Arab Journal of Administrative Sciences
1997, Vol. 5, No.1, 215 - 239

PERFORMANCE AND IMPACT OF JEBEL ALI FREE ZONE: AN EXPLORATORY STUDY

Fatima S. Al-Shamsi
United Arab Emirates University

The Jebel Ali Free Zone (*JAFZ*) has been inspired to attract foreign capital, stimulate transfer of technology, increase employment opportunities, upgrade managerial and labor skills, contribute to diversification and establish backward and forward linkages with the local economy, promote exports and encourage manufacturing. This study revealed that *JAFZ* has been successful at raising the profile of Dubai regionally and globally, attracting foreign enterprises, contributing in Dubai's exports, encouraging joint venture and developing particular manufacturing activities. However, the capacity of *JAFZ* to attain diversification, utilize local resources, create linkages with the rest of the economy, generate a long-term source of foreign exchange earnings, and provide employment opportunity for local citizens and upgrade their technical knowledge is questionable.

Export-led growth has been advocated as an important development strategy for developing countries to attain high levels of economic growth. The recent successful experiences of numerous countries pursuing an export-oriented scheme, particularly those of the Far East (Hong Kong, Taiwan, Singapore), have encouraged many analysts to assert that the sustained real economic growth of these countries is largely attributed to their export promotion policies.

Promoting economic growth through export expansion requires substantial changes in government policies targeted to encourage, promote and create a suitable climate for development. Low taxes,

Submitted May 1996; accepted March 1997.

limited regulations and few tariff and non-tariff barriers to trade have been advocated as main causes for fast export expansion and hence economic growth (Dabeny, 1984: 326). One effective approach intended to attract private initiatives, stimulate foreign trade and increase the country's attractiveness to foreign capital is the establishment of Export Processing Zones (***EPZ***'s).

An ***EPZ*** is a modern variant of an older concept of the free-trade zone (ILO/UNCTC, 1988:1). While the later found along existing trade route and engaged only with storage, trans-shipment and re-export of goods produced elsewhere, the former, can be set up anywhere and involved with the production of manufacturing goods for export.

The main objectives of the establishment of the Jebel Ali free zone (***JAFZ***) in 1985 have been to contribute to the development of Dubai, by attracting foreign capital, generating skills and know-how, and encouraging diversification of the economy away from oil. After ten years of operation, ***JAFZ*** experience need to be reviewed and evaluated. The only studies that consider ***JAFZ*** experience are two. The first one, addresses the legislative aspect of the zone (El Seaiday, 1996). The second, analyses factors attracting enterprises to invest in ***JAFZ***. (Khashmaki, 1996).

The ultimate goal of this research is, thus, to provide an economic analysis for ***JAFZ***'s experience over the past 10 years of operation, so as to analyze the profile of ***JAFZ*** and explore new directions for its development as supportive mechanism to the country. This article seeks to answer the following questions: What pattern of investment has been undertaken in ***JAFZ***'s. What is the form of ownership structure? What is the dominant size of organization existed in ***JAFZ***? What type of economic activities are there in ***JAFZ***? Some of the prime goals for establishing free zones in developing countries are to promote exports, create job opportunities and encourage manufacturing activities. Has ***JAFZ*** successfully contributed to the export promotion and job creation objectives? What is the make-up of the industrial base in ***JAFZ***? and what is the role of ***JAFZ*** in stimulating industrial development in the country? This study is not designed to provide a quantitative assessment of the impact of free zone on the economy of the host country. It rather attempts to use available data to shed some light on the performance of ***JAFZ*** after 10 years of operation. The methodology used will be that of an analytical, descriptive approach, depending on the availability of data.

To achieve the above mentioned goal, the second part will present a brief discussion of the concept and general aspects of ***EPZ***'s in developing countries. The third part, is devoted to examine the impact of ***JAFZ*** in Dubai to the condition and characteristics of the U.A.E's economy. Finally, the final part summarizes the conclusions and implications of ***JAFZ*** experience.

Epz Concepts and Implications

The concept of an ***EPZ*** has been looked at as a modern adaptation of a free-trade zone, where the principal activity is manufacturing for export, and where a package of fiscal and financial incentives to foreign investment is provided. The theoretical bases for the ***EPZ*** emerged from the classical theory of industrial location. This theory predicts that a firm's location decision is determined by the availability of production factors. Weber (1929), & Losch (1954) stated that firms act on the basis of the least cost of land, raw materials, labor and transportation. Hoover (1948) included agglomeration and deglomeration as factors of location decision.

Modern location theory added to the list a set of new determinants of a firm's location decision. These factors include the educational system, quality of life, business services, cultural and community amenities, taxes and incentives. Dabney (1991) examined the relationship between the concept of ***EPZ***'s and location theory and found that ***EPZ***'s have a variety of spatial, social, and economic characteristics associated with factors considered important in location theory (p.327). However, he stated that the impact of incentives on a business location decision was marginal except in the cases where the value of incentives was large relative to the amount of investments.

Belasich (1993) argued that the evolutionary thinking in free zones can be conceived of as a mix of three approaches to economic development. At the direct approach they can be described as a choice of direct government intervention in the market place. Infrastructure development and human capital improvement, which involve the quality of employment, are the ingredients of this process of economic development. Incentives, the third ingredient, are the indirect approaches to economic development. Government can create a climate for change by the introduction of incentives. The third approach to economic development is the regulatory approach. Deregulation applied to the zones will encourage proliferation of firms.

