's economy. The availability of a port beside the FTZ will encourage its development. The Free Zone will play a major role in increasing revenue in view of the increased level of imports and exports to and from the Free Zone that will flow through the UAE ports, in particular Dubai's ports. Moreover the JAFZ has a role in increasing the volume of exports in Dubai Emirate and importing technology, at a level which is not yet advanced but will grow.

In spite of all the aforementioned points this new project has still not served Dubai's economy as well as was expected. The Free Zone in Jebel Ali has still has not yet achieved all it was established for, notably in purchasing raw materials and goods from local markets, using local services, stimulating local business, and

employing local people in the Free Zone, except for the few who work in the administrative office belonging to the Authority of the Free Zone.

There are other points which are considered to be very significant but which the Free Zone has not yet achieved, such as, developing an industrial area outside the Free Zone, and importing advanced technology.

The time scale for achieving the objectives which Dubai had in mind when it established JAFZ is, of course, one of the issue which, having not been tackled, remains a problem. Goals were seen as 'long term' or 'short term' , but no timetable was incorporated, either at the outset or since. Therefore, in drawing up a balance sheet against which its success can be judged and in making recommendations, one of the crucial factors to be taken into consideration is the time scale within which the particular factor should operate or be achieved.

Although both the Dubai Government and the general population have received some benefits from the JAFZ, for the main part it has been foreign firms who have benefitted. They have done so through cheap electricity charges, using Dubai's excellent facilities as a distribution centre and taking advantage of the UAE's import quota into the U.S.

The Government of Dubai receives extra revenue from ports and the rent of land and buildings and the added advantages of enhancing its business reputation. Other UAE ports also gain revenue.

Local service firms, such as banks, insurance companies, car hire firms, estate agents and construction companies receive extra business because of the JAFZ, but on the other hand, negative factors of the JAFZ include foreign firms taking both trade and influence away from some local traders. Also, pollution real or potential

caused by the lack of a suitable sewerage system to dispose of increased amounts of industrial waste, is a possible negative factor.

Revenue from the JAFZ is very low at present in relation to the \$ 2.7 billion investment made by the Dubai Government, but the Dubai authorities believe that in the long run, a 'long run' still not defined, this massive investment will achieve its key objective of economic diversification and therefore security.

It must therefore be concluded that the Free Zone in Jebel Ali is still not an economic project on which the host country be it Dubai or the UAE can depend at present, although it may serve the host economy well in the future. The UAE still depends to a great extent on oil as the leading economic feature, and this is no less and no more than was Dubai's original intention. JAFZ was intended to make the longer term future of Dubai more secure, not perform an economic transformation in the short term, and it is against that background that these recommendations are made and its success should be judged.

General recommendations.

After careful consideration the following numbered points are ordered in what is to the writer their approximate order of importance; some are capable of more immediate implementation while others may be more appropriate to the longer time span of ten years mentioned above.

1. JAFZ should concentrate on encouraging manufacturing firms which use advanced technology, such as companies producing electronics, electrical and computer equipment, spare parts, and machinery, etc. But the Free Zone may face some difficulties in persuading these firms to import their advanced technology for

the reasons mentioned in points which follow.

2. The price of electricity should be raised in the Free Zone, to reduce costs to the Government of Dubai which is losing a great amount yearly, through subsidising the electricity service. There is no evidence that firms within the JAFZ need this indicates subsidy. Some meetings have taken place to discuss putting up the rated price of electricity.

3. The JAFZ Authority should increase the rent for land and buildings, whether offices, warehouses or factories, as well as charges for electricity. Charges for these services are cheaper than in many of the more mature FTZs in South East Asia. Few firms used the opportunity in the questionnaire to complain about the rate of rent and electricity in JAFZ. Indeed, JAFZ was considered to provide good to excellent standards of infrastructure.

4. It might be better if the Authority of the Free Zone in Jebel Ali concentrated on establishments which do not require large numbers of foreign workers, because this situation could lead to a spread of various negative effects among the UAE community, such as cultural effects, especially as most foreign workers in the UAE are far away from their familiar for a long time. It could also lead to an increase in the crime rate and health risks. Moreover, the total wages paid to those workers do not help develop the local economy for the following two reasons: firstly, in addition to paying those wages to the foreign workers, at least half of those wages is transferred abroad. Secondly, those firms whose local value added reaches 40 per cent can export their manufactured goods to the local market which may compete with local manufactured goods in the domestic market.

Concerning possible Government requirements to have more UAE staff in the

Free Zone, however, it would seem that they would face some difficulties in persuading foreign firms to employ local workers in the Free Zone. UAE workers are not prepared to work in the Free Zone for the rate of wages which are paid there. On the other hand, cheap labour is considered one of the main factors in attracting foreign firms to the Free Zone in general. Therefore to solve this point we think the Authority of the Free Zone should persuade foreign firms which belong to developed countries to bring more of the factories which use advanced technology to the Free Zone. In this way the Free Zone might be able to employ UAE workers in these firms. Thus may take a long time to achieve.

5. It would be a significant achievement were the Free Zone to manage to influence the quality of production of goods made there, in order to develop a good worldwide reputation at an early stage for JAFZ products. If JAFZ fails to address this point soon, then it will face almost insurmountable difficulties in attempting to remove a poor impression from the mind of JAFZ customers. This is what happened in Hong Kong. There is a lesson to learn from there to avoid this problem.

6. The government of Dubai should consider establishing an industrial development fund in order to finance foreign companies' links with domestic companies with appropriate safeguards, in order to encourage the setting up of firms using advanced technology with a low labour input, offering training and work opportunities for UAE workers, and adding significant value to the products.

7. In order to increase domestic value added, and, through purchasing, help to create new industry, JAFZ should encourage the establishment of domestic industry, to supply firms operating in JAFZ with manufactured and other semi-finished goods.

8. In the long run, JAFZ needs to persuade foreign companies to subcontract to indigenous providers of goods and services, and therefore increase domestic value added and to exploit foreign investment locally. But the degree of economic benefit in Dubai from this may not be very significant, due to non-availability of local raw materials inputs. Therefore it might be more beneficial for the Authority of the Free Zone in Jebel Ali to give priority to industries for which raw materials are available locally or in the GCC States. This is in addition to encouraging other industries which use advanced technology (electronics, electrical, different types of equipment, spare parts etc.). The prime example of the use of local materials would be the petrochemical industries, as the raw materials for them are available in GCC states, especially as there are some petrochemical industries in the UAE already producing primary materials which could be used for the main industry in JAFZ. This cooperation would be useful if it were to expand to include GCC states, especially Saudi Arabia, which has invested around 13 billion dollars in 15 petrochemical companies to produce a variety of manufactured and semi-manufactured petrochemical products, such as ethylene, methanol, methane, rubber, plastic, ammonia and so on¹². In this way we might also solve some of the problems which could occur between these states, such as the customs duties problem which Saudi Arabia imposes on JAFZ exports.

Therefore the development of collectively organized GCC FTZs would be beneficial. Individual FTZs are not as beneficial for the future of GCC states because of the small markets, customs duty problems, a shortage of raw materials and a lack of industrial and technical experience to establish firms producing semi-manufactured products for supplying firms operating in the free zone. Greater economic cooperation

and industrial coordination between GCC states, would allow each FTZ to achieve greater success by focusing on particular activities for the whole GCC market.

