Locational Determinants of Export Processing Zone Firms in the Dominican Republic

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Introduction

Export Processing Zones (EPZs) consist mainly of industrial parks that house plants dedicated to the assembly or production of items for export. Over 200 EPZs are estimated to exist throughout the world, employing 2 million workers in more than 50 countries, excluding the United States (USITC: 1995). While initially associated with lesser developed countries, EPZs and Free Trade Zones (FTZs)[1] have been established in such countries as Russia, Hong Kong, Singapore, Korea and Taiwan. China, a recent entrant into the FTZ concept, inaugurated its first zone in Tianjin in 1992, and by 1994 was exporting garments, shoes and toys from a grand total of 14 zones (USITC: 1995).

This growing competition for shares of the 'EPZ market' coupled with the failure of some regions to generate sufficiently high occupancy rates after substantial investments in EPZ infrastructure, has focussed attention on factors that may influence the location of these firms. In general terms, the ability to attract foreign investment, whether direct or otherwise is of considerable importance to less developed countries (LDCs) deciding whether or not to launch an EPZ project.

The literature on this relatively recent phenomenon stresses the overall importance of government policy, factor endowments, and the general institutional framework of the country in question for attracting (as well as generating) different kinds of international

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1. Actually, Export Processing Zones are a specific category of Free Trade Zone; the latter also includes 1) commercial free zones involved in container handling, packaging, warehousing and distribution, 2) enterprise zones aimed at urban renewal, and 3) financial service zones that attract banks, accounting and shipping firms. This work will deal only with EPZs.

production. Specifically, government intervention in terms of taxes, tariff rates and assistance to corporations are among the important country specific locational advantages as well as labor market characteristics and the physical distance from the home country where the investment originates, or to the market where the exports are ultimately destined.

In this context, the Dominican Republic serves as an ideal case study since it has been singled out by many sources as a "success story" in terms of achieving high occupancy rates for its EPZs. In order to get to the root of this "success story", 46 EPZ firm managers representing a sample of 55 EPZ plants[2] in the Dominican Republic were surveyed concerning the primary factors which led them to establish operations in that country.

2. The Survey

The locational factors submitted for consideration of managers participating in the survey (Mathews: 1995) included competitive wages, labor availability and skills, geographic proximity to markets, transport and infrastructure, preferential trade arrangements, political stability, and government fiscal incentives. Managers were asked to indicate the importance of each of these institutional, governmental, resource endowment or geographic considerations in their decisions to locate their current operations in the Dominican Republic. Each locational factor is considered in the following sections and their relative importance revealed for the Dominican case in figure 1 below.

Table 1 - Universe
EPZ Sectors Accounting for more than 2700 Employees by Primary US-SIC code (not all firms included)

2. Some managers were responsible for more than one plant.

US SIC Code (Prim.)	Description	No. of employees	% of total employment	No. of establishments	% of total establishments
21	Tobacco Products	2730	3%	10	3%
23	Apparel and other textile products	59954	67%	217	62%
30	Rubber and misc. plastic products	2728	3%	8	2%
31	Leather and leather products	8295	9%	26	7%
36	Electronic and other equipment	6199	7%	23	7%
39	Misc. manufacturing industries	3922	4%	16	5%
	Other industries	5252	6%	49	14%
	TOTALS	89080	100%	349	100%

Table 2
Sample Distribution by ISIC code

ISIC	Operation	Total Plants	% Total Plants	Total Employ.	% Total Employ.
3140	Tobacco	3	5%	1255	4%
3220	Garments	37	67%	17911	61%
3240	Footwear	4	7%	4685	16%
3832	Breakers & Circuitboards	5	9%	2146	7%
*	Miscellaneous	4	7%	1785	6%
3901	Jewelry	2	4%	1355	5%
	Totals	55		29137	
	Percentage of Universe	16%		33%	

*miscellaneous plants include:
1 paper products operation (ISIC #3420)
1 machine tools operation (ISIC #3821)
1 Electronics assembly operation (ISIC #3831)
1 intravenous sets operation (ISIC #3851)

The predominance of the garment industry is reflected in the stratified sample[3], with 67% of sampled plants corresponding to this sector, followed by breakers and circuitboards, footwear, tobacco, and jewelry making up 9%, 7%, 5%, and 4%, respectively (compare the sample distribution, table 2, with that of the universe, table 1). Four miscellaneous plants were included under the 'other' category, accounting for the remaining 7-8% of the sample.

3. The sample was stratified according to plant size and industrial sector.

With regard to employment shares, the 37 garment plants included in the sample, accounted for 61% of total sample employment, while footwear, breakers and circuitboards, jewelry, and tobacco employ 16%, 7%, 5%, and 4% respectively.

