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SPECIAL ECONOMIC ZONES

PERFORMANCE, LESSONS
LEARNED, AND IMPLICATIONS
FOR ZONE DEVELOPMENT



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EXECUTIVE SUMMARY

For developing countries, special economic zones (SEZs) traditionally have had both a policy and an infrastructure rationale. In terms of policy, the SEZ can be a useful tool as part of an overall economic growth strategy to enhance industry competitiveness and attract foreign direct investment (FDI). Through SEZs, governments aim to develop and diversify exports while maintaining protective barriers, to create jobs, and to pilot new policies and approaches (for example, in customs, legal, labor, and public-private partnership aspects). SEZs also allow for more efficient government supervision of enterprises, provision of off-site infrastructure, and environmental controls.

This paper examines 30 years of experience in zones, reviewing development patterns and economic impacts of zones worldwide. The experience shows that while zones have been effective in addressing economic growth and development objectives, they have not been uniformly successful; successes in East Asia and Latin America have been difficult to replicate, particularly in Africa, and many zones have failed. Moreover, since the onset of zone development in developing countries, concerns have been

raised about the impact of zones on employment (in terms of gender, wage levels and benefits, worker rights and work conditions), the environment, and related social factors.

To a great extent, the fate of zone initiatives has been determined from the outset, by the choices made in the establishment of policy frameworks, incentive packages, and various other provisions and bureaucratic procedures. The experience suggests that maximizing the benefits of zones depends on the degree to which they are integrated with their host economies and the overall trade and investment reform agenda. In particular, when zones are designed to pilot legal and regulatory reforms within a planned policy framework, they are more likely to reach their objectives.

Policymakers and practitioners in zone development may find the key considerations and lessons presented in this paper useful in planning and evaluating their zone initiatives. The end result of this project is a general framework for zone development, which is intended to optimize future results for both host countries and investing firms.

Trends in Zone Development

While special economic zones are often treated as an innovative topic in development economics, city-wide free zones with goals and methods not too different from those employed in modern zones were in place in Gibraltar and Singapore as early as 1704 and 1819, respectively. This paper generically uses the term *special economic zone* to encompass the range of modern free zone types worldwide¹ (Box 1). SEZs are generally defined as geographically delimited areas administered by a single body, offering certain incentives (generally duty-free importing and streamlined customs procedures, for instance) to businesses which physically locate within the zone.

Zone Growth and Key Characteristics

Since the first privately developed and operated zones came on line in the 1980s, zone development has exploded, especially with the emergence of new programs in the countries of Eastern and Central Europe, the Commonwealth of Independent States (CIS), and the Middle East and North Africa. Widespread as this development may be, zone activity is still relatively concentrated, with less than a dozen countries accounting for the majority of zone employment and exports generated. Zones are concentrated in Asia and the Pacific (mainly China), Latin America, and Central and Eastern Europe and Central Asia.

Despite recent diversification efforts, most zone enterprises worldwide are engaged in labor-intensive, assembly-oriented activities such as apparel, textiles, and electrical and electronic goods. The degree of product specialization tends to be linked to the level of industrial development of the host country. Female workers account for 60–70 percent of the zone workforce worldwide, a number that has remained consistent since the inception of export processing zones (EPZs) with an explicit manufacturing orientation. However, as economic activity diversifies away from simple assembly operations, the percentage of women in the workforce decreases.

Ownership Arrangements and Development Approach

Perhaps the most notable trend over the past 15 years has been the growing number of privately owned, developed, and operated zones worldwide. According to the stocktaking exercise conducted for this study, 62 percent of the 2,301 zones in developing and transition countries are private sector developed and operated.² This contrasts greatly with the 1980s, when less than 25 percent of zones worldwide were in private hands. The key factor behind the rise of private zones is the realization that such facilities can be profitably operated on the part of developers, and that the burden such SEZs place on government resources can be reduced.

Formal public-private partnerships have also become increasingly popular around the world, with a number of different models evolving, including:

- Public provision of off-site infrastructure and facilities (utilities connections, roads) as an incentive for private funding of on-site infrastructure and facilities.
- Assembly of land parcels with secure title and development rights by the government for lease to private zone development groups, development of better land use/ownership laws and regulations and adoption of enforceable zoning and land use plans.
- Build-operate-transfer and build-own-operate approaches to on-site and off-site zone infrastructure and facilities, with government guarantees and/or financial support.
- Contracting private management for government-owned zones or lease of government

1 In a few cases, the term “special economic zone” or “SEZ” is also used in this report when it is part of the name of a specific zone.

2 Of the 135 countries in the FIAS database, those not considered transition or developing countries include 16 Western European countries, Australia, Japan, Singapore, Canada, the United States, and Puerto Rico (included as a separate entity, but is counted as part of the United States). The entities of Macau, Hong Kong (China), and Taiwan (China) are included for separate consideration under the Asia and the Pacific region.

Types of Zones

The first “modern zone” was established in Ireland in 1959. Since then, a variety of different zone setups have evolved that are subsumed under the SEZ concept in this paper, namely:

- **Free trade zones** (FTZs; also known as commercial free zones) are fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, transshipment, and re-export operations.
- **Export processing zones** are industrial estates aimed primarily at foreign markets. Hybrid EPZs are typically sub-divided into a general zone open to all industries and a separate EPZ area reserved for export-oriented, EPZ-registered enterprises.
- **Enterprise zones** are intended to revitalize distressed urban or rural areas through the provision of tax incentives and financial grants.
- **Freeports** typically encompass much larger areas. They accommodate all types of activities, including tourism and retail sales, permit on-site residence, and provide a broader set of incentives and benefits.
- **Single factory EPZ** schemes provide incentives to individual enterprises regardless of location; factories do not have to locate within a designated zone to receive incentives and privileges.*
- **Specialized zones** include science/technology parks, petrochemical zones, logistics parks, airport-based zones, and so on.

*Single factory EPZ programs are similar to bonded manufacturing warehouse schemes, although they typically offer a broader set of benefits and more flexible controls.

zone assets by a private operator (beneficial ownership).