9. JAFZ should change its policy towards some type of industry already represented in the Free Zone. Some types of industry should be barred from establishing themselves further in JAFZ: those dealing with textiles, clothing, skins, perfumes, pens, and others not using advanced technology and not considered especially significant. These firms employ many non-UAE workers and demand investment on infrastructure inside JAFZ, and yet occupy space which could be taken by other, more technologically-advanced firms, which may come in the near future.

10. There should be a special co-operative and integrated relationship between Jebel Ali and the other UAE Free Zones, in particular Fujairah Free Zone, toward the type of industry operating there, in particular regarding charges for electricity, water supply, rent for land and buildings, and fees for using the ports. Co-operation regarding the charges of these services would keep their prices stable, the opposite of what happened with tariffs, which started at four per cent and dropped to one per cent because of undesirable competition due to lack of cooperation between the UAE customs. Moreover through cooperation they could select the types of industry best suited in order to avoid receiving similar, competing factories, which would not benefit the industrial sector in the UAE. Therefore the JAFZ Authority should give more attention to UAE Free Zones, especially Fujairah Free Zone which has more potential for development, because some of those responsible for other UAE Free Zones are complaining about this point.

11. There should be a special co-operative relationship between the UAE ports concerning fees for the use of port facilities for import and export. The ports must

co-operate better with the FTZs concerning export and import by firms operating in the free zones and using UAE ports, in order to avoid the smuggling of their products into the UAE market.

12. There should be an integrated tariff policy for foreign imports into the UAE and GCC states. In addition, Saudi Arabia and Oman need to be encouraged to co-operate with the FTZs in the UAE, regarding products made by the UAE and GCC firms and exported from FTZs, which have a domestic value added of at least 40 per cent. The purpose of this would be to aid the success of new projects in the area. Otherwise, their lack of co-operation will have a negative impact on both sides.

13. JAFZ should devise and conduct a program to strengthen research and development by firms within JAFZ, to create a better investment environment, to render better services for enterprises, to promote automated production, to enhance public services and to further understanding of enterprise.

14. JAFZ should provide some important services which are currently absent:

a. JAFZ needs a sewerage system. There is much comment from the industrial firms suffering from lack of sewage facilities in JAFZ. Equally, Dubai Municipality should be more seriously concerned about the existing sewage arrangements for firms both inside and outside JAFZ, for it is of a poor standard. The site is located near the sea and there are no systems to prevent seepage of liquid and residues either into the sea, or into the ground water. Therefore the Free Zone and Dubai Municipality should deal more seriously with industrial pollution; they should find more effective treatment than that which is available at present in order to protect the environment from pollution.

b. Public transport should be made available in JAFZ, not least because of the

size of the area of the Free Zone.

c. JAFZ should have a small clinic offering first aid and simple medical treatment. The zone is required to have an ambulance on call around the clock. However, there are more than 23,000 workers in JAFZ, with no clinic at all, and half of them live in the zone or close by.

d. There should be a restaurant available in JAFZ, offering food to administrative and management staff. In addition, there should be a supermarket offering foodstuffs for workers who reside in the Free Zone.

15. JAFZ should establish a training centre to offer courses for local workers in some of the factories in the Free Zone, even though they not do not currently use modern technology. In this field, the Free Zone could co-operate with the UAE university and technical college in the UAE.

16. In order to encourage export sales and local purchases of goods, the Administration promulgated a "competition among export enterprises in the JAFZ using local purchases". JAFZ firms which excel in export sales and local purchases should receive awards.

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Appendices

QUESTIONNAIRE

DEVELOPMENT OF JEBEL ALI FREE ZONE

(Pilot study)

1. Name of firm.-----

Address of head office.-----

Activity at JAFZ:

Type	Commodity(-ies)
-----	-----
-----	-----
-----	-----

State proportion of activity in assembly (A), manufacturing (M), warehousing (W), distribution (D), re-export (R), other (O).

2. Is the firm owned in turn by another controlling group?

a. YES (-----)

b. NO (-----)

If so, state

Address of head office. -----

Principal world activity.

Type	Commodity (- ies)
-----	-----
-----	-----
-----	-----

3. At what date was the firm first established:

- a. In UAE (————)
- b. In JAFZ (————)

4. What is the standard of infrastructure in JAFZ ? Compared with other FTZs would you say it were. Please Tick:

- A. Roads (excellent - good - average - poor - bad) (————)
- B. Communication (excellent - good - average - poor - bad) (————)
- C. Port and seaport (excellent - good - average - poor - bad) (————)
- D. Transportation (excellent - good - average - poor - bad) (————)
- E. Sewerage (excellent - good - average - poor - bad) (————)
- F. Storage (excellent - good - average - poor - bad) (————)
- G. Buildings (excellent - good - average - poor - bad) (————)

5. Do you have any reservation over the level of services in JAFZ ?

- a. YES (————)
- b. NO (————)

In case of YES please state it.

6. Is the means of transport easy to the city?

- a. YES (-----)
- b. NO (-----)

In case of NO please state the reasons.

7. Do you rent or own your present buildings ?

- a. Own (-----)
- b. Rent (-----)
- c. Size (square meters) (-----)

8. Are there any problems over housing and journey to work?

9. Do you have any comment on administrative procedure in JAFZ ?

a. YES

(—————)

b. NO

(—————)

In case of YES please state it

10. Where male workers represent the majority in your Jebel Ali building (s), could you state the reason?

11. Why did you chose to locate in Jēbel Ali Free Zone ?

Please rank the following factors by putting a number in front of the factor, when (1) meaning most important and (14) meaning least important.

Factors	Not important (cross)	Important tick (rank)
1. Quality of infrastructure		
2. Position in Gulf		
3. Nearness of Middle East market		
4. Political stability of Dubai		
5. Dubai trading reputation		
6. Suitable site		
7. Suitable premises		
8. Cheap premises		
9. Availability of port and airport		
10. Availability of labour		
11. Financial facilities		
12. Tax free		

12. Do you make use of:

Ports	Yes/No	Imports Tonnes per annum	Yes/No	Exports tonnes per annum
Jebel Ali				
Rashid				
Dubai Airport				

13. What % of your inputs or supplies are from outside UAE ? (-----)

Please state principal flows

Commodity	Origin	Value per annum \$
		\$
		\$
		\$
		\$
Total		\$

14. What % of your output or shipments pass outside UAE ? (-----)

Commodity	Destination	Value per annum \$
		\$
		\$
		\$
		\$
Total		\$

15. Does the inspection & clearance of import commodities occur fast enough?

a. Inspection. YES (-----) , NO (-----)

b. Clearance. YES (-----) , NO (-----)

16. How much of your production is exported to the UAE market yearly?

Export tonnes per annum	Value per annum \$
	\$

17. Do you use other UAE ports in addition to Dubai ports ?

a. YES ()

b. NO ()

In case of YES please state port in addition to the reasons for using it.

A. Name of the ports.

1. ()

2. ()

B. Reasons for using. -----

18. What % of your present workers are non UAE ? -----

State principal countries of origin -----

19. Why are there not more UAE workers ? Please tick rows below.

a. Demand for high wages. (-----)

b. Not qualified. (-----)

c. Length of working hours. (-----)

d. UAE citizens don't want to work with foreigners. (-----)

e. Less facilities than Government sectors. (-----)

f. Others _____

20. In case of new policies demanding a minimum percentage of UAE labour to be employed in your firm how would you respond?