EPZ's in developing countries[1] have been perceived as instruments for promoting export - oriented growth with the prevalence of new foreign capital, through inviting foreign producers to venture into non-traditional export-oriented industries associated with an incentive policy capable of encouraging and attracting large-scale foreign firms to undertake profitable investment, usually on the basis of country's comparative advantage. Although a general pattern was followed by developing countries, the rationales for implementing ***EPZ***'s may vary from one country to another.

In many cases, ***EPZ***'s prevailed as the individual country's strategy to integrate into the international market division of labor without subjecting the entire economy to trade liberalization and deregulation (Spinanger; 1984:65). In other cases, ***EPZ***'s appeared to be a way of transition from import-substitution strategy to an export-oriented strategy. "They were unlikely to have the economically and socially damaging consequences which a sudden transition from high protection to open international competition would probably entail (ILO/UNCTC; 1988:53). In some other cases, ***EPZ***'s were designed as industrial estates set up in well-defined areas to attract foreign investments to a strategically located economy already free of trade regulations.

The experience of ***EPZ***'s in developing countries went through different stages. In the first stage, ***EPZ*** engaged in activities related to storage, trans-shipment and re-export of goods produced elsewhere. In this stage, ***EPZ***'s may serve as a distribution center that hosts large multina-

1 For detailed analysis of developing countries experience with ***EPZ's***, see for example, Hamada (1974), Hamilton and Svensson (1982), Gurbel (1982), Fitting (1982), Miyagiwa (1986), Kumar (1994).

tional companies to set up national or global distribution centers. In the second stage, ***EPZ***'s may host foreign enterprises that engage mainly in assembly of foreign-made parts. In the higher state ***EPZ***'s are expected to play a more integral role in the economy of the host country, providing backward and forward linkages with all traded and non-traded sectors in the economy. This stage requires that policy makers should be aware of what the ***EPZ***'s have been able to accomplish policies and related policies to move the ***EPZ*** into the higher stage where it can play a more integral role supportive of the development of the rest of the economy.

The variations that exist in the experience of developing countries may suggest that no specific set of achievements is expected of all ***EPZ***'s; rather, achievements are country-specific and depend on a set of complex factors related to the country's social, economic, and political conditions, forces in the region, and the relevant major trends in the world economy.

JAFZ Experience

Like most developing countries, the U.A.E. views free zones as a stimulant for economic growth and industrial development. In this regard, ***JAFZ*** was established under Dubai govemment's Decree of 9th February 1985. It occupies an area of 100 square kilometers south of Dubai city, this area was prepared with the necessary and proper infrastructure facilities to attract foreign investors. At the end of 1993, ***JAFZ*** had 4.5 million square meters of land leased to companies, a capacity of 369 lease offices of which more than 85 percent were occupied, a capacity of 224 warehouse and factory units of which almost three quarters were leased or reserved, and accommodation space for more than 9,000 people in the free zone tenants' labor camps (jebel Ali Free Zone Authority, 1995).

JAFZ is managed by Jebel Ali Free Zone Authority (***JAFZA***). ***JAFZA*** responsibilities include: issuance of administrative rules and licenses for companies wishing to operate within the free zone, provision of technical and professional supervision, arrangement for the immigration of companies' employees and labor force and the provision of assistance to firms from planning and implementing their project to installing power supply. The Port Authority of Jebel Ali serves as an agent for ***JAFZ*** by providing the necessary marketing, administrative, engineering and operational assistance in the free zone.

Our aim in this section is to shed some light on ***JAFZ***'s objectives, nature and characteristics, and deduce its economic performance in the light of some of its objectives.

Objectives

Unlike most developing countries which opted for the establishment of free zones, Dubai has neither faced an unemployment problem nor suffered from shortage of capital and foreign exchange. Hence, apart from creating new investment opportunities to attain diversification and provide new channels of revenue for public spending, there are no strong motives to establish free zones. Dubai also has an open economy with a high level of infrastructure, free of import and export regulations. Thus, it is similar to Singapore; the free zone in Dubai is a form of industrial estates in an open economy and is considered as a package designed to attract investment to a strategically located economy. The main objectives of ***JAFZ*** can be summarized as follows:

1. Promote the Emirate's economic development and modernization objective.
2. Stimulate new investment opportunities on an international level and facilitate integration into the world economy.
3. Establish Dubai as a preferred location for investment in the Gulf.
4. Create new investment opportunities and attain diversification away from the dependence on a depleting source of income.
5. Provide new revenue bases for public spending.
6. Transfer new technology and managerial know-how skills.
7. Generate increased wealth for U.A.E's citizens and create employment opportunities for the young local force.

Incentives for Foreign Investors

The function of export processing zones in developing countries is the provision of technical, economic and legal framework and preconditions for the profitable use of low-cost labor and other factors of production for world market-oriented, internationally competitive production. The principal requirements for such production are: (i) modern infrastructure,

(ii) an adequate supply of industrial inputs, and (iii) the lifting of any national restrictions on trade and payments which might hinder the free movement of goods and the free transfer of capital and profits (Kreye *et al*, 1987:5). In ***JAFZ*** almost all of the previous principal requirements have been provided in order to attract foreign investors. The official incentive package devised for ***JAFZ*** offers the following elements (Jebel Ali Free Zone Authority; 1993):