- Equity-shifting arrangements whereby a private contract manager of a government zone can exercise a purchase option once pre-defined performance levels have been reached.

The entry of the private sector into zone development has also changed the range of facilities, services, and amenities available within zones. Recent trends tied to the increase in private zone development include the development of SEZs and industrial estates on an integrated rather than stand-alone basis, increased specialization of facilities catering to the unique needs of target industries (hi-tech, petro-chem, software, among others) and the provision of a greater range of business support services and specialized facilities. Many of these “next generation” zones

cater to higher value-added industries and are able to charge premium rates.

Policy Considerations

The economic performance and impact of SEZ programs in developing countries has been evaluated in numerous studies. Most of these, however, have focused on government-developed and -run zones and largely neglected the economic impact of private zone development.

EPZs are viewed as highly effective tools for job generation, particularly for women entering the workforce. Evidence suggests that such zones are a much more significant source of employment in smaller countries with populations of less than

5 million (examples include Mauritius, the Seychelles, and Jamaica) than in larger countries.

SEZs are also capable of contributing to export development, not only in terms of accelerating export growth, but export diversification as well. This is particularly important to poorer developing countries reliant on the export of primary products. In addition, zones can play an important role in attracting foreign direct investment, offsetting some aspects of an adverse investment climate by offering world-class facilities and best practice policies.

The scope for increased development of supply and other linkages through the use of free zones appears to be significant, due to a greater incentive for local firms to sell goods and services to zone-based enterprises because such sales are typically “deemed” exports, eligible for duty drawback and other export incentives.

Achieving an appropriate budgetary balance can be tricky for host countries, and doing so can mean the difference between profits and losses. Zones can fall short of intended benefits for governments under three scenarios: if development entails massive government capital outlays (for onsite or offsite infrastructure development), are not operated on a cost-recovery basis, and/or receive subsidized inputs for electricity or other services.

There are continuing concerns regarding work conditions and social protections, including women’s rights in some countries. However, wages and work conditions tend to be better within zones than outside them, and adverse labor and social issues are almost wholly associated with countries featuring programs developed and run by the government, especially older zones catering to “low-end” apparel-assembly operations.

In evaluating environmental impacts, a distinction needs to be drawn between countrywide single factory EPZ programs and industrial park-style zones. It is much harder for governments to adequately enforce environmental standards for single factories, as they tend to be widely dispersed.

Special Economic Zones and Countrywide Reforms

At a public policy level, a debate continues to be waged regarding whether special economic zones promote countrywide economic policy reforms by serving as “demonstration areas” or catalysts, or whether they act instead as “pressure valves” for unemployment, thereby reducing the incentive to reform and diverting reform energies. A 1992 World Bank study cautioned against the possibility that SEZs could be used by developing countries to “muddle along without reforms,” and stressed the need to use zones as a supplement to countrywide reform, as opposed to creating isolated free market enclaves. Two integration methods that have met with success have been “equal footing” policies for domestic suppliers of capital and intermediate goods and the extensive use of sub-contracting by zone-based firms to local producers.

Are Private Zones Preferable?

Available data suggests that private zones are less expensive to develop and operate than their public counterparts (from the perspective of the host country), and yield better economic results. Public expenditure cost savings through private zone development depends significantly on where private zones are located and whether they are subject to any designation criteria and development controls. Most modern zone programs have developed such measures, which aim to ensure that new zone projects are located close to existing public infrastructure and facilities, thereby reducing government outlays. On the whole, privately operated zones tend to offer better facilities and amenities, command higher prices from tenants and attract “higher end” types of activities. As a result, private zones generally have been more profitable and have had better social and environmental track records than public zones throughout the world (with East Asian government-run zones the notable exception).

Policy Implications

Three decades of zone development experience suggests that the failure or success of a zone is linked to its policy and incentive framework, where it is located, and how it is developed and managed. This experience shows that the use of generous incentives packages to offset other disadvantages (such as poor location or insufficient facilities) is ineffective in terms of overall zone performance, due in large part to the increasing commonality of zone investment incentives in recent years.

The most common obstacles to success for zones are:

- poor site locations, entailing heavy capital expenditures
- uncompetitive policies—reliance on tax holidays, rigid performance requirements, poor labor policies and practices
- poor zone development practices—inappropriately designed or over-designed facilities, inadequate maintenance and promotion practices
- subsidized rent and other services
- cumbersome procedures and controls
- inadequate administrative structures or too many bodies involved in zone administration
- weak coordination between private developers and governments in infrastructure provision.

The common mistake at the root of many of these obstacles to optimal zone performance is a lack of effective coordination, both in terms of the parties involved and various physical and procedural aspects of the zone itself.

Good Practice Guidelines for Zone Development

One of the clearest lessons learned from decades of free zone development—particularly EPZ development—is that *zones cannot and should not be viewed as a substitute for a country's larger trade and invest-*

ment reform efforts. They are one tool in a portfolio of mechanisms commonly employed to create jobs, generate exports and attract foreign investment, through the provision of incentives, streamlined procedures, and custom-built infrastructure.

A critical determinant in configuring a zone development program is the type of zones to be promoted. International experience suggests that the recommended approach is to adopt a SEZ model that incorporates these principles:

- Allow SEZ enterprises as well as those licensed under other regimes to co-locate within the same area. The development of separately fenced-off areas solely for SEZ enterprises is a less preferable, but acceptable approach.
- Ensure that the SEZ regime is flexible, allowing a range of commercial as well as manufacturing activities. If properly supervised, a separate commercial free zone regime is not required.
- Promote private rather than public development of zones.
- Develop an appropriate legal, regulatory, and institutional framework to ensure adequate regulation and facilitation, requiring greater administrative facilities within host governments.

The key elements of a good-practice policy framework for SEZs are summarized in Table 1. A best-practice policy and incentive framework is streamlined, encouraging zones to compete on the basis of facilitation, facilities, and services rather than on the provision of incentives. The importance of regulatory relief to investors is a crucial, yet overlooked aspect of successful SEZ programs. The host government should aim to simplify investment approvals and expatriate work permits; remove required import and export licenses; and accelerate customs inspection procedures and automatic foreign exchange access.