- a. Accept. (-----)
 b. Accept conditionals, (-----)
 c. Reject. (-----)

21. How did your firm recruit workers from other countries?

- a. Male. (-----)
 b. Female. (-----)

22. Please indicate the total employees in the following years.

Years	Total employees
1988	
1989	
1990	
1991	
1992	

23. Are salary payments in made local or foreign currency ?

- a. Local currency (-----)
 b. Foreign currency (-----)

24. Please indicate the number of employees of different kinds in 1992.

Grades	Number		Average wage (per month) \$	
	Males	Females	Males	Females
Office			\$	\$
Skilled			\$	\$
Semi-skilled			\$	\$
Unskilled			\$	\$

Total wage costs per annum. (\$ -----)

25. Please indicate total value of plant and machinery. (\$ -----)

26. What goods and services are provided from UAE ? Please estimate their total value?

Goods and services	Value per annum \$
	\$
	\$
	\$
	\$

27. Do you think you have stimulated any local businesses in UAE?

- a. YES (-----)
- b. NO (-----)

If so, is it

- a. Developing of local industrial sector in FTZ. YES (-----), NO (-----)
- b. Developing of local industrial in Emirate of JAFZ. YES (-----), NO (-----)
- C. Developing of local industrial sector in the UAE. YES (-----), NO (-----)
- D. Transfer of advanced technology. YES (-----), NO (-----)
- e. Others. _____

28. Please estimate the value of annual expenditure on.

	Amount
License fee	\$
Rent	\$
Utilities	\$
Fuel	\$
Other payments to JAFZ	\$
Total	\$

29. What is the total investment of your company in JAFZ ? (\$ _____)

30. How much was your profit in 1991? (_____)

What proportion of these are transferred yearly outside the U.A.E? (-----)

31. What were the effects of the Gulf crisis on your production?

32. Do you intend to expand the present establishment ?

a. YES (-----)

b. NO (-----)

In case of YES please mention the reasons.

33. Do you have any other branches in other FTZs in any part of the world.

1. YES (-----)

2. NO (-----)

a. If Yes is it / are they more profitable than at JAFZ.

1. YES (-----)

2. NO (-----)

b. In case of YES do you intend to expand any of them.

1. YES (-----)

2. NO (-----)

34. Please list the group's other sites in FTZs in other countries.

Sites	Average Dollars per hour wages

QUESTIONNAIRE

DEVELOPMENT OF JEBEL ALI FREE ZONE

1. Name of firm.-----

Address of head office.-----

Activity at JAFZ:

Type	Commodity(-ies)
-----	-----
-----	-----
-----	-----

State proportion of activity in assembly (A), manufacturing (M), warehousing (W), distribution (D),re-export (R), other (O).

2. Is the firm owned in turn by another controlling group?

a. YES (-----)

b. NO (-----)

If so, state

Address of head office. -----

Principal world activity.

Type	Commodity (- ies)
-----	-----
-----	-----
-----	-----

3. At what date was the firm first established:

a. In UAE (-----)

b. In JAFZ (-----)

4. What is the standard of infrastructure in JAFZ ? Compared with other FTZs would you say it were. Please Tick:

A. Roads (excellent - good - average - poor - bad) (-----)

B. Communication (excellent - good - average - poor - bad) (-----)

C. Port and seaport (excellent - good - average - poor - bad) (-----)

D. Transportation (excellent - good - average - poor - bad) (-----)

E. Sewerage (excellent - good - average - poor - bad) (-----)

F. Storage (excellent - good - average - poor - bad) (-----)

G. Buildings (excellent - good - average - poor - bad) (-----)

5. Do you have any reservation over the level of services in JAFZ ?

a. YES (-----)

b. NO (-----)

In case of YES please state it.

6. Is the means of transport easy to the city?

- a. YES (-----)
- b. NO (-----)

In case of NO please state the reasons.

7. Do you rent or own your present buildings ?

- a. Own (-----)
- b. Rent (-----)
- c. Size (square meters) (-----)

8. Are there any problems over housing and journey to work?

9. Do you have any comment on administrative procedure in JAFZ ?

a. YES (—————)

b. NO (—————)

In case of YES please state it

10. Where male workers represent the majority in your Jebel Ali building (s), could you state the reason?

11. Why did you chose to locate in Jebel Ali Free Zone ?

Please rank the following factors by putting a number in front of the factor, when (1) meaning most important and (14) meaning least important.

Factors	Not important (cross)	Important tick (rank)
1. Quality of infrastructure		
2. Position in Gulf		
3. Nearness of Middle East market		
4. Political stability of Dubai		
5. Dubai trading reputation		
6. Suitable site		
7. Suitable premises		
8. Cheap premises		
9. Availability of port and airport		
10. Advanced telecommunication		
11. Availability of labour		
12. Financial facilities		
13. No sponsorship		
14. Tax free		

12. Do you make use of:

Ports	Yes/No	Imports Tonnes per annum	Yes/No	Exports tonnes per annum
Jebel Ali				
Rashid				
Dubai Airport				

13. What % of your inputs or supplies are from outside UAE ? (-----)

Please state principal flows

Commodity	Origin	Value per annum \$
		\$
		\$
		\$
		\$
Total		\$

14. What % of your output or shipments pass outside UAE ? (-----)

Commodity	Destination	Value per annum \$
		\$
		\$
		\$
		\$
Total		\$

15. Does the inspection & clearance of import commodities occur fast enough?

a. Inspection. YES (-----) , NO (-----)

b. Clearance. YES (-----) , NO (-----)

16. How much of your production is exported to the UAE market yearly?

Export tonnes per annum	Value per annum \$
	\$

17. Do you use other UAE ports in addition to Dubai ports ?

- a. YES (—————)
- b. NO (—————)

In case of YES please state port in addition to the reasons for using it.

A. Name of the ports.

- 1. (—————)
- 2. (—————)

B. Reasons for using.

18. What % of your present workers are non UAE ? (-----)

State principal countries of origin

19. Why are there not more UAE workers ? Please tick rows below.

- a. Demand for high wages. (-----)
- b. Not qualified. (-----)
- c. Length of working hours. (-----)
- d. UAE citizens don't want to work with foreigners. (-----)
- e. Less facilities than Government sectors. (-----)

f. Others -----

20. In case of new policies demanding a minimum percentage of UAE labour to be employed in your firm how would your respond?

- a. Accept. (-----)
- b. Accept conditionals, (-----)
- c. Reject. (-----)

21. How did your firm recruit workers from other countries?

- a. Male. (-----)
- b. Female. (-----)

22. Are any restrictions imposed by JAFZ.

- a. Yes (-----)
- b. No (-----)

In case of Yes please state them

23. Please indicate the total employees in the following years.

Years	Total employees
1988	
1989	
1990	
1991	
1992	

24. Are salary payments in made local or foreign currency ?

a. Local currency (—————)

b. Foreign currency (—————)

25. Please indicate the number of employees of different kinds in 1992.

Grades	Number		Average wage (per month) \$	
	Males	Females	Males	Females
Office			\$	\$
Skilled			\$	\$
Semi-skilled			\$	\$
Unskilled			\$	\$

Total wage costs per annum. (\$ -----)

26. Please indicate total value of plant and machinery. (\$ -----)

27. What goods and services are provided from UAE ? Please estimate their total value?

Goods and services	Value per annum \$
	\$
	\$
	\$
	\$

28. Do you think you have stimulated any local businesses in UAE?

- a. YES (-----)
- b. NO (-----)

If so, is it

- a. Developing of local industrial sector in FTZ. YES (-----), NO (-----)
- b. Developing of local industrial in Emirate of JAFZ. YES (-----), NO (-----)
- C. Developing of local industrial sector in the UAE. YES (-----), NO (-----)
- D. Transfer of advanced technology. YES (-----), NO (-----)
- e. Others.