3. Competitive Wages and Labor Availability

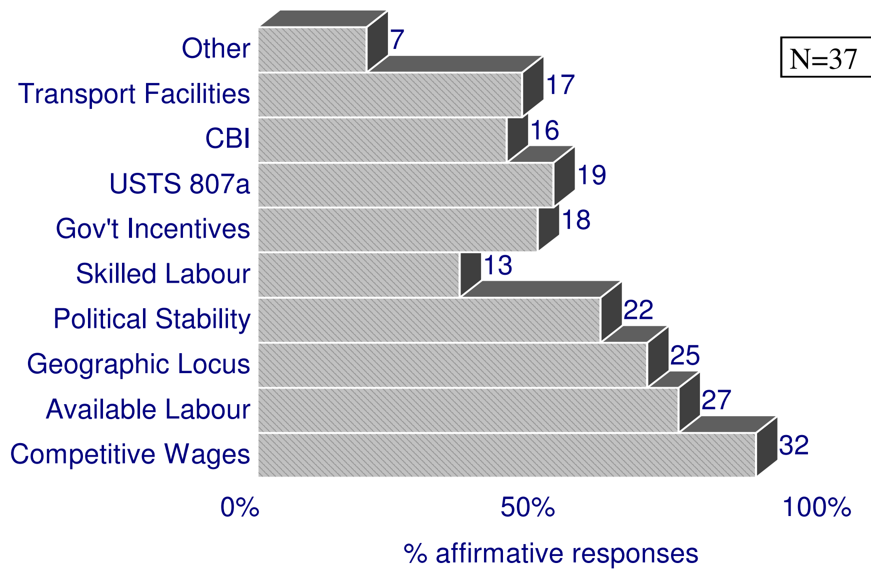
It has been widely acknowledged throughout the literature that entrepreneurs from developed countries interested in establishing foreign or offshore assembly or manufacturing operations seek out low wage areas. A survey based on responses from 94 production sharing operations in 17 countries confirmed this by showing that low labor rates and labor availability were major or strong motivating factors for firms to locate in 74 and 64 cases, respectively.[4] This has been substantiated more effectively in the case of the Dominican Republic by Kaplinsky with his focus on relative real wages as mediated through the exchange rate (Kaplinsky: 1993 p. 1860).

In a context where many countries compete for similar EPZ firms, this can lead to immiserising employment growth. Kaplinsky refers to a process of competitive devaluation based on static comparative advantage and points to the overriding importance of intraregional wage competition within the Caribbean and wider Latin American region, as opposed to on a more global scale (encompassing the Far East as well) (Ibid: pp. 1859-1860). By comparing the US $ value of wages in the Dominican Republic with its neighboring competitors, Kaplinsky shows that "...export-oriented manufacturing growth in these economies has been associated with a significant decline in the US $ cost of wages as

4. Committee for 806.30 & 807.00 Inc., assisted by Monticello Associates Inc., 'Production sharing: a viable option for making U.S. products more competitive', N.D.: 22.

measured in 1980 US $ prices (Ibid: p.1860)." In the case of the Dominican Republic, EPZ growth increased significantly following the mid-eighties drop in US $ wages below those of competitors such as Mexico and Costa Rica. The primary importance of wage costs as a locational determinant was confirmed for the Dominican Republic via the present survey of plant managers (see figure 1).

FIGURE 1:Locational Factors
AMONG SURVEY FIRMS



The importance of competitive wages, however, does not mean that EPZ firms can be arbitrary in their remuneration and overall treatment of employees. Firms operating out of Dominican EPZs are required to comply with the country's labor laws. According to Article 41 of Law 8-90 'encouraging the establishment of new free zones and the growth of existing ones', these include: '...the Social Security Act, the law governing the Worker's Bank, Law No. 116 which creates the National Institute of Technical and Professional Training (INFOTEP), the international treaties signed and ratified by the Dominican Government and the public health laws relative to industrial facilities (Goverment of the Dominican Republic: 1990). While the 1966 Constitution of the Dominican Republic grants workers the freedom to organise labor unions and the right to strike, union activity is reportedly made difficult by an outdated labor code 'based on a Napoleonic legal system which uses detailed definitions (US Department of Labor: 1990, p.2).

While the labor code of the Dominican Republic states that workers can not be dismissed because of their affiliation to a trade union, labor leaders have charged in the past that employees are prevented from unionising and engaging in collective bargaining with management. Elsewhere in the region, EPZ workers have reportedly been blacklisted for attempting to organise (Kernagham, Briggs & McKay: 1992 p.54). Although the existence of similar lists were not independently confirmed by the author in the case of the Dominican Republic, expressions have been made in the past to the effect that the Dominican government colludes with the country's Free Zone Association to effectively prevent unionisation (Pineda: 1990, p.50).

It is evident in the case of the Dominican Republic that managers of EPZ firms undertake periodic evaluations of the investment climate in other countries of the region. This is especially the case if the company is a subsidiary of a big US corporation and/or has sister plants operating in neighboring countries. Throughout the survey, managers of non-Dominican operations did not hide the fact that they are willing and able to transfer operations if the climate proves better somewhere else. Among the most common alternate locations which were mentioned during interviews were Mexico, Costa Rica and Honduras. In this respect, particular attention is paid to movements in the exchange rates which could have the effect of cheapening wages in a neighboring country.

Within the Dominican Republic there reportedly does not appear to be a wage differential as yet among regions (The Services Group, Inc.: 1991, p.627) which could make some EPZs more attractive to investors than others. EPZ firms are required by law to adhere to the country's minimum wage, and although some firms do pay above the prevailing minimum wage, regional labor shortages are more likely to manifest themselves in high turnover rates, as a result of increased competition among enterprises, rather than in upward pressure on wages and salaries (Ibid).