The institution charged with regulating zone operations is another major driver in the outcome of the zone program. While a wide range of institutional arrangements have been used, experience suggests that success is dependent on the autonomy of the

TABLE 1

Basic Policy Framework for SEZs

	International Standard
Concept of extra-territoriality	Outside domestic customs territory; eligible for national certificates of origin; eligible to participate in national trade agreements and arrangements.
Eligibility for benefits	No minimum export requirement; manufacturers and services; foreign and local firms; expansions of existing enterprises; private developers of zones.
Foreign and local ownership	No limitations; equal treatment.
Private zone development	Clearly defined in legislation; specific zone designation criteria; eligible for full benefits; competition from government-run zones on a level playing field.
Sales to the domestic market	Liberalized, provided on a blanket basis rather than case by case; treated as import into domestic market; subject to payment of import duties and taxes.
Purchases from domestic market	Treated as exports from domestic market; enterprises eligible for indirect exporter benefits.
Labor policies	Full consistency with International Labour Organization labor standards; specialized dispute settlement mechanism.

body; adequate funding; customer orientation and ethos; powers over other government ministries; partnerships with private zone operators and enterprises; and maximizing the role of the private sector in service provision. To help minimize situations that present conflicts of interest, particularly in the context of an increasing number of private zones, it is critical that zone authorities remain engaged in purely regulatory functions, and do not own, develop, or operate zones.

Finally, the success of zones is critically linked to the way in which they are located, developed, and managed. Management of zones is enhanced when they are operated on a cost-recovery rather than subsidized basis, and are market-oriented and customer-focused enterprises. This is often accomplished when zone development and operation are undertaken by private sector groups on a commercial basis.

Outlook for Zone Development

The dynamics of recent trade liberalization place great importance on the continued development of focused investment and export promotion mechanisms such as SEZs that can provide a simplified regulatory environment. The prevalence of zones in industrialized countries with open economies also underscores the importance of the concept for competitiveness. Mechanisms that provide efficiency advantages are even more important with the advent of modern production and distribution concepts and approaches, and the reduction of transaction costs. There is also a continuing role for zones in many countries to incubate and accelerate policy reform. Given their potential flexibility and efficiency advantages, SEZs could continue in the future to serve as a viable tool for developing countries, especially when reforms are ex ante integrated into the overall strategy.

INTRODUCTION

Study Objectives

The rapid proliferation and economic impacts of special economic zones (SEZs)—especially export processing zones—have been documented in numerous studies. By some estimates, there are approximately 3,000 zones in 135 countries today, accounting for over 68 million direct jobs and over \$500 billion of direct trade-related value added within zones.³ Other studies have evaluated the economic impact of zone development, typically in terms of cost/benefit calculations of zone programs (Warr, 1989, Jayanthakumaran, 2002, and Sinclair, 2001). Still other studies have tried to examine the relationship between free zones and economic reform and trade liberalization efforts in developing countries (Madani, 1999, Cling and Letilly, 2001, and Schrank, 2001).

Most of these studies, however, focus on government-owned, -developed, and -operated zones. They often miss the fact that there have been dramatic changes in the ways in which zones have been conceived, developed, managed, regulated and governed in the past two decades. These include the growing prominence of private sector developed and run

zones; the use of public-private partnerships for zone development; the implementation of World Trade Organization (WTO)-compliant policy and incentive frameworks; and innovative regulatory frameworks.

These changes have important implications for the economic impacts of zones, and offer significant lessons to policymakers on how to maximize zone success. The number of zones and the number of countries hosting zones, particularly Organisation for Economic Co-operation and Development (OECD) economies, continues to grow. This trend raises a number of questions: What is the continuing rationale for zones in the face of global trade liberalization? And why do zones continue to expand in industrialized countries that already offer low duty

³ These figures were derived from a database developed by FIAS, in close consultation with the World Economic Processing Zones Association (WEPZA), and International Labour Organization (ILO) data from an ILO document dated April 2007. Puerto Rico is mentioned as a separate entity in the database, since it has a zone program completely separate from the U.S. zone program; however, it is not counted as a separate country. Macau, Taiwan (China), and Hong Kong (China), while included as separate entities in the FIAS database, are considered by the international community under China, hence these territories do not count as separate countries.

and tax environments? Do zone programs promote or detract from countrywide reform efforts?

This study analyzes the major development trends in terms of zone configuration, ownership, development, management, and regulation approaches, and identifies good practices. It evaluates the overall economic performance of zones in light of these changes, and assesses the relationship of zones and economic reform efforts. The ultimate goal is to draw out lessons and implications that will enable policymakers to design and facilitate zone development that maximizes benefits to their host economies.

The analysis is based on a review of recent studies and assessments of EPZs and free zones, as well as a stocktaking of zone programs worldwide, including ownership patterns, legal and regulatory frameworks, institutional frameworks, ownership and management approaches, incentives, and economic impacts. To evaluate the complex linkages and impacts of zones and economy-wide policy reform efforts, a number of case studies of zone programs were undertaken and previous cost/benefit assessments analyzed.

Report Organization

This paper is organized as follows:

- The next section, **Zone Definition and Development Trends**, documents growth patterns and key characteristics of zones internationally and regionally.
- The third section, **Zone Growth and Key Characteristics**, outlines recent changes in zone concepts, development approaches, and policy and institutional frameworks.
- The fourth section, **Economic Performance and Impacts**, evaluates the overall economic performance of zone development and key socio-economic impacts.
- The last section, **Lessons Learned and Implications for Zone Development**, assesses why some zones have failed, identifies key success factors, and delineates guidelines to maximize the success of new zones.