29. Please estimate the value of annual expenditure on.

	Amount
License fee	\$
Rent	\$
Utilities	\$
Fuel	\$
Other payments to JAFZ	\$
Total	\$

30. What is the total investment of your company in JAFZ ? (\$—————)

31. Is the establishment at present profitable?

a. Yes (—————)

b. No (—————)

What proportion of these are transferred yearly outside the U.A.E? (—————)

32. What were the effects of the Gulf crisis on your production?

33. Do you intend to expand the present establishment ?

- a. YES (-----)
- b. NO (-----)

In case of YES please mention the reasons.

34. Do you have any other branches in other FTZs in any part of the world.

- 1. YES (-----)
- 2. NO (-----)

a. If Yes is it / are they more profitable than at JAFZ.

- 1. YES (-----)
- 2. NO (-----)

b. In case of YES do you intend to expand any of them.

- 1. YES (-----)
- 2. NO (-----)

35. Please list the group's other sites in FTZs in other countries.

Sites	Average Dollars per hour wages

Listing of All Firms

In The Jebel Ali Free Zone, February, 1993, sampled firms shown in bold

Company	Origin	Commodity	Activity
AG Middle East	Portugal	Mixed	Trade
AGMA-Agrar Marketing	UAE	Food	Trading
A K Said Trading & Contracting	Saudi Arabia	Furniture	Manufacturing
ABE Pump Shaft Corporation	Japan	Oil & water equipment	Trading
ABJ International Limited	Japan	Agricultural Equipments	Trading
Acer Computer	Taiwan	Electronics	Trading
Adamji Insurance	Pakistan	-	Service
Advanced Welding Technologies	India	Steel related	Trade & Manufacturing
AEG Electrotechnica	Germany	Electrical & electronics	Trading
Afridi & Angell	US/Pakistan	-	Service
Agive Ltd	India/Hong Kong	Electronic goods	Trading
Agive Development FZE	India/Hong Kong	Electronic goods	Trading
Agrotech Industries Ltd	-	Pesticide formulations	Manufacturing
Air Products (Middle East) Ltd	USA	Gases (helium, argon, nitrogen and oxygen)	Manufacturing
Airlink International	UAE	-	Service

Aiwa International Ltd	Japan	Electronics	Trading
Albarakah Trade-link	UK/Saudi Arabia	Earth moving equipment	Trading
Alderley (Overseas)Ltd	UK	Corrosion system	Trading
Alesayi United Company	Saudi Arabia	Electronics goods	Trading
Al Futtaim Trading	UAE	Goods	Trading
Al Futtaim Trading	UAE	-	Service
Al Habtoor Motors	UAE	Vehicles	Service
Al Hani Enterprises Ltd.	UAE	Food	Trading
Al Haramain Brothers Company Ltd	Somalia	Building materials, foodstuff, steel, timber and textile	Trading
Al Holla Concrete Technology Company	UAE	concrete products allied items and workshop facilities including steel fabrication	Manufacturing
Al Hoty	Saudi Arabia	Independent testing laboratory for oil products and construction material	Service
Al Khaleej Steel Dubai	UAE	Steel products	Manufacturing
Al Mana Steel Dubai	Qatar	Steel products	Trading
Al Nasar Technical	UAE	Steel fabrication	Manufacturing
Al-Nimran Est	Saudi Arabia	Carton paper, plastic bags & related products	Manufacturing
Al Ola Trading Limited	Saudi Arabia	Paper	Trading

Al Rais Travel Agencies	UAE	-	Service
Al Wasl Marine Limited	UAE	-	Services
Ali Haji Abdullah Awazi/Tamco Middle East Ltd	UAE/Malaysia	Electrical	Manufacturing
All Metals Engineering Ltd	India	Metals	Trading
Allana International Limited	India	Food	Trading
Allied-Signal Aerospace Service Corporation	-	-	Trading
Alpine Creations Ltd	UAE	Textile & clothing	Manufacturing
Amco Lubricants	UAE	Lubricants	Trading
Amgulf Polymers & Chemicals Limited	India	Chemicals	Trading
Amico Middle East	Saudi Arabia	Optical equipment, frames, lenses, medical supplies and equipment	Trading & Manufacturing
Amir Paper Mills Ltd	Pakistan	Paper products	Manufacturing
Anglo-Gulf Agrochemicals Limited	India	Various pesticides for agricultural and household use	Manufacturing
Antenna Enterprises Ltd	India	Textile and clothing	Manufacturing
Apollo Enterprises Ltd	India	Marble & granite	Manufacturing
Arab Heavy Industries Ltd	-	-	Service
Arabest International Incorporated	USA	Travelware, household items	Trading

Arabian Co.	UAE	Oilfield supplies, primary & chemicals workshop machinery	Trading
Acro Dubai Inc	UAE	-	Trading
Arexco Limited	Austria	Electrical, chemical and consumer goods	Trading
AST Middle East Limited	USA	Computer equipment	Trading & service
Atraco Industrial Enterprises	India	Textile and clothing	Manufacturing & trading
Aulia Pakistan	Pakistan	Aluminum	Manufacturing
Automotive Ancillaries Limited	India	Auto spare parts, hardware and engineering goods	Manufacturing and trading
Avis Rent A Car	UAE	Cars	Service
Bank of Oman Limited	UAE	-	Service
Barber Dubai Shipping	UAE	-	Service
Beltexco Limited	Pakistan	Pakistan PVC and latex dipped lined gloves and industrial safety products	Manufacturing and Trading
BICC Cables International	UK	Cables and Accessories	Trading
Black & Decker A.G	Liechtenstein	Black 7 Decker Products	Trading
Blue Chip Chemicals Ltd	India	Chemicals	Trading
Boliden Askania AB	UAE	Chemicals	Trading
Botonggang Corporation	Korea	Clothing	Manufacturing
BP Middle East Limited	UAE	Lubrication	Trading

Bridon Ropes Limited	UK	Steel wire rope, slings and associated products	Manufacturing & Trading
Brooke Bond Exports Ltd	UK/India	Food	Trading
Brother International Corporation	Japan	Electronic/electrical	Trading
Business Forms Emirates Ltd	Iran	All types of business forms	Manufacturing & trading
Calipar Trading Inc	India	Chemicals	Trading
+ Caltex Alkhalij	UAE	Petroleum refined products	Trading
Cantrade Inc	Syria	Tyres, steel products, refrigerators, food products and gift items	Trading
Capital Guidance	USA	-	Trading
Capital Guidance	UAE/UK	-	Trading
Carolina Fabrics Ltd	South America/Pakistan	Textile	Manufacturing & Trading
CEE-KAY International Ltd	UK	-	Trading
CEM (Overseas Ltd)	UK	Electronics	Trading
Channel Diamond Tools Ltd	UK	Equipments	Manufacturing & Trading
Charisma Limited	India	Chemicals	Trading
China Shandong Co Ltd	Hong Kong	Chemicals	Trading
China Shandong Co Ltd	Hong Kong	Food, building construction and toys	Trading