- 100 percent foreign ownership. The proclamation of the Decree of Dubai Government for establishing the Free Zone, eliminated the difficulties encountered by foreign companies having to operate with local partners.
- No recruitment problem. In the free zone, work permits and restrictions on the engagement of expatriate labor which have been introduced by the U.A.E. Federal Government will not apply.
- No currency restrictions. There are no taxes and therefore, 100 percent repatriation of both profits and capital are allowed.
- No corporate taxes, no import and export duties and no personal income taxes. There is no corporation tax for a minimum of 15 years for those operating in ***JAFZ***, even if such taxes could be introduced elsewhere in the future. There is also no income tax, and no import nor export duties on goods entering or exiting the free zone.
- Access to a market of 1 billion people. Investors in ***JAFZ*** will have a market in the Gulf of some 15 million consumers, in addition to the markets of the Indian sub-continent and East Africa.
- No administration problems. Jebel Ali Free Zone Authority (***JAFZ***A) is found to ease bureaucratic procedures and ensure the accomplishment of firms administrative requirements easily and smoothly, as well as to provide expert advice and practical assistance on matters related to planning and implementing projects.
- Excellent infrastructure base and support services. The modern seaport with its twin terminals boasts excellent and very efficient handling facilities. In addition, Dubai International Airport has a well-developed airfreight handling capacity in excess of 500 tons per day. Customs clearance is streamlined and fast at both sea and air ports. Telecommunications services are modern and efficient. Power supplies, water

and other utilities are abundant and subsidized. Ready-built factories, warehouses, offices and housing accommodations are available.

It appears that the most significant attraction provided by ***JAFZ*** is the sponsorship and labor regulations "for they provide a subtle method of gearing up greater economic activity without too many bureaucratic measures" (Kreye *et al*, 1987: 6).

Economic Performance of Jebel Ali Free Zone

It is well known that establishing and operating an export processing zone requires a substantial investment by the host country. The return from such investment is presumed to compensate for the cost incurred. A cost-benefit analysis should be conducted to economically evaluate the performance of any ***EPZ***'s, and their projects should be appraised just as any other type of developmental projects (ILO/UNCTC:op.cit.:135).

The performance of any free zone can be measured by considering both static and dynamic effects of such a zone on the economy of the host country. The static effects basically include the direct costs and benefits from the free zone. Direct costs may include the cost of land and site preparation, the cost of factory, offices and warehouses buildings, access road and roads within the zone, tenant labor camps and provisions of telecommunication, electricity and water facilities. Operating costs, which include maintenance, repair and the cost of administration may be included in the direct costs. The benefits usually cited in connection with the establishement of free zones include employment generation, foreign exchange earnings, export promotion, transfer of technology and know-how skills diffusion. The indirect costs and benefits should also be considered in evaluating the performance of the free zone on the economy of the host country. The indirect investment costs consist of government's incentives and subsidies to the firms operating in the zone. These range from tax holidays, rental and public utilities subsidies and other types of incentives, such as duty-free imports, profits repatriation, and ease of foreign exchange regulations. Although these type of investment costs are difficult to measure and these incentives are not of enormous economic importance to foreign enterprises, they are usually very costly to the host country. For example, a small subsidy of 10 per cent on electricity or water charges is of little significance to the indivisual investor, but will in the long run entail considerable cost for the host country (ILO/UNCTC: op.cit.:135).

In term of ***JAFZ***'s cost, it is only known that the type of investment carried out by the government of Dubai consists of the cost of developing ***JAFZ*** estate. It has been estimated that the government of Dubai has spent more than $2.5 billion to build the complex of Jebel Ali (Dubai Chamber of Commerce, 1994:39). Land preparation and road costs are estimated to be around $8.2 million. Investment on public utilities (water, sewage, electricity) is expected to be very high. It is estimated that for every one million Dirhams invested in the development of the site in ***JAFZ***, more than a one million Dirham investment is required in electricity alone (Jebel Ali Free Zone Authority, 1995).

The number of administrative personnel is usually included in the operating costs. Such employment in the free zone is regarded as a benefit to the host country. Nevertheless, the increasing number of administrative personnel will increase the operating costs of the zone and probably make it less competitive internationally (ILO/UNCTC: op.Cit.:139). The number of ***JAFZ*** administrative personnel is around 4200, of which the number of nationals is only 320 i.e. 8 percent of the total.

The economic impact of ***JAFZ*** will entail investigation in the patterns of ***JAFZ*** investment to indicate the role of ***JAFZ*** in attracting foreign capital. The contribution of ***JAFZ*** to the economy of Dubai and the U.A.E will then be discussed aiming to deduce its performance in terms of export promotion, job creation and its role in stimulating industrial development.

Patterns of Investment in JAFZ

One of the major objectives of establishing free zones is to attract foreign investors, particularly large, well-known, multinational firms to participate in activities in these zones. The major role that multinationals are expected to play is to contribute to the overall industrial and technological development of the host country through their progressive transformation into domestic enterprises. However, it would appear that most foreign investors in the free zones are essentially less experienced multinationals (UNCTAD, 1993:11). This may be attributed to the fact that most of the well-known multinationals have already established operations on a world-wide basis long before the existence of free zones. Furthermore, their foreign investment decisions are dictated by global market strategy rather than production cost considerations (ibid:11).