Despite the primary importance attached to labor costs, this is not the only locational factor taken into consideration by EPZ and EPZ-type firms. Although labor costs may have been the overriding determinant of location at the early stages of EPZ development, other factors have gained prominence in recent years. Of these, proximity to final markets is considered of particular importance (Kaplinsky: 1991, p.34).

4. Proximity to Final Markets

Under this heading, consideration is given both to proximity to final markets and proximity to a co-production partner (the two are not necessarily mutually exclusive). As will be discussed below, in the case of the Dominican Republic, proximity to Puerto Rico is important as a locational factor despite the fact that the latter may not always represent a final market. First, however, a partial discussion of geographic location from a global perspective is in order.

Proximity to final markets has become important in part because it effectively lowers transportation costs. One example of geographic location surpassing wages in importance as a locational factor was described by Joseph Grunwald in the case of Mexican exports to the US under sections 806/807 of the US Tariff Schedule:

> During the mid 1960's, when data on 806/807 trade first became available, Hong Kong was more than five times as important and Taiwan nearly as important as Mexico in the processing and assembling of US components for reexport to the United States. By the end of that decade, Mexican operations were nearly twice as large as those of Hong Kong and about four times as large as those of Taiwan. This shift took place despite the fact that wages were higher in Mexico (Grunwaldand & Flamm: 1985, p.137).

The authors go on to explain that Mexico was able to capitalise on its location along the south border of the United States in order to assemble a greater share of goods with high transport costs. This reduction in transport costs relative to Asian competitors more than offset the effect of higher Mexican wages.

Similarly, production sharing arrangements of multinational enterprises located in developing countries seem to favour proximate geographic areas for the establishment of EPZ and EPZ-type operations. For example, multinationals involved in the manufacture of

electronic components in the newly industrialised economies of Hong Kong, Singapore, Taiwan, and South Korea have responded to rising wages in those countries by establishing labour intensive twin plants in adjacent lower wage economies such as Malaysia, Thailand and the Phillipines (Athukorala: 1989, p.107). As alluded to previously, a similar situation prevails in the case of the Dominican Republic with respect to Puerto Rico.

In 1991, the Dominican Republic had a total of 35 co-production operations with Puerto Rico, or 'twin plants' as they are known locally, functioning within its national boundaries.[5] The vast majority of these are US owned, although some are of Puerto Rican, Panamanian and joint ownership; one is even classified as a Dominican operation. Despite the fact that managers of twin plants who acknowledged during the survey that geographic location was an important locational factor were not asked to specify whether this was because of the Dominican Republic's proximity to Puerto Rico or its proximity to the United States, at least one other study has shown that the geographic proximity of these two islands is an important consideration for these types of operations.

A survey of thirty Dominican EPZ firms which included ten twin plants registered proximity to Puerto Rico as advantageous in half (five) of these cases (The Services Groups, Inc.: 1991 Annexe, Table 1). Although proximity to the United States was mentioned as important in only two of the thirty cases, this may have been partly due to the fact that this attribute is shared by most alternative locations in the region. An exception to this, however, is Mexico since its unique location on the border region of the United States provides it with

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5. Investment Promotion Council (IPC) figures as of March 1991 for twin plants or production sharing operations with Puerto Rico.

a superior advantage over other regional host countries. This is evident from a series of additional interviews contained in the same study but carried out with similar firms in other neighboring regions.

Firms located in the border region of Mexico, as well as in the United States and Puerto Rico were asked to comment on the competitiveness of the Dominican Republic vis-a-vis competing locations. At least three out of fifteen respondents from the Mexican border region suggested that Mexico's proximity to the US was more advantageous, with one going as far as stating that the Dominican Republic simply could not offer the same advantages as Mexico's twin plant scheme (Ibid: Table E-8). Outside Mexico, three firms - one US footwear, one US electronics and one US informatics - appeared to echo this sentiment. Evidently, close proximity to the United States is considered important by at least some EPZ and EPZ-type enterprises operating within the Caribbean and Central/North American regions.

The survey carried out for the present study shows that geographic location in general was third in importance among the locational factors following competitive wages and availability of labour (figure 1). These results should be interpreted with a degree of caution since it is usually a combination of several of these factors rather than one or two alone which may prove decisive for the success of an EPZ project. For example the advantages of proximity are usually conditional on the existence of an efficient infrastructure. According to authors Basile and Germidis:

> It would also seem that the cost of transport plays a major role in industrial location. This factor is clearly linked to distance and it would be quite normal for FEPZs [Free Export Processing Zones] located in Central America

> and the Caribbean to produce mainly for the United States market, Mauritius for Europe, and Masan in South Korea for Japan. In most cases, however, there are other more decisive factors such as loading and unloading costs in certain ports, to which must be added charges entailed by delays caused by traffic congestion. Account must also be taken of the problem of return freight which can vary considerably increase the cost of transport in some cases... (Basile & Germidis: 1984, p.35).