CIBA GEIGY Regional Center	Switzerland	Resins, hardeners, architectural building cladding	Trading
Citizen Watches Gulf Co	Japan	Wrist watches, clocks and wall clocks	Trading
Classique Enterprises Ltd	India	Clothing	Manufacturing
Cleveland Bridge & Eng	UK	Structural steel structures and ship repairs	Service
CMC Oilfield Services	Bahrain	Oilfield Equipment	Trading
CNA Limited	India	Clothing	Manufacturing
Consolidated Services	UK	Spare parts	Trading & manufacturing
Consolidated Transmissions Inc	UAE	Sulphur process plant	Manufacturing
Consultancy Services International Ltd	UK	Remotely piloted aircraft	Manufacturing
Credit & Commerce Insurance Co	UAE	-	Service
Cristal garments	India/Thailand	Textile & Clothing	Manufacturing
Cyriac & Company Ltd	India	Equipment	Trading & Service
Darron Tool and Eng	UK	Downhole drilling tools	Trading
Delmon Products Ltd	India	Snack foods	Trading
Digital Equipment Gulf WLL	-	Electronics	Trading
Dinky International S.A	UAE/Pakistan	Electronics/textile/ food and gifts	Trading
Ditce Garments Limited	India	Clothing	Manufacturing & trading

DPN Trading Ltd	Bermuda	Equipment/food and consumer electronics	Trading
Domino Amjet Limited	UK	Ink jet printers, spares and consumable	Trading
Dowell Schlumberger	-	Oilfield equipment	Trading
Dresco (pvt) Ltd	UAE	Drilling Mud Chemicals and Engineering Services	Trading
Dubai Bitumen Company	UAE	Asphalt for road works	Manufacturing
Dubai Cooperative Society	UAE	Food	Manufacturing
Dubai Drydocks	UAE	Machining steel fabrication	Service & Trading
Dubai Express	UAE	-	Service
Dubai Footwear Co	India	Footwear, travelware and allied leather products	Manufacturing & Trading
Dubai International Knitting Ltd	UAE	Textile and clothing	Manufacturing
Dubai Meat Packers	Denmark	Food	Manufacturing & trading
Dubai Natural Gas Company Ltd	UAE	Gas	Trading
Dubai Petroleum Company	UAE	Petroleum products	Trading
Dubai Wire Products Ltd	India	Wire, nails, allied products	Manufacturing
Dubai Agencies Ltd	India	Water liquid treatment, chemicals and electronics	Trading and manufacturing

Ducon Limited	India	Containers & packing especially aluminum foil containers	Manufacturing & trading
Ducros Gulf Industries	France	Food	Trading & Manufacturing
Eagle Flask Pvt Ltd	India	Insulated products	Trading
East Optical Co	Pakistan	Ophthalmic lenses	Manufacturing & trading
Echosphere Middle East Inc	USA	Electronic equipments	Trading
Elfab International Ltd	India	Food	Trading
Emerson Middle east Inc	USA	Electrical & electronics products	Trading & manufacturing
Emicos International	India	Perfumery products	Manufacturing & trading
Emirate Terminals Ltd	India	Non-hazardous chemicals and vegetable oil	Manufacturing & trading
Emirates Bank International Ltd	UAE	-	Service
Emirates Can Co. Ltd	USA/UK/Saudi Arabia	Beverage cans	Manufacturing
Emirates Chemicals	UAE	Concrete admixtures & related products	Manufacturing & trading
Emirates General Petroleum Corp	UAE	Petroleum products	Trading
Emirates Petroleum Products Co	UAE	Petroleum products	Manufacturing
Emirates Polystyrene Industries	UAE	Food	manufacturing
Emirates Steel Pipe Industries Limited	India	Steel tubes galvanized	Manufacturing & trade

Emirates Textile Ltd	Iran/Pakistan	Textile products	Manufacturing & Trading
Emirates Transformer & Switchgear Ltd	India	Transformers & allied products	Manufacturing
Energy Ventures Middle East Inc	UAE	Oilfield products	Trading
Escom Limited	Italy	Spare parts, fertilizers and non-ferrous metals	Trading
Estico Limited	India/Yemen	Perfumes, electronic goods, allied products	Manufacturing & trading
ESW GES M B H	Austria	Sheet metal enclosures	Manufacturing
Express Publishing and Investment Ltd	UK	Packaging materials	Manufacturing
F A Jagdishwari Saxena	Germany	Metals, chemicals, electrical items	Trading
FG Wilson Ltd	UK	Diesel generator sets, pumps, switchgear & welding sets	Trading
Fabritex Limited	Pakistan	Textiles & clothing	Manufacturing
Falcon Apparels Ltd	UAE	Textiles & clothing	Manufacturing
Falcon Business Ltd	Sweden	Food, electronic equipment, aerosol products	Trading
Falcon Electronics	Singapore	Consumer goods	Trading
Falcon Metals Limited	Denmark/Singapore	Metal alloys	Manufacturing
Falstaff Investment Ltd	India/USA/UK	Food	Trading
Farook International Stationery	UAE	Stationery and greeting cards	Manufacturing & trading

Fast Food Merchandisers Inc	Lebanon	Food	Trading
Federal Express Int'l Inc	UAE	-	Service
Federal Foods	-	Snack food	Manufacturing
Filippo Fochi	Italy	Equipment: boilers, exchanger columns, piping spools	Manufacturing
Fine Hygienic Paper Co	Jordan	Sanitary napkins, baby diapers and paper products	Manufacturing & trading
Fine Textiles Company Ltd	Pakistan	Clothing & textiles	Manufacturing
Fineneale Limited	India	Computers, parts and peripherals	Trading & manufacturing
Finetrade Ltd	Pakistan	Construction machinery	Trading
Finsa Middle East Limited	Spain	Timber & allied products	Trading
Fitco Industries Ltd	UK/Sudan	Irrigation equipment systems & plastic raw materials, pipes	Trading & manufacturing
Fitra International	Syria/UK/France	Luxury consumer products	Trading
Flopetrol Limited	France	Oil/gas testing equipment	Service & trading
Foods Specialties Ltd	India	Food & consumer products	Trading
French Gulf Air-Conditioning	Syria/France	Air conditioners & refrigerators	Manufacturing
GBA Products Company Ltd	India	Food, audio visual items, building materials	Trading
GB Pour le Commerce General	Lebanon	Various furniture and decorative items	Trading

GD portbury Ltd	Jordan	Detergent raw materials	Manufacturing
Gamava Enterprises Ltd	Indonesia	Audio cassettes	Manufacturing
Gasos Bin Hamoodah	UAE	Oilfield equipment	Trading service
General Trading Est	Saudi Arabia	Sweeper scrubbers & general maintenance equipment	Trading
Geophysical Research Corporation	USA	Equipment	Manufacturing & service
Global Industries Limited	Iraq	Hosiery	Manufacturing & trading
Gold Star Middle East Co	Korea	Electronic & electrical parts	Trading
Green Crest Industries	India/Pakistan	Polypropylene, high & low density polyethylene and its products	Manufacturing & trading
Grundfos Holding	Denmark	Pumps	Trading & Manufacturing
Gulf Application Engineering and Packaging Limited	Saudi Arabia	Packing equipment	Trading
Gulf Business Machines	Bahrain	Computer & related products	Trading
Gulf Denim ltd	Pakistan	Textiles	Manufacturing
Gulf Development system Limited	India	Hydrographic survey, equipment control	Service/Trading
Gulf Express freight	UAE	-	Service
Gulf Fencing Industry	India	Chain Link fencing, gabions & other wire products	Manufacturing