Table 1.
Ownership Structure of Enterprises Operating in *JAFZ* (by Country of Origin)

Year	1992		1993		92/93	1994		93/94
Country	No. of firms	% of total	No. of Firms	% of total	% growth	No. of firms	% of total	% growth
UAE	114	25	154	25	35	159	25	3
India	101	22	117	19	16	99	16	-15
UK	38	8	48	8	26	60	10	25
USA	23	5	29	5	26	28	5	-3
Japan	14	3	18	3	29	18	3	0
Pakistan	23	5	21	3	-9	15	2	-28
Saudi Arabia	20	4	21	3	5	17	3	-19
Other G.C.C	12	3	15	2	25	18	3	20
Other Middle East	30	6	36	6	20	31	5	-14
Hong Kong	8	2	12	2	50	12	2	0
Others	82	17	138	22	68	168	26	33
TOTAL	**465**	**100**	**609**	**100**	**31**	**625**	**100**	**3**

Source: Calculated from Jebel Ali Free Zone Authority, Who is in the Jebel Ali Free Zone May 1994.

The case for ***JAFZ*** is not different. It has experienced a rapid growth in the number of enterprises. The enterprises in ***JAFZ*** numbered 570 in 1993 with combined investments of $1.1 billion (Bin Sulayem, 1993). This number reached 609 in early 1994 and 625 in late 1994. As indicated in Table (1) ***JAFZ*** has succeeded in attracting foreign enterprises. As of 1994, 75 percent of the enterprises hosted in the zone were foreign. However, most of the operating firms in the zone are from developing countries. Foreign-owned firms from developing countries (all non-U.A.E. firms, excluding firms from U.K., U.S.A., and Japan) account for 59 percent for 1992 and 1993 and 58 percent for 1994, of all firms in the zone. Domestic enterprises account for 25 percent of the total number of operating firms in the same period. In 1992, the size of investment undertaken by private enterprises both local and foreign, is estimated to be 3.8 billion Dirhams, i.e. 39 percent of Dubai's total investment in that year. Foreign investments were estimated to be 2.16 billion Dirhans or 22 percent of the total. U.A.E. companies accounted for 44 and 51 percent of the total capital invested in ***JAFZ*** for 1992 and 1993, respectively (Table 2).

Table 2
Capital Invested by Country of Origin in 1992 / 1993

(Million of Dh.)

	1992		1993			92/93	
Country	**Capital invested**	**% of total**	**Capital per entrp.**	**capital invested**	**% of total**	**capital per entrp.**	**% capital growth**
UAE	1,680	44	14.7	3.598	51	23.4	114
India	449	12	4.4	465	7	4.0	4
Pakistan	381	10	16.6	440	6	21.0	15
S. Arabia	364	9	18.2	380	5	18.1	4
Japan	276	7	19.7	302	4	16.8	9
UK	69	2	1.8	97	1	2.0	41
USA	47	1	2.2	652	9	22.5	1287
Hong Kong	25	1	3.1	102	1	8.5	308
Other GCC	30	1	2.5	70	1	4.7	133
Other Middle East	100	3	3.3	199	3	5.5	99
Others	419	10	5.1	712	10	5.2	69
TOTAL	**3840**	**100**	**8.3**	**7,017**	**100**	**11.5**	**83**

Source: Jebel Ali Free Zone Authority, Who is in the Jebel Ali Free Zone May 1994.

The form of ownership in ***JAFZ*** indicates that firms from developed countries and their contribution to capital formation is of less significance. For example, the total number of firms from U.S.A and U.K represented 13 percent of the total operating firms in ***JAFZ*** in 1993 and their collective investment was 11 percent for the same year. This might indicate that the type of incentive provided in the zone is not enough to attract European and American capitals. On the other hand, Indian firms accounted for the second largest in term of the number of firms (22 percent) in 1992; however, their contribution to the capital formation decreased from 12 percent in 1992 to 7 percent in 1993. This might explain the nature of Indian enterprises in term of their labor intensity rather than capital intensity. It is Japanese investment that may be considered as capital intensive investment as opposed to a labor intensive one. This is because Japanese firms accounted for only 3 percent of the total operating firms and contributed 7 percent of the total investment in 1992.

Local non-tradable components of value added are mainly the supply of utilities (water, electricity, sewage, etc.), the lease of land and the rent of factory buildings and other local services provided by the local private sector, like transportation and legal advice. ***JAFZ*** total revenues accrued from payments for non-tradable items accounted for 85 million Dirhams in 1993 and 102 million Dirhams in 1994. Other revenue generated includes; land lease 42 percent; warehouse rental 17 percent; labor tenant camps 13 percent and office rent 9 percent. Jebel Ali Port revenue attributable to traffic generated by enterprise in ***JAFZ***, may be added to local non-tradable income. The amount of the port revenue attributable to the enterprises in the zone is estimated to be 44 million Dirhams in 1993 (9 percent of the Port revenue) and the contribution of these enterprises in the zone revenue accounted for 11 percent in the same year (Table 3).

Table 3
Enterprises contribution to port and zone Revenue (1993)

Thousand Dirhams

	port revenue	**% of JAFZ total**	**rental revenue**	**%of JAFZ total**	**other revenue**	**zone revenue**	**% of JAFZ total**	**labor**	**% of JAFZ total**
largest firms	30209	67.9	6130	8.7	1227	7355	8.7	1104	4.9
medium and small firms	1018	2.3	1552	2.2	311	1863	2.2	483	2.2
JAFZ total	**44,460**		**70,260**		**14,690**	**84,950**		**22,369**	

Source: Jebel Ali Free Zone Authority, 1995.