ZONE DEFINITION AND DEVELOPMENT TRENDS

The Challenge of Definition

Free zones have existed for centuries. They were originally established to encourage entrepôt trade, and mostly took the form of citywide zones located on international trade routes. Examples include Gibraltar (1704), Singapore (1819), Hong Kong (China; 1848), Hamburg (1888), and Copenhagen (1891). This paper focuses on modern *special economic zones*, a generic term that encompasses the recent variants of the traditional commercial zones. The principles incorporated in the basic concept of a special economic zone include:

- Geographically delimited area, usually physically secured (fenced-in)
- Single management/administration
- Eligibility for benefits based upon physical location within the zone
- Separate customs area (duty-free benefits) and streamlined procedures.

The core definition of a free zone, as well as proposed guidelines and standards for them, are contained in the Revised Kyoto Convention of the World Customs Organization (WCO).⁴ Specifically, Annex D and the accompanying guidelines provide standards and recommendations on the treatment of imports to and exports from free zones including territorial limits (free zones are defined as “outside the customs territory” for purposes of the assessment of import duties and taxes); minimal documentation requirements; and issues to be covered by national legislation. Free zones typically allow for duty- and tax-free imports of raw and intermediate materials and, in many cases, capital equipment.

This generic special economic zone concept has evolved over time, resulting in a large variety of zones

⁴ Annex D of the International Convention on the Harmonization and Simplification of Customs (revised in 1999) defines a free zone as “part of the territory of a Contracting Party where any goods introduced are generally regarded, insofar as import duties and taxes are concerned, as being outside the Customs territoryand not subject to the usual Customs control.”

TABLE 2

Types of Zones

Type of Zone	Development Objective	Physical Configuration	Typical Location	Eligible Activities	Markets	Examples
Free Trade Zone (Commercial Free Zone)	Support trade	Size < 50 hectares	Ports of entry	Entrepôt and trade-related activities	Domestic, re-export	Colon Free Zone, Panama
Traditional EPZ	Export manufacturing	Size < 100 hectares; total area is designated as an EPZ	None	Manufacturing, other processing	Mostly export	Karachi EPZ, Pakistan
Hybrid EPZ	Export manufacturing	Size < 100 hectares; only part of the area is designated as an EPZ	None	Manufacturing, other processing	Export and domestic market	Lat Krabang Industrial Estate, Thailand
Freeport	Integrated development	Size > 100 km ²	None	Multi-use	Domestic, internal and export markets	Aqaba Special Economic Zone, Jordan
Enterprise Zone, Empowerment, Urban Free Zones	Urban revitalization	Size < 50 hectares	Distressed urban or rural areas	Multi-use	Domestic	Empowerment Zone, Chicago
Single Factory EPZ	Export manufacturing	Designation for individual enterprises	Countrywide	Manufacturing, other processing	Export market	Mauritius Mexico Madagascar

(Table 2), with differing objectives, markets, and activities, including:

- **Free trade zones**, also known as commercial free zones and free commercial zones, are small, fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, transshipment, and re-export operations, located in most ports of entry around the world. A leading example is the Colon Free Zone in Panama.
- **Export processing zones**, industrial estates offering special incentives and facilities for manufacturing and related activities aimed mostly at export markets, typically take two forms. In the traditional EPZ model, the entire area within the zone is exclusively for export-oriented enterprises licensed under an EPZ regime. Hybrid EPZs, in contrast, are typically sub-divided into a general zone open to all industries regardless of export orientation and a separate EPZ area reserved for export-oriented, EPZ-registered enterprises.⁵
- **Freeports** are generally a much broader concept and typically encompass much larger areas. They accommodate all types of activities, including tourism and retail sales, permit people to reside on site, and provide a much broader set of incentives and benefits. The large-scale freeports in China are a traditional example.

⁵ In most Asian countries, for instance Thailand and the Philippines, EPZ areas within hybrid zones are required to be fenced-in. In contrast, many Latin American countries—such as Costa Rica and Mexico—permit EPZ-registered enterprises to be located in the same area as firms registered under other regimes.

TABLE 3

Examples of Specialized Zones

Type of Zone	Development Objective	Size	Typical Location	Activities	Markets	Example
Technology or Science Parks	Promote high tech and science-based industries	< 50 hectares	Adjacent to universities, institutes	High technology activities	Domestic and export	Singapore Science Park, Singapore
Petrochemical Zones	Promote energy industries	100–300 hectares	Petrochemical hubs; efficient energy sources	Petrochemicals and other heavy industry	Domestic and export	Laem Chabang Industrial Estate, Thailand
Financial Services	Development of off-shore financial services	< 50 hectares	None	Offshore financial and non-financial services	Export	Labuan Offshore Financial Centre, Malaysia
Software and Internet	Development of software and IT services*	< 20 hectares	Adjacent to universities, urban areas	Software and other IT services*	Export	Dubai Internet City, United Arab Emirates
Airport-based	Air cargo trade and transshipment	< 20 hectares	Airports	Warehousing, transshipment	Re-export and domestic	Kuala Lumpur Airport Free Zone, Malaysia
Tourism	Integrated tourism development	200–1,000 hectares	Tourism areas	Resorts and other tourism	Export and domestic	Baru Island, Colombia
Logistics Parks or Cargo Villages	Support logistics	< 50 hectares	Airports, ports, transport hubs	Warehousing, transshipment	Re-export	D1 Logistics Park, Czech Republic

*Note: IT abbreviates information technology.

- **Enterprise zones** are intended to revitalize distressed urban or rural areas through the provision of tax incentives and financial grants. Most zones are in developed countries, for example the United States, France, and the United Kingdom, although South Africa is developing a similar mechanism.
- **Single factory EPZ** schemes provide incentives to individual enterprises regardless of location; factories do not have to locate within a designated zone to receive incentives and privileges.⁶ Leading examples of countries relying exclusively on a single factory scheme include Mauritius, Madagascar, Mexico and Fiji; other countries such as Costa Rica, the United States, and Sri Lanka allow both industrial estate-style zones and single factory designations.

With the exception of the single factory zone scheme, these developments share most of the fundamental principles underpinning the special economic zone concept described earlier—a delimited, secure area under single administration; a special incentive and regulatory regime; and location-based incentive eligibility.