Gulf Food Industries/California Gardens	UAE	Food, raw materials	Manufacturing/trading
Gulf Import & Export Co	UAE	Legumes	Manufacturing
Gulf Imports & Exports Co	UAE	Food	Trading manufacturing
Gulf Inject LLC	UAE	Intravenous solutions	Manufacturing & trading
Gulf oil Middle East Ltd	Pakistan	Lubricants, petroleum products	Trading
Gulf Packaging Industry	India	Corrugated cartons, rolls, pads, form papers and aluminum	Manufacturing
Gulf Radio Taxis	UAE	Taxis	Service
Gulf Rice Mill	UAE	Rice	Manufacturing
Gulf Scientific Corporation	Jordan	Scientific analytical instruments	Trading
Gulf Textiles Company Ltd	Pakistan	Textiles	Manufacturing & trading
Gulf Water Treatment Co	UAE	Water treatment devices	Manufacturing
Gyma International	France	Food products	Trading
Hagi Weheliye & Sons Co	Somalia	Vehicles, spare parts/cement/steel products/timber/food	Trading
Hana Food Company	Pakistan	Food	Manufacturing
Harmony Express	Greece/Liberia	Own vessels (ships)	Service
Harry (UAE) Limited	India	Textiles and Electronics	Trading

Healthlines Middle East Ltd	UK	Sports related goods, footwear apparel, fitness equipment	Trading
Hi-Force Ltd	UK	Hydraulic tools & equipment	Trading
Highland Marketing operating	UK	Polycarbonate resin, sheets, plastic additives and semi finished plastic products	Trading
Hilti Gulf States Office	Liechtenstein	Construction chemicals fasteners, tools and demolition equipment	Trading
Hitech Industries Ltd	Tanzania	Paint chemicals, automotive parts, aluminum extrusions containers, household detergent 7 wood products	Manufacturing & trading
Horizon Resources Inc	Uk	Electronics & communication equipment	Trading
Hoschan Pan Gulf	Saudi Arabia	Stationery items	Manufacturing & trading
Hunter Foods Ltd	India	Snack foods	Manufacturing & trading
IGI Limited	India/Italy	Writing instruments	Manufacturing & trading
ITC Limited	India	Food	Trading
Idro International Trading Co	Iran	Raw materials machinery	Trading
Industrial Granite and Marble	Qatar	Marble and Granite	Manufacturing & trading
Inter-Rent	UAE	Car rental	Service

International for Transit & Transport	Syria	Consumer goods	Trading
International Maine Services	UAE	Construction of Oil and natural gas pipelines, fabrication	Service
International marketing Enterprises	UAE	Electronics	Trading
International Projects Development Establishment	-	Drilling equipment, water supply equipment wood work.	Trading
International Shipping Agencies Limited	Cyprus	Confectionery, photographic items, hardware tools and pharmaceutical	Trading
International Travel Services	UAE	-	service
Intraco UAE Limited	Jordan	Flat glass items	Trading
Jacky's Electronics	India	Electronic items, photographic materials, textiles	Trading
Jawass Trading Est	UAE	Furniture	Trading & manufacturing
Jaynell Corporation operating	India	Waste lube oil	Manufacturing
Jebel Ali Carton Factory Inc	UAE	Carton, roll sheets	Manufacturing
Jebel Ali Industrial & Trading Co	India	Food	Manufacturing & trading
Jebel Ali International Maritime SA	Japan	Petroleum products	Trading
John Mowlen	-	-	Trading

Johnson and Johnson Inc	USA	Consumer toiletries, sanitary protection and healthcare products	Trading
Jumbo Overseas Ltd	India/UAE	Automation equipment, electronics	Trading & manufacturing
Kaj Holding Limited	Iran	Electronics, analytical equipments	Trading
Kamsar Trading Company	Iran	Rosewater, other flowerwaters and saffron, electronic goods	Manufacturing & trading
Kandi Limited	Austria	Underwear/socks/spare parts, textile fabrics, electrical and electronics	Manufacturing & trading
Key Boarding Inc	Switzerland	-	Service
Khalid Mubarak	UAE	Electronics	Trading
KHK Scaffolding and Formwork Limited	Korea	Scaffolding & form work	Manufacturing & trading
Kimoha Entrepreneurs	India	Carbonless paper & food products	Manufacturing & trading
Klockner & Co	Germany	Steel items	Trading
Knotts Limited	-	Sports goods, footwear, fitness equipment	Trading
Kolson Food Industries (1)	India/UAE	Pasta & food products	Manufacturing
Kolson Food Industries Limited (2)	India	Pasta & Food Products	Manufacturing
Konica Corporation	Japan	-	Trading
KPMG peat Marwick	India/UK	-	Service

Kuwait Food Company (Americana)	UAE	Fastfood	Manufacturing
L.N.T Trading Ltd	UK	Thermoware	Trading
Land Rover Exports Ltd	UK	Cars	Trading
Lawrence Loat Limited	Gibraltar	Ship chartering, ship management	Service
Legend Resources Ltd	India	Non-ferrous metal alloys	Trading
Leopard Shipping Limited	Malta	Ships (own vessels)	Service
Limassol Enterprises Ltd	India	Clothing	Manufacturing
Lineati Limited	Jordan	High standard furniture, doors & decorative items	Manufacturing
Link Middle East Ltd	India/Oman	Wire products	Manufacturing
Lion's International Ltd (1)	Syria	Food	Manufacturing & trading
Lion's International Ltd (2)	Syria	Cosmetics, perfumes, insecticide	Trading
Lipton Tea Co. Ltd	UK/India	Tea & food products	Trading
Lucky Recycling ltd	Pakistan	Aluminum & copper scraps, plastic scraps	Trading
M.A.H.A.L Ventures Ltd	India	Timber, plywood, building materials	Trading
MRS Packaging Limited	India	Packaging materials	Trading
Machinha Industrial Co	-	Food	Trading

Magnetics International Establishment	Iran	Plastic products	Manufacturing
Mahmood Saeed Beverage Juice Can Making Industry	Saudi Arabia	Aluminum beverage cans	Manufacturing
Mahmood saeed Collective Co	Saudi Arabia	Cigarettes	Manufacturing
Maison F Mathieu	Belgium	Steel Products	Trading
Marina Ship Management and Trading Co	Pakistan	Ship	Service
Maritime & Mercantile International	-	-	Service
Martin Emprex (Far East) Ltd	Hong Kong	Clothing	Manufacturing & trading
Masterbaker Marketing Ltd	India/Oman	Bakery ingredients	Trading
Matushita Electric Industrial Co.Ltd	Japan	Electric & electronic goods	Trading
Mau Investment Co.Ltd	Japan	Electronics,electric al goods	Trading
Maysping Trading Centre	Canada	Marble, cultured marble,onyx ceramics and porcelain	Manufacturing & trading
Mc Dermott-ETPM Inc	Panama	Engineering and construction service to the oil and gas industry	Service
Mc Demott-ETPM East Inc	Panama	Oil & gas	Service
McDermott Dubai	Panama/UAE	Drilling equipment of oil wells	Service
McFaden & Associates Architects Consultants & Co	Italy	-	Service