With regard to the type of activities prevalent in ***JAFZ***, Table (4) shows that manufacturing accounts for the largest share, in term of number of firms and size of capital invested, (30 percent of the operating firms and 60 percent of the total capital invested). Comparing manufacturing with the second largest in term of number of firms and the size of capital i.e. warehousing and distribution, it appears that manufacturing is in a better position due to its share in capital formation. In this regard, one can infer that ***JAFZ*** has been successful in attracting manufacturing activities. However, since such enterprises are small by world standards, their contribution to the investment level and technology transfer is thus expected to be of little importance, especially if we know that most manufacturing operations tend to be simple and performed manually, and that only a relatively small capital investment per workplace is required. ***JAFZ*** also offers standardized factory buildings for rent at concessional rates, which will limit the level of investment by foreign firms.

Table 4
Enterprises and Capital Invested in JAFZ According to Activities (1993)

Activity	No. of firms	% of Total	Capital Invested (M. Dh.)	% of total
Manufacturing	175	30.43	4,075.74	59.92
Warehousing & Distribution	145	25.22	1,221.52	17.96
Trading	153	26.61	464.62	6.83
Services	102	17.74	1,039.83	15.29
TOTAL	**575**	**100**	**6801.71**	**100**

Source: calculated from Jebel Ali Free Zone Authority, *Who is in the Jebel Ali Free Zone*. Dubai 1994.

Export promotion

One of the prime motivations for establishing export processing zones was to promote exports, particularly the export of manufactured goods. Usually, the macro-economic benefits to the host country are measured on the basis of the zone's export performance, with the net exports as the main concern. Although this objective has not been literally acknowledged by the authority of ***JAFZ***, it is indirectly recognized as one of the goals of the project.

Table (5) summarizes data on *JAFZ*'s trade activities. It is indicated that between 1985 and 1993, the zone contribution to Dubai imports increased from 1 percent in 1985 to 12 percent in 1993. In addition, there has been a significant increase in *JAFZ* share in exports which rose from 5 percent to 35 percent during the same period.

Table 5
Summary of Imports and Exports from Jebel Ali Free Zone

Million Dh.

Year	Imports	% of Dubai	Exports	% of Dubai
1985	194	1	227	5
1986	311	2	186	4
1987	572	3	332	7
1988	931	4	738	11
1989	2514	9	2114	25
1990	2805	9	2206	22
1991	3580	9	2526	24
1992	4892	10	3903	32
1993	6051	12	4797	35

Source: - Government of Dubai, Central Accounts Section, Dubai Annual Trade Review 1992 and 1993.
- Dubai Chamber of Commerce, *Dubai Statistical File* 1991.
- Dubai Chamber of Commerce, *Foreign Trade Statistics of Dubai* 1989.

Table 6
***JAFZ* Imports & Exports by S.I.T.C. Classification (1988-1990)**

Billion Dh.

	1988				1989				1990			
S.I.T.C	**Imp.**	**%**	**Exp.**	**%**	**Imp.**	**%**	**Exp.**	**%**	**Imp.**	**%**	**Exp.**	**%**
Food & live Animals	175	19	72	10	377	15	200	10	261	9	104	5
Beverages & Tobacco	24	3	14	2	25	1	16	1	49	2	42	2
Crude Material, Inedible except fuels	7		9	1	2		10		4		16	
Minerals Fuels, Lubricants & Related Materials	1		1		1169	47	1183	56	805	29	806	37

Table 6 (cont.)
Imports & Exports *JAFZ* by S.I.T.C. Classification (1988-1990)

Billion Dh.

	1988				1989				1990			
S.I.T.C	**Imp.**	**%**	**Exp.**	**%**	**Imp.**	**%**	**Exp.**	**%**	**Imp.**	**%**	**Exp.**	**%**
Animal, Vegetable, Oil & Fats	..		..		1		..		1		..	
Chemicals	81	9	44	6	104	4	68	3	140	5	65	3
Manufactured Goods Classified Chiefly by Material	154	16	49	7	228	9	74	4	252	9	99	4
Machinery & Transport Eqpt.	167	18	118	16	408	16	242	11	912	33	617	28
Misc. Manuf. Articles	322	35	431	58	200	8	321	15	378	13	457	21
Commodities not Classified according to Kind	..		..		..		..		3		..	
TOTAL	**931**	**100**	**738**	**100**	**2514**	**100**	**2114**	**100**	**2805**	**100**	**2206**	**100**

Source: Dubai Chamber of Commerce, Dubai Statistical File 1991.

Table (6) shows ***JAFZ*** exports and imports by type of product. It also shows that ***JAFZ***'s contribution to manufacturing export is important as it ranged between 4 percent and 7 percent during the studied period. Machinery and transport equipment, as well as chemicals, provide an important share in ***JAFZZ*** total exports. However, it is unknown if these figures include re-exports which usually account for a high proportion. For example in 1994, Dubai's re-exports amounted to Dh. 10.3 billion, while exports amounted to 3.5 billion (one third of re-export).

Job Creation

Another justification for the promotion of free zones has been to provide employment opportunities for the local labor force and increase manufacturing employment. But unlike other developing countries, employment opportunities have not been of major economic and social benefit to the U.A.E. As indicated in Table (7), ***JAFZ*** does not provide substantial new employment opportunities for local U.A.E nationals.