It is frequently pointed out that special economic zones have also evolved into highly specialized facilities, configured to the needs of specific industries and activities. Examples shown in Table 3 include special zones to promote high technology or science-based industries; petrochemical and heavy industry

⁶ Single factory EPZ programs are similar to bonded manufacturing warehouse schemes, although typically offering a broader set of benefits and more flexible controls.

zones relying on cheap energy sources and specialized facilities; financial services zones to promote offshore financial and non-financial activities; software and information communications technology (ICT) zones accommodating software coding and other offshore ICT services operations; airport-based zones, specifically support aviation and air-based activities; tourism zones to facilitate integrated resort and leisure community development; logistics parks and cargo villages/cities, providing specialized facilities and support services to facilitate trade, supply chain management, and logistics; and others.

Do these types of projects qualify as special economic zones? The answer is not always clear-cut, and is the reason why so many studies have dramatically varying estimates of the number and types of zones worldwide. The key criteria in this study for identifying eligible projects is whether they offer a special regulatory framework and incentive regime that is available only to enterprises locating within the zone. In many cases this is not the case—enterprises receive general investment incentives available to firms elsewhere. Applying this approach would omit single factory programs and general industrial parks/estates/zones (which accommodate enterprises operating under a diversity of incentives), as well as other developments that do not provide a specific incentive regime.

Rationale for Zone Development

The rationale for the development of special economic zones differs between developing and developed countries. For developing countries, these zones have traditionally had both a policy and an infrastructure rationale. The typical special economic zone policy package includes import and export duty exemptions, streamlined customs and administrative controls and procedures, liberal foreign exchange policies, and income tax incentives—all meant to boost an investment's competitiveness and reduce business entry and operating costs. Export-oriented zones are intended to convey “free trade status” to export manufacturers, enabling them to compete in global markets and counterbalance the anti-export bias of trade policies.

Madani (1999) and Cling and Letilly (2001) outline four broad policy reasons for the development of zones, especially EPZs, in developing countries:

- **In support of a wider economic reform strategy.** In this view, EPZs are a simple tool permitting a country to develop and diversify exports. Zones are a way of reducing anti-export bias while keeping protective barriers intact. The EPZs of Taiwan (China) and the Republic of Korea follow this pattern.
- **To serve as “pressure valves” to alleviate growing unemployment.** The EPZ programs of Tunisia and the Dominican Republic are frequently cited as examples of robust, job-creating programs that have remained enclaves with few linkages to their host economies.
- **As experimental laboratories for the application of new policies and approaches.** China's freeports are classic examples of this category. Financial, legal, labor, and even pricing policies were introduced and tested first within the freeports before being extended to the rest of the economy.
- **To attract foreign direct investment.** Most new SEZ programs, particularly in the Middle East, are designed to attract foreign investment.

The “hardware” of special economic zones—fully serviced sites with purpose-built facilities for sale or lease—is aimed at enhancing the competitiveness of manufacturers and service providers. It is also intended to realize agglomeration benefits from concentrating industries in one geographical area. These benefits include efficiencies in government supervision of enterprises, provision of off-site infrastructure, improved environmental controls, and increased supply and sub-contracting relationships among industries, among others. This “infrastructure rationale” is one of the most important driving forces behind zone development in infrastructure-poor countries.

The rationale for free zone development in industrialized countries is more varied. The new Free Economic Zone program in the Republic of Korea,

TABLE 4

Free Zones in Selected Industrialized Countries

Country Name	No. of Zones
Australia	10 technology development zones
Canada	1 FTZ
Denmark	10 FTZs
Finland	2 FTZs
France	2 FTZs, 85 enterprise zones
Germany	8 FTZs
Greece	3 FTZs
Iceland	2 FTZs
Ireland	1 EPZ, 1 FTZ
Italy	4 FTZs
Japan	22 foreign access zones
Malta	1 FTZ, 10 industrial zones
Portugal	2 FTZs
Spain	4 FTZs, 1 freeport
Sweden	4 FTZs
Switzerland	4 FTZs
United Kingdom	7 FTZs, 55 enterprise zones
United States	266 foreign trade zones

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

which is a broader concept than a regular export processing zone, and the 22 foreign access zones in Japan, for example, are explicitly intended to promote foreign investment. The main rationale for the Shannon Free Zone in Ireland, in contrast, was to establish a “growth pole” in the economically distressed southern part of the country. Revitalization of economically distressed urban and rural areas is the motivation behind the many enterprise zone-style programs in the United Kingdom, France, and the United States. But overall, enhancing trade efficiency

and manufacturing competitiveness remains the principal rationale behind special economic zone programs in most industrialized countries. Many companies choose a zone location based on the advantages of operating in a flexible, duty-free environment.

The U.S. Foreign Trade Zone program is a typical example.⁷ Operating costs are lower in a zone as a result of reduced insurance, security, and overhead costs. Cash flow is enhanced by the ability to postpone duty payments until and only upon entry into the domestic customs territory. Foreign trade zones have been critical in enabling manufacturers to operate “just-in-time” systems. The efficiency advantages provided by these zones are arguably more important for industrialized countries even with the advent of modern production concepts and approaches, and the reduction of tariff and non-tariff barriers (NTBs). The fact that zones are expanding in OECD countries suggests that they may be much more than tools for developing countries with bad policy environments—they may be critical to firm-level competitiveness in a globalized economic environment. (See also Table 4, which lists types of zones in selected industrialized countries.)

Major Trends in Zone Development

There have been profound changes in the free zone concept and development approach since the first modern zone was established in Ireland in 1959. Even more fundamental changes are foreseen over the next decade, as the WTO agreement is implemented in full.

Free zones were traditionally developed as isolated enclaves, both in terms of the underlying policy framework and geographic location (Table 5). Access to a generous set of incentives and privileges was tightly controlled. Qualifying firms typically had to be 80–100 percent export-oriented (for EPZs), engaged in recognized manufacturing activities, and

⁷ In Table 4, the United States is mentioned as having 266 FTZs. It should be noted that in addition, the United States has 173 Federal Empowerment Zones, which do not provide zone-like benefits that are comparable to other zones, and are therefore not included in the tables.