Mcken	France	Ink Jet Coder	Trading
Mecadubai S A	Spain	Food, fabrics, textile, electronic products	Trading
MEG Enterprises Ltd	India	Gold bullion, textiles, foodstuff	Trading
Mercantile Hong Kong Ltd	Hong Kong	-	Trading & service
META	Hong Kong	-	Trading
Mexa Conseil	France	-	Trading
Midas Engineering Co.Ltd	India	Pressed automobile parts	Manufacturing
Middle East Lubrication Co	UAE	Lubricants	Trading
Middle East Oilfield Supplies	UAE	Oilfield equipment	Service
Middle East Packaging Ltd	India	Polystyrene thermoformed cups and containers	Manufacturing
Middle East Trading Enterprises Inc	India	Food	Trading
Milpark Drilling Fluids	USA	Drilling fluid	Service
Minchem International Inc	Zimbabwe/UK	Petrochemicals, food, clothing	Trading
Mitropa Institute GMBH	Austria	-	Service
Mitsui & Co	Japan	Food	Trading
Mobile Petrochemicals International Limited	USA	Chemicals	Service & trading
Modern freight Company	UAE	-	Service & trading
Mohammad Sulaiman Al Khalaf Trd Est	Saudi Arabia	Food	Manufacturing

Monnris Enterprises	India	-	Manufacturing
Monol Ltd	India	Lubricants	Manufacturing & trading
Mulligan Management Corporation	India	Synthetic resins and allied products	Manufacturing & trading
Multi Source Enterprises Ltd	Britain	Electronics products	Trading
Munradtech Industrial Generators Ltd	India/Pakistan	House assemblies & generator sets and diesel engines spares	Trading & manufacturing
Murray Fenton (ME) Ltd	UAE	Marine	Service
Nalco Gulf Limited	-	Water treatment and environmental processing equipment and related chemicals	Trading & service
National Bank of Dubai	UAE	-	Service
National Fire Fighting Manufacturing Co.Ltd	UK	Fire fitting products	Trading & manufacturing
National General Insurance Co	UAE	-	Service
National Petrochemicals Co	-	Marble and granite	Manufacturing
National Trading & Developing Est	UAE	Food, Tobacco, electronic goods	Trading
Nayer Industries Pvt.Ltd	-	Tufted carpets	Manufacturing
NCT Hong Kong Limited	Hong Kong	Plastic and Chemical raw materials	Trading

New Cavendish Import & Export	Pakistan	Non hazardous chemicals & machinery, food and construction materials	Trading
NG Chye Mong Pvt.Ltd	-	Tobacco products and food	Trading
Nishizawa Limited	Japan	Steel products, building materials, food, electrical products and spare parts.	Trading
Nova Trading Inc	Liberia	Precious metals, wire and jewellery	Manufacturing
Nucleus Ltd	India	Leather Products	Manufacturing & trading
Oceanic Fish Eries Limited	UK	Seafood/spare parts of marine vessels	Trading
OEM Dubai Limited	UK	Plastic & Electrical parts	Trading & manufacturing
Oilfield International Equipment & Supplies Inc	Panama	Chemicals equipment	Trading
Oilfield Supply Centre Ltd	UAE	-	Trading & service
Oman National Electronics	UAE	Electronic and Electrical goods	Trading
Optic Land Ltd	Pakistan	Optical & medical instruments, hearing aids and related items & carpets	Trading
Oriental Printing and Publishing Group	Bahrain	Computer continuous stationery and paper converting	Manufacturing

Overseas Enterprises Ltd	UK	Paper products, electronic products, canned food items and cooking media	Manufacturing/trading & service
Pacman (ME)	UAE	Self-adhesive labels and labelling machines	Manufacturing
Palexpo Overseas Trading Ltd	Cyprus	Fragrances, cosmetics, hair care products and toiletries	Trading
Palmon Limited	India	Clothing	Manufacturing
Panda International Ltd	India	Office automation equipment, electronics, household appliances and allied products	Trading/manufacturing & service
Panduit International Co	USA	Electrical & electronic products	Trading
Parmobel Limited	Cyprus/France	Perfume and cosmetics	Trading
Philips Exports B.V	Netherlands	Electronic products	Trading
Phoceene De Metallurgie	France	Piping and valve equipments for the oil and gas industry	Manufacturing and trading
Pioneer Overseas	USA	Agricultural seeds, seedlings microbial products and animal health care products	Trading
Pipeline Supplies Ltd	Hong Kong/UK	Carbon, stainless & alloy steel pipes, valves, fittings, flanges & allied items	Trading
Plant Group SRL	Italy	Equipment & machinery	Trading

Plastic powder Coating Co	UAE	-	Manufacturing
Polaroid BV	Poland	Polaroid products	Trading
Polykinetic Chemicals Ltd	India/Pakistan/UK	Polyester resins and allied materials	Manufacturing & trading
Poonam International Ltd	India	Textiles, food and electronic goods	Trading
postval Limited	Jordan	Electromechanical engineering marine equipment & furniture	Trading
PPM Cranes Inc	Greece	Cranes and spare parts	Trading
Prestige Group UK Plc	UK	Non electrical household goods	Trading
Prithvi Chemicals India	India	Non hazardous chemicals for foundry & other industries and cleaning machine	Manufacturing & trading
Project Resources Est	Liechtenstein	Airconditioning equipment and electronic consumer items	Trading
Proserv Exports As	Norway	High pressure and oilfield equipment	Manufacturing/trading & service
Punch Limited	India	Wood and metal workshop/prefabricated building sheds and allied products	manufacturing
Pure Food Limited	Pakistan	Food	Manufacturing & trading
Pure Helium (Gulf) Limited	India	Liquified & gaseous helium & related mixtures	Manufacturing & trading
Qualpro	UK/Saudi Arabia	Food	Trading

Rank Enterprises Limited	Britain	Steel, chemicals, agricultural and construction machinery	Trading
Rasasi Perfumes Industry	UAE	Perfumes	Manufacturing
Rashwell Industries Limited	UK/Pakistan?India	Food	Trading & manufacturing
Ratan Mama & Co	UAE	-	Service
Redrock Limited	India	Cosmetics and body care products, food and packing materials	Manufacturing & trading
Richesse Ltd	UK	Tea and food	Trading & manufacturing
Rosemount Middle East	USA	Electrical and electronic products	Trade & manufacturing
Royal Industries	India	Textiles and clothing	Manufacturing
Sabina Trading Ltd	UAE	Oilfield equipment, galvanising, fabrication & electrical instruments	Trading & manufacturing
Sadexa SarlIntl' Trade Co	Tunisia	Earth moving equipment, cars, buses, trucks and spare parts	Trading
Saif & Jasser Trading Co	UAE	Safety items, welding equipment, garage tools, power tool, building material	Trading
Salam Gulf Distribution Co Ltd	Qatar	Products trade by the license holder and principals	Trading
Salam Gulf Industry Company	Qatar	Products traded by license holder and principals	Trading

saleh & Abdul Aziz	Saudi Arabia	Machinery & heavy equipment	Trading
Sales International UK Ltd	India	Food, cigarettes, perfumes & consumer goods	Trading
Samir Odeh & Sons Co	Jordan	FAG bearings & auto spare parts	Trading
Sankei Private Limited	Japan	Consumer electronic products	Trading
Schlumberger Gulf Services	France	oilfield equipment	Trading
Scrapmould International Corp Ltd	India/Bahrain	Scrap metal	Manufacturing
Seven Seas Shipchandlers Opt	India/UAE	Food and non-food items and bonded goods	Trading
Seven Exports Limited	-	Food	Trading
Sharjah Oxygen Company	UAE	Chemical products	Trading
Shell Markets	UAE	Gasoil & Baseoil	Trading
shell Trading Pvt	UAE	Oil and Chemicals	Trading
Sheriton Maritime Co.S.A	Hong Kong	Soya meal extraction, rice & furfural	Trading
Shinwha Engineering & Construction Co.Ltd	Korea	Own equipment	Service & trading
Sima International for Advanced Technologies Dubai	UAE	Computer system	Trading
Singleton Trading Limited	India	Clothing, textiles and leather	Manufacturing & trading
Solico Trading Co.Ltd	UAE	Timber and allied products	Trading