The labor force employed in ***JAFZ*** in 1994 was around 24,500 workers, of which only 0.2 percent were U.A.E nationals, most of which probably employed by ***JAFZ***A, the administrative body of ***JAFZ***. Indian labor accounted for the largest proportion (30 percent). This indicates that Indian firms in the zone depend mainly on their national labor force. Thus, the job creation gains of ***JAFZ*** have been small by national standards and the zone has no important role in the formation of local skills. There is no information on ***JAFZ***'s employment structure. However, like other export processing zones in developing countries, the jobs created by ***JAFZ*** are not of the types that contribute most to the country's economic, social and technological development. These jobs are primarily for unskilled labor in highly labor-intensive industries, carried out by expatriate labor who tend to leave to their countries after some years of working in ***JAFZ***. Furthermore, transfer of entrepreneurial and managerial skills have not been established. The reason is that most foreign firms prefer to fill their key posts of general manager and treasurer with their own personnel, and do not provide any training or recruitment to local managers.

Table 7
Number of Labor in Jebel Ali Free Zone by Nationality (1994)

Nationality	Number	percent
INDIA	7500	30.6
SRI LANKA	4100	16.7
PAKISTAN	1800	7.4
PHILIPPINES	500	2.0
BANGLADESH	470	2.0
U.A.E	50	0.2
OTHERS	10080	41.1
TOTAL	**24500**	**100**

Source: Statistic Office Central Accounts Section Dubai 1994.

The Role of JAFZ in Stimulating Industrial Development

Stimulating industrial development and creating a diversified manufacturing sector has been an important objective of establishing ***EPZ***'s in developing countries. In the U.A.E, diversifying the economy away from reliance on oil seems to be an important objective in the development policy. Thus, one of the major objectives of establishing ***JAFZ*** is to contribute to the development of the manufacturing sector.

Table (8) presents data on the number of manufacturing enterprises and their work force in ***JAFZ***. The Table shows that the number of manufacturing enterprises has fluctuated significantly during the cited period of concern. The size of the manufacturing labor force also increased significantly by about 72 percent during 1990-1991. The ownership structure of manufacturing enterprises operating in ***JAFZ*** indicates that foreign-owned manufacturing enterprises were in the overwhelming majority in 1993.

Table 8
Number of Manufacturing Enterprises, Capital Invested and Work force in *JAFZ*

Year	No. of enterprises	% of Dubai total	Work force	% of Dubai	Capital	% of Dubai
1990	122	25.5	5119	14.0	...	...
1991	165	33.6	8799	27.9	...	...
1992	156	29.1	...	...	3.4	35
1993	151	...	...	...	6.3	...
1994	124	...	...	...	...	...

Source: Dubai Chamber of Commerce, *Dubai Statistical Yearbook* 1992.
Dubai Chamber of Commerce, *Dubai Industrial Directory* 1994.
Jebel Ali Authority, *Who is in Jebel Ali Free Zone,* May 1994.

JAFZ has also encouraged joint ventures in manufacturing activities, although their number is small (Table 9).

Table 9
Ownership Structure of Manufacturing Enterprises in *JAFZ* (1993)

TYPE	No. of enterprises	% share
Foreign Owned	126	83.44
Locally Owned	21	13.91
Joint venture	04	2.65
TOTAL	**151**	**100.00**

Source: Calculated from Jebel Ali Free Zone Authority, *Who is in Jebel Ali Free Zone*. May 1994.

Table (10) illustrates the breakdown of enterprises in ***JAFZ*** by sector in 1994. It is clear that textiles and clothing and chemical and plastic sectors occupied the first and second places among all sectors in terms of the number of firms and capital invested. This was followed by food and beverages, fabricated metal (mainly simple equipment), and basic metal (the second in term of capital). Textile and clothing employed more than 50 percent of the total manufacturing labor force. This was the case due to the labor-intensive nature of this sector, while chemicals and plastics employed only 6 percent of the total labor force. Fabricated metal employed 17 percent of the total labor force.

Table 10
Manufacturing Enterprises by ISIC Group 1994

ISIC Group	No. of firms	% of total	Capital (mn DH)	% of total	Labor	% of total
Food, beverages & tobacco	18	14.2	131	7.8	575	4.3
Textile, clothing & leather	[illegible]	23.6	387	22.9	6973	52.1
Wood products & furniture	[illegible]	1.6	10	0.6	91	0.7
Paper products & printing	6	4.7	62	3.7	290	2.2
Chemicals, plastics & petrochemicals	27	21.3	280	16.6	856	6.4
Non-metallic minerals	7	5.5	210	12.4	521	3.9
Basic metals	10	7.9	129	7.6	893	6.7
Fabricated metal, machinery & equipment	15	11.8	376	22.2	2286	17.0
Other manufacturing	12	9.4	105	6.2	892	6.7
TOTAL	**127**	**100**	**1690**	**100**	**13377**	**100**

Source: Dubai Chamber of Commerce and Industry, *Dubai Industrial Directory 1994*. Dubai 1994.

The general observations on the above mentioned structure and characteristics of manufacturing activities in the zone indicate that assembly-type operations, simple, non-complex processing and high-import contents are the important characteristics of manufacturing activities in ***JAFZ***. Manufacturing in the zone has been perceived through importing plants and industrial processes. The factories require imported foreign skills, management, labor, equipment and technology. Hence, the role of the zone in upgrading local skills and developing the indigenous labor force and technology base has not been attained. Unlike other countries, the industrial activities in ***JAFZ*** have not created a trained work force which would be available for work in the domestic industrial sector. This is because of unwillingness and difficulty of introducing U.A.E nationals into technical and managerial employment. This means subject dependence on the expatriate labor in ***JAFZ***, which is of a transient nature. Furthermore, as the number of joint venture enterprises is small, the potential for access to modern technology and technical cooperation between local and foreign enterprises is minimal. Manufacturing in ***JAFZ*** consists mainly of small to medium size projects. Such activities are undertaken by G.C.C entrepreneurs and by medium size foreign companies seeking expansion through new geographical markets. Most of such projects favor short payback periods and focus on serving local markets.