5. Transport and Infrastructure

A number of EPZ project failures throughout the world have been attributed to a lack of adequate infrastructure. The Bataan EPZ in the Phillipines is one case in point, which is well documented. The location of this EPZ 'in an isolated and mountainous coastal area' required large public expenditure aimed at upgrading port facilities and constructing 'a large modern office building "(Warr: 1987, p.238)." Similarly, the location of South Korea's Iri EPZ in a rural area which lacked adequate infrastructure was also recognised as a mistake: It was found that 'only one third of the [Iri's] area was developed, and considerable area has yet to be leased because no one wants to start businesses there "(Ki-Suk, Hwang & Rii: 1987, p.13)."

In the case of the Dominican Republic, its existing infrastructure is considered one of the factors which has contributed to its notable EPZ expansion. A World Bank Report notes that while its Caribbean neighbors share its advantageous proximity to the United States, the Dominican Republic is only one of two countries which has successfully managed to convert that into a well developed transport and communications infrastructure (World Bank: 1989, p.13). The country boasts four ports, of which the most important (Haina) is a container-ship port located just outside the capital city. A number of major shipping lines call at this port and Dominican freight rates and handling charges are among the lowest in

the region (The Services Group, Inc.: 1991, pp.72-73). The capital also has a modern airport terminal which is served by a major US airline. This airline provides the country with daily passenger and freight service to and from the American continent and Puerto Rico. Finally, a dependable telecommunications network reportedly complements these assets.

Despite the existence of these modern facilities, the fact that the ones most frequently used are concentrated around the capital inconveniences entrepreneurs located in the more outlying EPZ's. Most EPZ operations end up using the port of Haina because the other three ports are not suitable to handle big container vessels. Hence, shipments must be transported overland to and from the the capital, which causes a good deal of congestion at certain points on the roads. Although the country's road network is fairly adequate, complaints are often heard regarding the high cost and inefficiency of local inland transport as well as the need to travel frequently to the capital to obtain customs clearance.

As most of the criticism is directed at the services and customs procedures, it is evident that infrastructural and transport facilities, if not adequate are at least better than most that can be found in competing locations throughout the region. Close to half of all respondents to the present survey indicated that these facilities were important motivating factors in their selection of the DR as a site. In relation to the other factors, these rank seventh, following competitive labour, labour availability, geographic location, political stability, Section 807a of the US Tariff Schedule and government fiscal incentives.

Other locational factors which are considered important to EPZ and EPZ type firms operating throughout the world belong to the realm of trade policy. While the Caribbean region benefits from special trade arrangements with the United States which are not

available to countries elswhere in the world, the recent enactment of the North American Free Trade Area NAFTA has eroded some of the more important ones. Hence, it would be important to see whether these arrangements, namely the Caribbean Basin Initiative and Section 807a of the US Tariff Schedule, influence the location of EPZ operations.

6. Preferential Trade Arrangements

The impact of trade arrangements on the locational patterns of EPZ and EPZ-type firms is evident in the worldwide spread of the textile and clothing industry as a consequence of import quota restrictions imposed by industrialised countries under the Multifibre Agreement (MFA). When these restrictions started limiting garment exports from the East Asian newly industrialised economies of Hong Kong, Singapore, Taiwan, and South Korea, many exporters transferred their operations to other developing countries which either had no quotas or were not filling their current quotas (Athukorala: 1989, p.106). The Caribbean region, and the Dominican Republic and Jamaica in particular, were singled out by the World Bank as likely beneficiaries of this quota-propelled growth (Policy Planning and Research: 1988).

Of special relevance to the Caribbean are exports which enter the United States under Section 807 of that country's tariff schedule (now known as item 9802.00.80 in the new Harmonised System nomenclature). One author notes that: 'Over the period 1983-89, US imports of assembled products under item 807.00 from the Caribbean Basin have outperformed overall US imports from the same region, increasing at an average annual rate of 13.1 percent, compared to a 4.0 percent average annual decline in overall imports (Schoepfle & Pérez-López: 1992, p.133)." This expansion was reportedly accompanied,

however, by the increasing concentration of 807.00 imports around a small number of Caribbean countries, with the Dominican Republic, Haiti and Jamaica accounting for two thirds of all imports by 1989 (Ibid, p.136).

For most Caribbean countries, the product range of these exports is very limited. With respect to Jamaica, Belize and the Dominican Republic, the share of clothing and footwear accounted for between 80 to 100 percent of total 807.00 exports (World Bank: 1988, p.17). The predominance of clothing and textile EPZ firms in Dominican Republic EPZs (DREPZ) can be seen from the data in table 1. This, together with the high proportion of DREPZ exports targetted at the US market, places in evidence the importance of the US garment and textile import quota system for the continued existence of the DREPZ industry. As one author noted: 'The clear dependence of the assembly subsector (EPZ) on exports of apparel and shoes to the United States makes the subsector very vulnerable to changes in US policy "(Thoumi: 1992, p.165). As will be shown further on, NAFTA has confirmed just how vulnerable this subsector is.