Sony Gulf FZE	Japan	Electronic products	Trading
Soptex Development (Gulf)	India	Electronic, construction equipment & tobacco goods	Trading
Southern Coast Companies & Establishments Agreement	UAE	Hydrophobic sand	Manufacturing & trading
Southern Projects Pvt	India	Food	Manufacturing & trading
Standard Chartered Bank	UAE	-	Service
Star Energy Resources Ltd	Bermuda	Petroleum hydrocarbon	Trading
Steel Makers Gulf Inc	India	Deformed steel bars and other allied products	Manufacturing
Sterling Auto Centre (EPPCO)	UAE	Motor vehicles	Workshop and car washing
Stodis LMG Ltd	France	Construction and industrial equipment, spare parts, leisure products and chemicals	Trading
Sufa Limited	Pakistan	Non-hazardous oilfield equipment	Trading
Super Synthetics Ltd	India	Synthetic ropes, twines and allied products	Manufacturing & trading
Suprico International Co.Ltd	UK	Computer equipment, software and spares	Trading
Sun Microsystems Inter-Continental Operations	USA	Computers & Computer spare parts	Trading

SW Panel Product (Gulf) Pte.Ltd	India	Film faced plywood and wood based panel products & wire products	Manufacturing
Swift Freight International	UAE	-	Service
Sykes Equipment Rental & Sales Inc	USA	Heavy construction & earthmoving equipment and cranes	Trading
TG Industries	Pakistan	Leather articles and associated accessories	Manufacturing & trading
T.J.Smith and Nephew Ltd	UK	Medical Products	Trading
Tact International	UAE	All the constituents of the products resulting from the slaughter of livestock	Trading & manufacturing
Tafisa Middle East	Spain	Furniture components	Trading
Tata Exports Limited	India	-	Trading
Tata Incorporated	India	Metal related products	Trading
Techno Imports & Exports Inc	-	Ceramic tiles, ceiling fans, vitreous sanitary ware	Trading
Techno Link (UAE)Ltd	UK	Mechanical hydraulics, electronics, special vehicles, plant, machinery and computer	Manufacturing & trading

Teignbridge Propellers Ltd	-	Marine propellers and equipment	Trading
Takral Brother (Pvt) Ltd	Singapore	Textiles, electronic goods and food	Trading
The British Bank of the Middle East	UAE	-	Service
The Commercial Bank of Dubai Limited	UAE	-	Service
The Kanoo Group	UAE	Machinery, shipping services and travel, tourism and related business	Trading
The Tata Iron and Steel	India	Metal related products	Trading
Thermacote Welco Middle East Corporation	USA	Welding metals and accessories	Trading
Thermotrade Heating and Airconditioning SAL	Lebanon	Electronic	Trading
Thomsun Electronics Ltd	India	Electronic	Manufacturing & trading
TMS International Ltd	Ireland	Plant & Machinery	Trading
TNT Skypak International	Bahrain	-	Trading
Toyo Warehouse Co Ltd	Japan	Motor vehicles, spare parts and tyres	Trading
Tradelink Middle East Ltd	India	Packaging materials and fitness and semi finished metals	Trading
Transmed Overseas Inc	-	Consumer products	Trading
Trans Ocean Bridge	Jordan	Food, building materials, earth moving equipment	Trading

Transitrex Research & Development Corp	France	Oilfield	Service and trading
Tribug Investments Ltd	Hong Kong	Clothing & leather products	Trading
Trouvay Cauvin E.C	Switzerland/France	Sand blasting, minor machining and coating of tubular products and fittings	Trading
UAE First Marble Manufacturing	Iran	Stones tiles & slates and similar products	Manufacturing & trading
UB Int'l Ltd	India	Paint raw materials, food, own alcoholic beverages, tobacco, building materials	Trading
Unjet Gloves Public Company	India	Latex gloves, medical goods	Manufacturing & trading
Unilever Gulf FZE	UAE	Food, industrial cleaners and detergents	Trading
Uni-Peak Contracts General Suppliers	Egypt	Electronic and electrical components	Manufacturing & trading
Union Carbidge Chemicals & Plastics	UAE	Chemical products	Trading & manufacturing
Union Kemira Plant	UAE	Compound chemical fertilizer	Manufacturing & trading
Unipack Limited	Germany	Plastic packaging materials and equipment	Manufacturing
United Arab Bank	UAE	-	Service
United Arab Shipping Co	Kuwait	-	Service

United Flexible Packaging	India	Flexible packing materials	Manufacturing
United Four Oil & Gas Supplies & Services Est	UAE	Oil, gas and machinery	Service & trading
United Peoples General Trading Corporation	Kuwait	Textiles and clothing	Trading
Universal Concrete Products Pvt Ltd (Unimix)	UAE	Readymix concrete	Manufacturing
Universal Tube and Plastic Industries Limited	India	PVC: compounds, conduits and water pipes	Manufacturing
Van Trunk Eng. Ltd	UK	Electric cable supports	Trading
Vasco Finance & Trading Inc	Germany	Food, consumer items, building materials, oil products	Trading
Venus Industries Limited	India	Non-stick utensils, hand cut crystal glassware & other household items and pharmaceutical	Manufacturing & trading
Versatile Stone Crafts Ltd	India/Canada	Marble and granite based furniture and artifacts	Trading
Vileaurose Chimique S.A	Switzerland	Perfumery products, photographs	Manufacturing & trading
Vinelec (Gulf) Ltd	India	Electronic goods, textiles and sundry items	Manufacturing & trading
Vinidex Industries Limited	India	PVC and polyethylene pipes and fittings	Trading
Virginia Industries Limited	India	Tobacco, paper, filters, packing materials	Manufacturing

Wardah Textiles Limited	Pakistan	Clothing and textiles	Manufacturing
Weathermaker Limited	-	Automatic duct	Manufacturing
Wells Fargo Trading Co	Thailand	Food, household products, leather products and auto spare parts	Trading
Wellworth Enterprises Ltd	Pakistan	Textile and clothing	Manufacturing & trading
Westam (Jersey) Limited	India	Petrochemicals & plastic raw materials	Trading
Western Geophysical	USA	Companies own geophysical surveying equipment	Trading & service
Wood Group Engineering	Scotland	Oilfield equipment	Service
World Overseas Group Co	Taiwan	Plastic products	Manufacturing
York Air Conditioning & Refrigeration Inc	USA	Air conditioners, refrigerators & spare parts and compressor	Trading & service
Zeta Trading Ltd	Canada/Jordan	Building materials, lubricating oils refinery chemicals & oil field supplies	Trading

Source: Jebel Ali Authority, (February, 1993) who is in the Jebel Ali Free Zone.