TABLE 5

Traditional Zones Were Developed as Enclaves

Zone	Location	Comments
Kandla EPZ, India	Remote area away from all amenities	Developed to aid refugees from partition
Bataan EPZ, Philippines	Remote area, four hours from Manila	No support infrastructure existed
Masan EPZ, Korea, Rep. of	Next to urban area	Originally restricted to foreign investors
Moin Free Zone, Costa Rica	Remote area with no amenities	Eventually privatized

at times only foreign-owned. Zone location was restricted to relatively remote areas or near transport hubs, and zones were viewed primarily as growth poles for regional development. Zones were exclusively developed and operated by government bodies.

This rigid concept has changed quite fundamentally over the past two decades. One of the major changes in thinking has been to permit zone development countrywide, rather than to restrict zones to remote areas. This change was in response to the failure of many government-run zones and the growing interest of private property groups in zone development. Applications for new zone development projects are increasingly treated like any large scale property developments; they are subject to all applicable land use planning, zoning, building, and environmental clearance processes. Governments have had to develop zone designation criteria and transparent processes to govern the designation of new zones promoted by private groups.

Another major development has been the re-thinking of the role of zones in economic development. Sinclair (2001) correctly points out that the development objectives behind the first EPZs were viewed in relation to a trade-restricted or closed economy. EPZs were intended to promote exports, create jobs, and transfer technology through backward linkages. The rapid pace of globalization and trade liberalization is stimulating a much broader view of zones, their development objectives and performance expectations. Increasingly, zones are viewed as a key mechanism to promote two-way trade and facilitate liberalization and modernization of the host econ-

omy. The new emphasis is on integrating zones into the domestic economy.

As detailed later, this integration is evident in many aspects—special economic zone policy packages, physical development approaches, governance structures, and so on. Countries are facilitating the development of zones to meet specific objectives and target markets.

As depicted in Table 6, traditional EPZs are increasingly being augmented and sometimes supplanted by new, more flexible arrangements. Hybrid EPZs are the preferred model in most Central and Eastern European countries and many Latin American countries. Commercial free zones have been the traditional development norm among most Middle Eastern and North African countries, but are a relatively recent innovation in Asia, where zone development has emphasized export manufacturing.

The extent to which traditional zones have evolved is exemplified in the new generation of freeports, which are often called SEZs. Traditionally, freeports were city-states such as Hong Kong (China), Macau, Singapore, or islands including Labuan (Malaysia) and Batam (Indonesia), which were viewed as more easily secured. In the past decade, led by the Chinese SEZs, zones established in the central territories of countries have increased. This is part a result of better customs and tax controls and technologies, but also reflects efforts to integrate zones with host economies and encourage balanced economic development, rather than dependence on single industries such as apparel or electronics.

TABLE 6

Zone Concepts in Selected Developing and Transition Economies

	Traditional EPZ Model	Hybrid EPZ Model	Commercial Free Zone	Single Factory	Freeport
Asia and the Pacific	Taiwan (China) Korea, Rep. of Indonesia Vietnam Philippines Bangladesh India Malaysia Pakistan Sri Lanka	China Indonesia Lao PDR Korea, Democratic People's Republic of Philippines Thailand Vietnam	China Japan Malaysia	Fiji	China Hong Kong (China) India Indonesia Korea, Rep. of Macau Malaysia Philippines Singapore
Americas	Argentina Bahamas Belize Dominican Republic Guatemala Jamaica Nicaragua Peru Trinidad and Tobago Uruguay Venezuela, R.B. de	Bolivia Brazil Colombia Costa Rica Cuba Ecuador El Salvador Haiti Honduras	Argentina Bahamas Belize Brazil Canada Colombia Curaçao Panama	Jamaica Mexico	Bahamas Chile Colombia Panama
Middle East and North Africa	Algeria Iran, Islamic Rep. of Sudan	Bahrain Egypt, Arab Rep. of Syrian Arab Rep. Tunisia Turkey United Arab Emirates	Israel Jordan Kuwait Lebanon Libya Morocco Oman Tunisia Turkey United Arab Emirates Yemen, Republic of		Iran, Islamic Rep. of Jordan
Central and Eastern Europe and Central Asia	Slovenia	Belarus Albania Bosnia and Herzegovina Bulgaria Croatia Hungary Kazakhstan Kyrgyz Republic Latvia Lithuania Macedonia, FYR Moldova Poland Ukraine	Czech Republic Estonia Latvia Romania Serbia Montenegro Slovak Republic Ukraine Uzbekistan		Russian Federation

(Continued)

TABLE 6

(Continued)

	Traditional EPZ Model	Hybrid EPZ Model	Commercial Free Zone	Single Factory	Freeport
Sub-Saharan Africa	Cameroon Cape Verde Equatorial Guinea Gambia, The Ghana Kenya Mozambique Namibia Nigeria Senegal South Africa Tanzania Togo Uganda Zambia Zimbabwe		Benin Djibouti Gabon Liberia Mauritius Tanzania Togo	Burundi Madagascar Malawi Mali Mauritius Senegal Seychelles	

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

Freeports are fundamentally different from traditional free zones. Instead of export drivers and investment magnets, they are designed as liberalized platforms for diversified economic growth that not only could but should spill over into the national economy. As summarized in Table 7, the freeport concept represents a major expansion over traditional approaches, both physically and functionally:

- **Larger size.** Freeports tend to cover larger areas, therefore offering firms greater flexibility in terms of plant location and scope for inter-firm linkages.
- **Broader range of permissible activities.** Firms can undertake any legal activity including manufacturing, tourism, duty-free shopping, informatics, warehousing, transshipment, and re-packaging activities, among others. Individuals can reside within the zones, permanently or temporarily.
- **Duty-free privileges.** All types of merchandise can be introduced duty- and tax-free by registered enterprises or individual residents. Enterprises can freely import any merchandise in any quantity, and are not restricted to direct inputs for manufacturing (as is the case with EPZs). Duty- and tax-free merchandise can be sold at the retail or wholesale level and sometimes consumed within the zone area. This is in contrast to EPZs or even commercial free zones that do not permit retail sales or on-site consumption of duty- and tax-free products.
- **Full access to the domestic market on a duty-paid basis.** Unlike EPZ enterprises that are usually required to export at least 80 percent of their production, most freeports allow unrestricted sale to the local market or to consumers as long as all applicable import duties, taxes, and other charges are fully paid.