When the CBERA market access program was enacted, items which had been subject to negotiation under the Multifibre Agreements (MFA) were excluded. According to US Trade authorities:

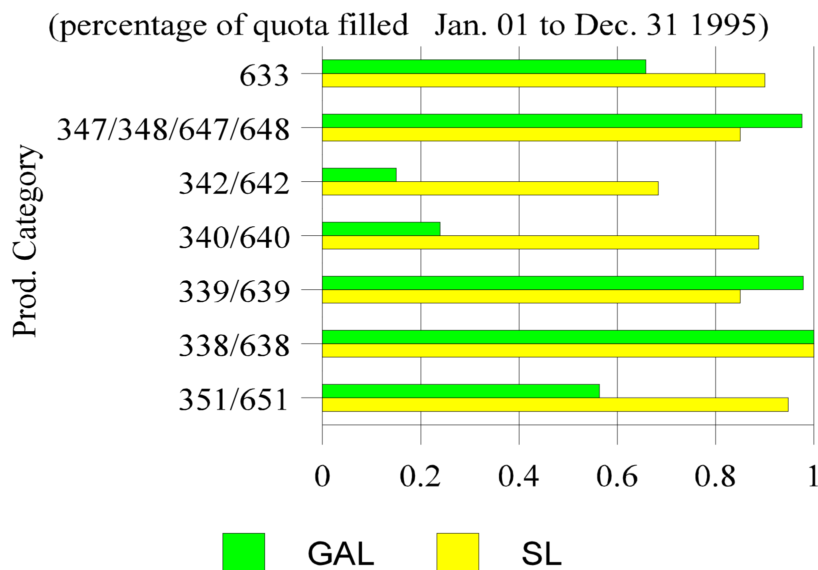
> [US] Imports of most textile and apparel, including those entered under subheading 9802.00.80 are subject to quantitative restraint under the ...(MFA). MFA-covered products and most footwear are not eligible for duty-free treatment under the GSP [Generalised System of Preferences]..., nor are the original MFA products and most footwear eligible for such treatment under the CBERA (USITC: 1991, pp. 4-6).

However, an ancillary agreement known as a 'special access program' was implemented in 1986 for the purpose of liberalizing quotas for certain categories of goods originating from CBERA beneficiary countries. These quotas are established for individual countries through bilateral agreements with US authorities. Among the countries which have entered into such agreements with the US are the Dominican Republic, Haití, Guatemala, Jamaica and Costa Rica.

These liberalised US import quotas have the effect of favoring the use of US materials, and value added through cutting, by firms assembling these products offshore for re-export to the US market. A tarriff is then collected only on value added offshore when the garments are returned assembled to the US. Under this program, known formerly as 807a:

> ...guaranteed access levels (GALs) are established to ensure [US] market access for qualifying products. These GALS are separate from and usually higher than the specific limits (SLs), or quantitative quotas, and designated consultation levels (DCLs) applicable to products not assembled solely from US-made-and-cut fabric. In addition, the GALs may be increased on request by the exporting country and, barring market disruption, increases are virtually automatic and unlimited. Increases in SLs are more difficult to obtain (Ibid).

This is the case regarding the Dominican Republic, as can be seen from the country's quota performance from January 1, 1995 to December 31, 1995. As figure 2 demonstrates, the Dominican Republic's generous GALs appear on average to be lower in terms of fulfillment than are the more restricted SL categories. GALs on average were filled to 65% while SLs were filled to 87% during the period. The only GAL quota which is exhausted corresponds to that of mens knit shirts which displays a 100% fulfillment of the quota.



Categories	Description
351/651	cotton & man made fibre nightwear
338/638	Mens knit shirts
339/639	Womens knit blouses
340/640	Mens woven shirts
342/642	cotton & man made fibre skirts
347/348/647/648	cotton & man made fibre trousers
633	Mens man made fibre suit-type coats

(source: US Census Dept.)
SLs: Specific Limits
GALs: Guaranteed Access Levels

The fact that the Dominican Republic is a prominent exporter of 9802.00.8010 (GALs) to the US relative to regional competitors is evident from table 3. Mexico was included here for comparative purposes since it has gained a comparative advantage in this sphere following the launching of NAFTA in detriment (many believe) to the CBERA countries.

TABLE 3

Value of US Imports of MFA Fibres under TSUS 9802 (807)
from Major Program Beneficiaries for 1992 & 1995

	YEARS: 1992 & '95			
	Regular 9802		Special Program	
	1992	1995	1992	1995
	millions U.S. $$$	millions U.S. $$$	millions U.S. $$$	millions U.S. $$$
	513.497	798.3	536.012	766.8
Mexico	364.114	219.3	520.786	2322.3
Dominican Rep.	378.819	141.2	101.924	529
Jamaica	73.506	202.6	145.986	245.5
Guatemala	255.117	361.9	56.668	157.6
Honduras	245.778	675.8	0	0
El Salvador	130.545	458.4	0	18.9
Haiti	61.568		0	4.7
Colombia	203.825		0.094	

At the time of the managerial survey, Mexico was elligible to export to the US under a similar 'special program' which was comparable to the CBERA one in that it too required the use of US formed and cut fabric. However, as one author noted in 1991, this 'special regime' applicable to Mexico had a crucial difference from the 9802.00.8010 available to the Dominican Republic:

> Articles assembled from US formed fabric and other fabric were all subject to DCLs and SLs [Designated Consultation Levels and Special Limits which are lower in quota terms than GALs]. Even US formed and cut fabric was not eligible for GALs, thus there was no presumption, as there was for 807a, that the quotas would be raised more or less on request (Bailey & Eicher: 1991, p.9).