Conclusion and Recommendations

Export processing zones have been hailed as a developmental instrument that will encourage export-led growth of developing countries. The experience of many developing countries shows that ***EPZ***'s are not an easy option for development, and in many cases the return does not repay the costs of zones' infrastructure and financial cost of incentives and subsidies given to attract foreign investment. After all, the costs of zone development are considerable. Thus, the exceptionally high infrastructure cost can only be justified based on the criteria of overall political and economic development.

Like other developing countries, Dubai in the United Arab Emirates views free zones as a vehicle that will help the nation to attain growth and diversification. The long-term objectives of ***JAFZ*** is to promote the structural shift to a sustainable, high income non-oil based economy. The investigation carried out through this research reveals some general observations on the experience of ***JAFZ***.

JAFZ has experienced fast growth since its establishment in 1985, attracting large numbers of companies and capturing a large share of foreign investments, as 75 percent of the enterprises hosted in the zone were foreign in 1993. ***JAFZ*** has also contributed to the development of particular industries, like textiles, food and beverages, chemical and pesticides. It encouraged joint ventures in manufacturing. ***JAFZ*** has been successful at raising the profile of Dubai as a regional and global center. It also contributed to Dubai's trade activities, 12 percent of Dubai's imports and 35 percent of its exports in 1993.

Apparently, ***JAFZ*** has succeeded in playing a trade entrepot role and facilitating trade as well as in hosting some foreign enterprises that engaged in the assembly of foreign-made parts. Its success in attracting foreign enterprises and contributing to the trade activities has been important. It provides some return on the social and physical infrastructure provided by public funds. It also provides marginal linkages with the emerging non-oil, non-trade business sector. However, such role is not enough to offer longer-term benefit for the economy.

Ascending to the following stage has to be the next role of ***JAFZ***. A wider contribution to economic development is necessary at this stage of development. Stimulating growth and development requires a strategy framework that entails evaluation of what have been accomplished in the past and what is the new strategic direction. ***JAFZ***'s performance has to be evaluated on the basis of criteria like the degree of optimality in utilizing local resources, the degree of its linkages with the rest of the economy, its ability to raise exports and generate long-term foreign exchange earnings, and its ability to provide employment opportunities for local citizens and upgrades their technical knowledge.

Building proper linkages and integration with the economy of the U.A.E entails a move from free-trade zone status to free - enterprise zone status. This requires a well-defined and comprehensive economic strategy that involves investment decisions, incentive policy, acquisition of technology policy, a research and development plan and a manpower development policy.

Industrial potential lies in small to medium sized projects focusing on neighboring markets, with short payback periods. Thus, the next step is to attract large-scale, high technology investments. This is not an easy task for ***JAFZ*** due to the fact that such investments are still regarded as high risk by major multinationals. ***JAFZ*** faces increased competition from alternative locations for industry in other Gulf states. Saudi Arabia, for example, has an integrated policy for industrial development and encourages industrial investment through a broad range of incentives and subsidies. It also has a large single market and large population base for labor supply. These elements make Saudi Arabia a much cheaper location. In Saudi Arabia, for example, the size of investment in manufacturing joint ventures reached 12.2 billion U.S dollars in 1993. Dubai has relatively limited energy resources and has a small national labor force. As an industrial zone, the level of services and facilities provided at ***JAFZ*** are inadequate to meet the specific needs of manufacturing. An integrated industrial policy at U.A.E. level and close cooperation with other emirates may provide the solution to such problem. Abu Dhabi, with its high reserve of energy, may help in easing the limitations generated by limited energy supply. Cooperation with Sharjah and Fujairah will reduce the potential for projects duplication and secure an alternative access to the trade route on the Arab sea. Addressing trading issues within other GCC countries may provide a solution to the problem of small domestic markets and solve the dispute regarding trade with neighboring countries.

Establishment of facilities for research and development and feasibility studies, and the development of statistical and information bases, are essential for the evaluation, follow up and examination of investment opportunities.

The future challenges for ***JAFZ*** is determining clear targets for the longer - term development of the zone which are embodied in the adoption of an integral policy that is linked to the overall economic objectives and utilizes local resources.

Abbreviations

DH	Dirham
EPZ	Export Processing Zone
GCC	Gulf Cooperation Council
ILO	International Labor Organization
JAFZ	Jebel Ali Free Zone
JAFZA	Jebel Ali Free Zone Authority
OECD	Organization for Economic Cooperation and Development
U.A.E.	United Arab Emirates
UNCTAD	United Nations Conference on Trade and Development
UNCTC	United Nations Center on Transitional Corporations

References

Alter, Rolf.1991. Lessons from the Export Processing Zone in Mauritius. ***Finance and Development,*** 28 (4) : 9-12.

Belasich, Deborach K. 1993. ***Enterprise Zones: Policy Perspectives of Economic Development***. New York. Garland Publishing, Inc.

Bin Sulayem, Sultan A. 1993. The Role of Free Zones In Industrial Development. ***Proceedings of Economic Conference on Industrial investments in GCC: Vision for Future***, Bahrain 8-10 November.

Bin Sulayem, Sultan A. 1989. The Role of Free Zones In Encouraging and Attracting Investment : The experience of Jebel Ali Free Zone. Paper Presented to the Symposium on ***Nature and Future of Investments in The GCC,*** Dubai 12-13 December.