TABLE 7

Examples of Freeports/
Specialized Zones

Zone	Size (km ²)	Date Established
<i>City States</i>		
Singapore	693	1819
Gibraltar	6.5	1830
Hong Kong (China)	1,042	1841
Macau	25	1887
<i>Islands</i>		
Labuan, Malaysia	92	1990
Batam, Indonesia*	416	1978
<i>Cities/Provinces</i>		
Iquique, Chile	2.4	1975
Shenzhen, China	327	1980
Subic Bay, Philippines	300	1992
Kaliningrad, Russian Federation	15,000	1995
Aqaba, Jordan	375	2000
Howard, Panama	1,500	2004

* The Indonesian government has announced plans to remove Batam's bonded zone status in favor of traditional EPZs on the island.

- Provision of incentives for private zone developers to facilitate private entry into zone development. (Zone developers are treated as indirect exporters.)
- Relaxation of minimum export requirements in line with the WTO framework and to accommodate the globalization of production.
- Allowing zone developers and others to supply utilities services (telecommunications, water/sewerage, power) to tenants of SEZ estates by treating them as indirect exporters.
- Treatment of sales of goods and services from the domestic sector to zones as “constructive exports” eligible for all relevant export incentives.
- Shift towards a universal set of fiscal incentives for all promoted activities, rather than a separate regime for zones. In Malaysia, for example, special economic zone-based enterprises receive the same income tax incentives as promoted industries located outside the zones. This eliminates the potential for unfair competition that arises when identical operations located within and outside a zone have different income tax treatment.

Core Policies and Procedures

Another important trend has been the expansion and liberalization of the core set of policies and privileges of most zone programs, especially EPZs. In general, these have taken the form of removing many of the distortions and restrictions previously associated with EPZs, in line with best practices. Typical provisions now offered by many programs include:

- Expansion of activities to include commercial and professional services (such as warehousing, transshipment, informatics) in addition to all types of manufacturing and processing.
- Equal treatment of investors and forms of investment. Zone legislation accords the same benefits to foreign and local investors, and to various legal forms of investment. This reduces distortions in terms of the impact of incentives.

Zone legislation increasingly incorporates features to increase program transparency and automation. Investment approvals have been transformed from a case-by-case evaluation process to a simple registration process, meeting explicit criteria. The use of negative lists, default mechanisms that confer automatic approvals within a predetermined time-period, and other mechanisms have greatly simplified investment approvals. Customs procedures have been simplified by the use of single forms, automated systems, and other technologies.

Headway has also been made by many EPZ programs to dismantle previous anti-labor provisions of zone policies and management practices and move toward greater adherence to universal labor standards, as defined by the 1998 International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work and various conventions. (See also the fourth section, *Economic Performance and Impacts*).

TABLE 8

Private and Public Sector Zones in Developing and Transition Economies

Region	Public Zones	Private Zones	Total
Americas	146	394	540
Asia and the Pacific	435	556	991
Sub-Saharan Africa	49	65	114
Middle East and North Africa	173	40	213
Central and Eastern Europe and Central Asia	69	374	443
Total	872	1,429	2,301

Note: Excludes single factory programs.

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

Ownership Arrangements and Development Approach

Perhaps the most notable trend over the past 15 years has been the growing number of privately owned, developed, and operated zones worldwide (Table 8). According to the stocktaking exercise conducted for this study, 62 percent of the 2,301 zones in developing and transition countries are private sector developed and operated. This contrasts greatly with the 1980s, when less than 25 percent of zones worldwide were in private hands. The key factor behind the rise of private zones is the perception that private zones are more successful than most public zones, as well as a general lack of funding for new government zone development.

The first wave of private zone development, in the Caribbean and Central America in the 1980s, and in Southeast Asia (the Philippines and Thailand) in the 1990s, was undertaken without much forward planning or government support. Governments responded to private initiatives without systematic criteria for zone evaluation or designation. As a result, and exemplified by the experience of industrial free zones in the Dominican Republic, new zones placed significant demands on public infrastructure and amenities, and outpaced the ability of govern-

ments to install external infrastructure and facilities. In other countries, for example, the Philippines and Vietnam, private developers had to install external infrastructure (access roads and utility connections) in addition to financing on-site infrastructure and facilities (internal roads, utilities, common facilities, factory buildings, and so on).

This is gradually changing with the advent of formal public-private partnership approaches to facilitate zone development. Examples include:

- Public provision of off-site infrastructure and facilities (utility connections, roads) as an incentive for private funding of on-site infrastructure and facilities.
- Assembly of land parcels with secure title and development rights by the government for lease to private zone development groups, development of better land use/ownership laws and regulations and adoption of enforceable zoning and land use plans.
- Build-operate-transfer and build-own-operate approaches of on-site and off-site zone infrastructure and facilities, with government guarantees and/or financial support.

TABLE 9

Examples of Public-Private Partnership in Zone Development

Country/Zone	Role of Public Sector	Role of Private Sector
Gaza Industrial Estate, West Bank and Gaza	Financing of all external infrastructure as well as factory shells; provision of land on long-term lease basis	Financing of all internal infrastructure and management of zones
Aqaba Industrial Estate, Jordan	Financing of all external infrastructure; provision of land on long-term lease basis	Financing of all internal infrastructure and management of zones
Subic Industrial Estate, Philippines	Financing of all external infrastructure; provision of land on long-term lease basis; equity stake in industrial estate	Financing of all internal infrastructure and management of zones
Tan Thuan EPZ, Vietnam	Provision of land on long-term lease basis; right of way development rights on access roads	Financing of all internal and external infrastructure and management of zones

- Contracting private management for government-owned zones (management contracting), or lease of government zone assets by a private operator (beneficial ownership).
- Equity-shifting arrangements in which a private contract manager of a government zone can exercise a purchase option once pre-defined performance levels have been reached.