In the face of this preferential treatment given the Caribbean at the time, it was decided to question managers whether Item 807a of the US Tariff Schedule as well as the Caribbean Basin Initiative (CBI) had any impact on their decisions to locate plants in the

Dominican Republic. As evidenced in FIGURE 1, item 807a turned out to be the fifth most important locational factor among sample firms, after competitive wages, labor availability, geographic location and political stability.

However, following the passage of NAFTA in 1994, Mexico's disadvantage in the realm of apparel access to the US market vis-a-viz the CBERA countries was transformed into an advantage with the enactment of tarriff provision 9802.00.90. Mexico's garments assembled from US formed and cut fabric now enter the US market duty free under provision 9802.00.90 while the same category of US imports from the CBERA countries are still subject to a tarriff on value added. Furthermore, US imports from Mexico under this new provision are exempt from a Customs user fee of .19% of the dutiable value of such imports. This (together with a recent Mexican currency devaluation) is largely responsible for the more than quadrupling of the value of US imports of Mexican "special program" apparel between 1992 and 1995 evidenced in table 3.

According to the US International Trade Commission, the average landed cost of slacks from Mexico entering the U.S. in 1995 under NAFTA's provision 9802.00.90 was 14% lower than that of slacks from the Dominican Republic entering under provision 9802.00.80 that same year (USITC: 1996, pp.5-7). The USITC attibuted one half of the cost difference between Mexico and the Dominican Republic in this category to the duty, hence implying that the gap would be reduced to 7% were the Dominican Republic conferred the same treatment as Mexico (the so-called NAFTA parity).

Returning to the managerial survey, the CBI ranked eighth in importance among the locational determinants of EPZ enterprises in the Dominican Republic. This was most

probably due to the fact that garments, which are by far the principle exports of Dominican EPZs, were excluded from its list of elligible products. When questioned if their firms exported to the United States under Item 807a, the CBI or the GSP, only eight managers, none of whom ran garment operations indicated they operated under the CBI.

In more recent years, however, the Dominican Republic has taken advantage of Section 222 of the Caribbean Basin Economic Recovery Act (CBERA) of 1990 to increase its footwear exports to the US. This section awards duty free access to footware assembled in CBI countries entirely from US components. According to the USITC, this new development also had implications for the Dominican Republic's neighbor Puerto Rico:

> Imports of such [Section 222] footwear from the CBERA countries, mainly the Dominican Republic, grew from $381,000 in 1991 to $22 million in 1994. The provision has spurred greater production-sharing activity between Puerto Rico... and the CBERA countries, as evidenced by the growth of U.S. shipments of footwear parts to Puerto Rico, which rose from $15 millon in 1991 to $50 million in 1993. Industry sources contend that Section 222 has enabled U.S. firms to continue their domestic operations instead of relocating production to Asia.... Also benefitting from the duty-free treatment are the 12 to 15 U.S. footwear firms that had set up twin-plant operations in Puerto Rico mainly to take advantage of tax benefits under IRS code 936 (USITC ITTR: 1995, p.6).

On the other hand, the presence in the Caribbean region of firms from the Far East may have more to do with the MFA quota restrictions on exports from their countries of origin, than with any enticement contained in Item 807a the CBI or CBERA 1990. In the Dominican Republic, the vast majority of Far Eastern firms located in EPZs are Korean and of these 80% are garment operations. According to March 1991 data from the DR Investment Promotion Council, EPZ firms from the Far East include at least 29 Korean, 3 Taiwanese, and 2 Hong Kong firms. Although managers of most Far Eastern firms located

in the Dominican EPZs were not willing to grant interviews, it has been widely commented that Korean and most Far-Eastern firms eschew US garment components favored by Item 807a, preferring instead the more cost-competitive components from their own regions (subject to more restrictive quotas).

Notwithstanding the importance of trade arrangements as locational factors for EPZ and EPZ-type firms, managers in the Dominican Republic frequently cited political stability as a motivating factor behind their choice of site. This ranked fourth among those factors considered important by participants in the survey.

7. Political Stability

A precondition for any type of foreign investment in a host country is political stability. This was highlighted by Basile and Germidis in their 1984 publication on export processing zones: "Surveys have shown that the potential investor attaches the utmost importance to the political stability of the host country, to the attitudes of its government and population as a whole, to a tradition of respect for international commitments and acceptance of international arbitration procedures (Basile and Germidis: 1989, p.32)." Experience shows that regions and countries which are undergoing heightened political tensions and instability have difficulties not only in attracting foreign investment but also in retaining that which they currently have.

Central America during the first half of the 1980's is a case in point as author Jean Currie notes: "The very poor performance of Central American [export processing] zones over the last five years, with the exception of Mexico, is indicative of the importance of the stability factor (Currie: 1985, p.25)." In El Salvador, for example, employment in EPZs

dropped from 6,143 in 1975 to 1,079 in 1986 (Stamberg Institute: 1989, p.25), presumably because of that country's internal political problems. A similar reaction on behalf of EPZ type enterprises occurred in Haiti following the collapse of the Duvalier dictatorship in 1986.