Currrie, Jean.1985. ***Export Processing Zones in the 1980s.*** Special Report No. 190. London: The Economist Intelligence Unit.

Dabney, Dan Y. 1991. Do Enterprise Zone Incentives Affect Business Location Decision? ***Economic Development Quarterly***, 5 (4): 325-334.

Dubai Chamber of Commerce and Industry.1989. ***Foreign Trade Statistics of Dubai for 1984-1988***, Dubai: Dubai Chamber of Commerce and Industry.

Dubai Chamber of Commerce and Industry.1992. ***Dubai Statistical File 1991***. Dubai: Dubai Chamber of Commerce and Industry.

Dubai Chamber of Commerce and Industry.1994. ***Dubai Industrial Directory***. Dubai: Dubai Chamber of Commerce and Industry.

Dusenburry, Pat.1983. ***Enterprise Zones for Economic Development***. Paper Presented to the Southern Growth Policies Board (SGPB).

El Seaidy, Abdalla 1996. Investment in Jebel Ali Free Zone in Accordance with the Provisions of Law No. (2) for the Year of 1986. ***Ecvonomic Horizons,*** 17 (65): 17-53.

Emirates Industrial Bank. 1993. The Jebel Ali Free Zone: Impact on the U.A.E. Economy. ***Journal of Emirates Industrial Bank***, 8(9).

Fitting, George. 1982. Export Processing Zones in Taiwan and the People's Republic of China. ***Asian Survey***, 2: 732-744.

Government of Dubai, Central Accounts Section. 1992 & 1993. ***Dubai Annual Trade Review***. Dubai : Galadari Printing and Publishing.

Grubel, Herbert G.1982. Toward a Theory of Free Economic Zones. ***Weltwirtscaftliches Archiv***, 118(1): 39-61.

Hamada, Koichi.1974. An Economic Analysis of the Duty Free Zone. ***Journal of International Economics***, 4: 225-241.

Hamilton, Carl & Lars Svensson.1982. On the Welfare Effects of a Duty Free Zone. ***Journal of International Economics,*** 13: 45-64.

Hawkins, Benjamin M.1984. The Impact of the Enterprise Zone on Urban Areas. ***Growth and Development***, 15(2): 35 - 40.

Hoover, Edgar.1948. ***The Location of Economic Activity***. New York: McGraw-Hill. Hus, Changlien 1991. ***Export Processing Zone and National Development : Taiwan Experience in View of Political Econo-***

my. Unpublished Ph.D. Dissertation, Maryland : University of Maryland.

International Labor Organization (ILO) & United Nations Center on Transitional Corporations {UNCTC}. 1988. ***Economic and Social Effects of Multinational Enterprises in Export Processing Zones***. Geneva : ILO.

Jebel Ali Free Zone Authority {JAFZA}. 1994. ***Business Guide***. Dubai: JAFZA.

Jebel Ali Free Zone Authority {JAFZA}. 1994. ***Who is in the Jebel Ali Free Zone***. Dubai: JAFZA.

Khashmaki, Mohammed Saleh. 1996. Determinants of Free Zones Success: The Experience of Jebal Ali. ***Attaawun***. Eleventh Year, 43: 13-50.

Kreye, Otto, Jurgen Heinrichs and Folker Frobel. 1987. ***Export Processing Zones in Developing Countries: Results of a new Survey***. Geneva : ILO Working Paper No. 43.

Losch, August.1954. ***The Economics of Location***. trans. W.H. Waglom, New Haven: Yale University Press.

Miyagiwa, Kaz F. 1986. A Reconsideration of a Free-Trade Zone. ***Journal of International Economics***, 337-350.

Oborne, Michael.1986. ***China's Special Economic Zones***. Paris : Development Center of the Organization for Economic Cooperation and Development (OCED).

Spinanger, Dean.1984. Objectives and Impact of Economic Activity Zones - Some Evidence from Asia. ***Welwirtschaftliches Archiv***, 120 (1): 64-88.

United Nations Center on Transitional Corporations.1985. ***An Evaluation of Export Processing Zones in Selected Asian Countries***. Bangkok : ESCAP/UNCTC Joint Unit on Transitional Corporations.

United Nations Center on Transitional Corporations {UNCTC}.1991. ***The Challenge of Free Economic Zones in Central and Eastern Europe***. New York : United Nations.

United Nations Conference on Trade and Development {UNCTAD}.1985. ***Export Processing Free Zones in Developing Countries : Implications for Trade and Industrialization Policies***. New York : United Nations.

United Nations Conference on Trade and Development {UNCTAD}.1993. ***Export Processing Zones : Role of Foreign Direct Investment and Development Impact***. Geneva : UNCTAD. Wall, David 1976. Export Processing Zones. ***Journal of World Trade Law***, 10: 478-489.

Warr, Peter G.1983. The Jakarta Export Processing Zone : Benefits and Costs. ***Bulletin of Indonesian Economic Studies***, 19 (3): 28-49.

Weber, Alfred.1928. ***Alfred Weber's Theory of the Location of Industries***. Trans. C.J. Friedrich. Chicago : University of Chicago Press.

Fatima S. Al-Shamsi (Ph.D. In Economics, University of Exeter, United Kingdom, 1990), Assistant Professor, College of Business and Economics, University of United Arab Emirates, Has research interest in the fields of Industrial Economics and Industrial Development, Foreign Trade, Economic Integration and in Economic development.