The ensuing turmoil coupled with the arrival and departure of a number of governments had drastic consequences for Haiti's economy, particularly the export processing sector. According to a report by the US Department of Labour:

> In the period immediately following the fall of the Duvalier regime, the assembly sector suffered the most. ... During the first year of the transition period, an estimated 12,000 jobs in the assembly sector were lost. Several companies with direct investment in Haiti withdrew, while a much larger number with assembly contracts either cancelled or reduced those contracts (US Department of Labor: 1987, p.10).

In October of 1991, the continuing turmoil prompted the US to impose an embargo on Haiti, severely disrupting commerce. This embargo, however, was revoked following the establishment in October of 1994 of a democratically elected government.

The Dominican Republic, on the other hand, was able to throw off the yoke of dictatorship much earlier, allowing for the establishment of an environment favorable to foreign business from the late 1960's (Moya: 1992, pp.173-174). Among the first multinationals to take advantage of this new environment was the New York based Gulf and Western corporation which acquired extensive land holdings in the eastern sugar producing region of the country. Gulf and Western also established the first EPZ in the Dominican Republic and for many years was closely associated with the nascent export manufacturing sector which grew under Industrial Incentives Law # 299 (Ibid) p.318. This law, which granted EPZ firms up to 100% exemption from government taxes, came into effect in 1968.

When this background is considered together with the since established tradition of fairly orderly transferrals of power via popular elections, it is evident that the Dominican Republic can offer a more stable environment for EPZ-type firms than some of its more authoritarian neighbors. This view is substantiated by the results of the present survey where close to 70% of respondents cited political stability as an important consideration in their selection of the Dominican Republic as a site for their operations.

Although the importance of political stability has been highlighted in the discussion thus far, reference was also made to another underlying factor which is commonly used to attract foreign investment. This factor consists of the package of fiscal incentives made available by governments through laws, such as the Industrial Incentives Law # 199 in the case of the Dominican Republic.

8. Government Fiscal Incentives

Governments offer EPZ firms a number of financial incentives in addition to the standard exemptions from customs duties applied to the movement of machinery, semi finished goods and raw materials in and out of the country. These incentives range from tax free repatriation of profits to rent subsidies on factory buildings; all of which are aimed at attracting mostly foreign investors to the host country. As was noted earlier, the Dominican Republic began offering up to 100% tax exemption to EPZ firms as early as the late sixties. Currently, these enterprises are exempt from the payment of corporate income taxes (for a period of 15 years), municipal and other taxes such as construction taxes, taxes on loan agreements, and inventory taxes (Law 8-90). Incentive packages such as these, however, also represent a cost to the host country, and it has been suggested that they often unnecessarily

deprive governments of badly needed revenue (Basile and Germidis: 1984, p.37). Several authors take the view that these incentives have a negligible impact on investors' decisions to locate operations (Ibib p. 37 and UNCTC-ILO: 1988, p.134).

In order to see if this was indeed the case in the Dominican Republic, managers were asked whether government's fiscal incentives were important elements of consideration in the decision to establish operations in the country. Almost half of the respondents answered in the affirmative. Although this may seem a significant proportion of those polled, fiscal incentives nevertheless rank sixth amongst the ten locational factors, following competitive wages, availability of labour, geographic location, political stability, and Item 807a of the US Tariff Schedule. In view of this, it can be concluded that such government policies do not constitute a primary incentive for locating operations in the Dominican Republic.

The situation is somewhat more complex, however, at the national level. The Dominican Republic has both public and privately owned and operated EPZs which offer different services and rental rates to occupants. The Corporación de Fomento Industrial (CFI), which manages most public sector EPZs, receives preferential rates from the government on its purchases of cement for the construction of standard factory buildings. These it offers in turn to occupants at lease rates which at the time were considered the lowest in the region (The Services Group: 1991, p.737). On the other hand, the privately owned and operated EPZs such as Itabo and San Isidro are among the most expensive in the Caribbean region (Ibid). Part of the reason for the high rents charged by some private EPZs lies in the additional services they offer occupants: hiring services including screening of applicants, better quality factory buildings, private health care, payroll and accounting

services, among others. Most of these EPZs are also located in or near the capital city, where skilled labour and technical expertise is more abundant. As a result, private and public zones cater to different segments of the EPZ market. Subsidiaries of US multinationals involved in electronics and healthcare such as Westinghouse, General Electric, and Baxter Healthcare are more likely to be found in private zones, while garment and footwear firms tend to locate in less expensive public or mixed ownership EPZs.

The government of the Dominican Republic has also tried to influence investors to establish plants in EPZs along its border with Haiti. To achieve this it has authorised CFI to lease space at subsidized rents; it has authorised the pertinent authorities to assign preferential export quotas and low interest loans to firms operating in the area, and it had also liberalised the procedure whereby such firms are granted special free zone status .[6] Despite these efforts, it is not yet known whether such incentives have succeeded in attracting investment to this area.

Finally, the least important of all locational factors turned out to be the existence of skilled labour. This seems to follow naturally from the nature of the operating characteristics of enterprises which are attracted to EPZs in the Dominican Republic, namely low value-added light manufacturing and assembly firms.

9. Skilled Labour

Less than 40% of respondents mentioned skilled labour as an important factor in their decision to establish operations in Dominican EPZs. Depite the overall low importance

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6. Special free zone status is given to firms which for various reasons are allowed to operate outside the already established EPZ sites.

attached to skilled labour as a locational factor, at least one industry specific exception bears mentioning. Managers of all three tobacco processing firms included in the sample stressed that the Dominican Republic is an eminent tobacco producer. This tradition has given rise to significant localised pools of skilled workers that are actively sought by these firms. The manager of one tobacco firm in Santiago said his workers were recruited from the neighboring Tamboril area for their experience in the trade.

Another exception was alluded to earlier in the discussion on privately owned and operated EPZs, and concerns locational preferences within the Dominican Republic. Although not attracted to the country because of any abundance of skilled labour, some firms find these up-scale private EPZs advantageous because of their proximity to technical schools. A 1988 study produced for USAID. concluded that a lack of skilled labour was the most critical factor affecting the productivity and growth of EPZ firms at the time (ISTI: 1988, p.84). The study noted that:

> ...a firm's need to provide a specific kind of training is in large part influenced by the educational resources and institutions located in the surrounding area. The newer zones of Itabo, San Isidro and Bani which are located within close proximity of the best technical school in the country, are not experiencing as serious problems as other zones located away from the capital (Ibid, p.35).

This problem apparently persisted to 1991, as evidenced in the survey undertaken for the present study. In particular, the manager of a machine-tools joint venture located 70 miles east of the capital in La Romana complained that the majority of his technical and engineering employees had to be brought in from the capital or neighboring San Pedro at his company's expense due a shortage of these skills locally. He remarked that if he were to set up shop again today, he would do so in the capital instead of at the present location. Such

a situation results in the clustering of more technologically sophisticated firms around EPZs in the capital.

On a more global scale, however, skilled labour is evidently not a major attraction of the Dominican Republic. Firms requiring a more skilled labour force for part of their production process tend to locate that process in a Puerto Rican twin plant, hence making the most of the Domincan Republic's comparative advantage as a source of cheap labour. Overall, the results of the present survey confirm this.

Conclusions

Analysis of the survey results points to the proximity of the Caribbean and Central America to the United States as the key motivating factor behind EPZ firms locating throughout the region. This proximity factor is further enhanced by market access provided by such US preferencial trade arrangements as the Caribbean Basin Economic Recovery Act (CBERA) and its ancilliary special access program known as section 9802.00.8010 of the new Harmonised Tarriff System. Recent events, however, have altered this scenario somewhat.

With the enactment of section 9802.00.90 under NAFTA, CBERA special access programs for garments assembled from US formed and cut fabric have lost their previous advantage in the US market vis-a-viz Mexico. This may draw investment away from CBERA countries like the Dominican Republic that have significant garment export industries producing for the US market. As evidenced in TABLE 3, the value of Mexican

special program garment imports into the US have surged ahead significantly between 1992 and 1995.

On the other hand, the Dominican Republic continues to be cited as a main beneficiary of the Caribbean Basin Economic Recovery Act along with Costa Rica. Both countries combined have reportedly accounted for more than half of annual CBERA entries between 1989 and 1995. According to the USITC, the Dominican Republic was the top supplier of leather footwear uppers and precious metal jewelry, reportedly the leading items entering the US under the CBERA, in 1995 (USITC: 1996).

While it may be hard to conclude that the surge in the value of Mexican apparel imports to the US, attributable to NAFTA, came at the expense of the expansion of similar Dominican Republic imports, it should be emphasized that most countries of the region compete with each other for such export processing enterprises. The primary importance of competitive (low) wages as a locational factor is consonant with the presence in DREPZs of mature industries involved in the production of standardized products.

As figure 1 showed, competitive wages turned out to be the locational factor most often cited by the 37 survey respondents, followed by availability of labour, geographic location of the country, political stability, and Item 9802.00.8010 of the US Tariff Schedule. These factors were each cited by more than 50% of survey respondents. Notwithstanding the lesser importance given to the other factors in the survey, it should be emphasized that geographic proximity to final markets along with a good communications infrastructure, reliable shipping services and efficient customs banking and support services will become

more important factors in the future as businesses require a shortening response time between orders and delivery, and lower inventory levels.

Since the nine locational factors did not exhaust all possible features considered by managers that chose the Dominican Republic as a site for their operations, they were asked to indicate other factors not included in the list which played a role in their decision. Among the other factors mentioned were the tobacco growing tradition of the Dominican Republic, and such ambiguous things as the 'needs' of the home market and certain other specialist cost considerations.

Finally, given the predominance of the garment industry within the Dominican Republic's EPZ "sector", it is important to bear in mind that the future of the sector is highly dependent on the outcome of the World Trade Organization Agreement on Textiles and Clothing (1995-2005). If the agreement is upheld, then the US market will open to garment exports from more cost efficient Far Eastern producers whose exports are currently restrained by quotas.

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