There are various options for private sector participation in zone development, including concession agreements, management contracts, and build-operate-transfer, build-own-operate, and build-own-operate-transfer arrangements. Table 9 profiles the

partnership approach that has been used in the development of several zones.

Administrative Arrangements

Another significant recent trend has been the evolution of the types of bodies developing, administering, planning, and promoting zones on the one hand, and regulating zone activity on the other. A variety of institutional frameworks has been used for SEZ regulation, development, and management (Table 10).

These include autonomous government authorities or corporations, specialized departments within

TABLE 10

Examples of Zone Administrative Models

Government Authorities or Corporations	Ministries	Zone-Specific Management Boards	Investment Promotion Agencies
Jordan Bangladesh Korea, Rep. of Zambia Kenya	Cape Verde Taiwan (China) Senegal Slovak Republic El Salvador	India Turkey Ukraine Poland Vietnam	Sri Lanka Uganda Ireland

TABLE 11

Zone Administrative and Regulatory Bodies (selected countries)

Country, Body	Type of Body	Key Functions	Relationship with Private Zones
<i>Traditional Structures</i>			
Bangladesh Export Processing Zone Authority	Autonomous government authority	<ul style="list-style-type: none"> ■ Zone development and operation ■ Regulation of zone activity 	No private zones
Pakistan Export Processing Zone Authority	Autonomous government authority	<ul style="list-style-type: none"> ■ Zone development and operation ■ Regulation of zone activity 	No private zones
Jordan Free Zones Corporation	Autonomous government corporation	<ul style="list-style-type: none"> ■ Zone development and operation ■ Regulation of zone activity 	No private industrial estate-style free zones
Shannon Development, Ireland	Autonomous government corporation	<ul style="list-style-type: none"> ■ Zone development and operation ■ Regulation of zone activity 	No private zones
<i>New Structures</i>			
National Free Zones Council, Dominican Republic	Autonomous government authority	<ul style="list-style-type: none"> ■ Zone regulation, planning ■ Zone promotion 	Regulator
Philippine Economic Zone Authority	Autonomous government corporation	<ul style="list-style-type: none"> ■ Zone regulation, planning ■ Zone promotion 	Regulator; operates original, four public zones
Industrial Estate Authority of Thailand	Autonomous government authority	<ul style="list-style-type: none"> ■ Zone regulation, planning ■ Zone promotion 	Regulator; operates a few public zones
Free Zones Corporation, Costa Rica	Autonomous government corporation	<ul style="list-style-type: none"> ■ Zone regulation, planning ■ Zone promotion 	Regulator
Free Zones, Board, Ghana	Autonomous government authority	<ul style="list-style-type: none"> ■ Zone regulation, planning ■ Zone promotion 	Regulator
Kenya Export Processing Zones Authority	Autonomous government authority	<ul style="list-style-type: none"> ■ Zone regulation, planning ■ Zone promotion 	Regulator; operates two public zones

a ministry, zone-specific management boards, and rarely, arms of investment promotion agencies.

Traditionally, zones were developed, operated, and regulated by the same body. This approach characterizes most of the original zones developed through the 1980s, particularly in Asia. But the focus of these bodies has changed significantly in many countries. With the entry of the private sector into zone development, most countries have either set-up specialized public sector zone development and management agencies, or increasingly divested the physical project

development function to the private sector, and transformed their zone authorities into purely regulatory, planning, and promotional bodies (Table 11).

International experience has shown that countries embarking on private SEZ development often find it difficult to reconcile the divergent functions of zone management, regulation, and investment promotion. In many SEZ-sponsoring countries, conflicts of interest have arisen when regulatory bodies are also engaged in zone development activity, especially when existing public zones would directly compete

BOX 2

Special Economic Zone Facilities and Services

- Childcare facilities
- Medical clinics
- Conference centers
- Product exhibition areas
- Commercial centers
- Training facilities
- Shelter plans
- Repair and maintenance centers
- Common bonded warehouse facilities
- Incubator facilities
- On-site banking facilities
- On-site housing
- On-site customs clearance and trade logistics facilities
- High-speed telecommunications and Internet services, networked buildings

against new private zones. Opportunities for perceived and actual conflicts of interest are multiplied when the entity charged with guiding and monitoring SEZ performance is simultaneously one of the SEZ operators being monitored.

However, traditional structures continue to characterize most of the zone administrative bodies around the world, despite the advent of private zones. In countries such as Kenya, El Salvador, Honduras, Uruguay, and elsewhere, government bodies continue to develop and operate zones, while regulating zone activity in all zones, public and private. Frequently, public zones are not operated on a cost-recovery basis and undercut the competitiveness of private zones.

Some zone authorities are becoming more user-responsive by reorganizing themselves as corporate entities (to escape civil service limitations) and ensuring

substantial private sector participation at the board of directors level. This approach is more commonly found among the industrial free zone programs in Latin America (notably, Costa Rica and the Dominican Republic), and it has been employed in Thailand as well.

Physical Facilities and Services

The entry of the private sector into zone development has also changed the range of facilities, services, and amenities available within zones (Box 2). In general, there has been a shift from price-based competition (where zones competed on the basis of subsidized factory shell rentals) to product differentiation and non-price-based competition. Noteworthy trends include:

- Development of SEZs and industrial estates on an integrated rather than stand-alone basis, as parts of commercial, tourism, residential, and recreational “townships.” These integrated development projects allow developers to offset the relatively low profitability of industrial properties with higher margin commercial and residential facilities.
- Increasing specialization of facilities catering to the unique needs of target industries. High technology SEZs have been established in Malaysia, Taiwan (China), Singapore, and elsewhere. The Laem Chabang industrial estate in the Thai Eastern Seaboard is configured for petroleum and chemical industries. SEZs catering to the software and informatics services industries have been developed in India, Jamaica, the Dominican Republic, Mauritius, and elsewhere.
- Provision of a greater range of business support services and specialized facilities. In well-run private zones, as much as 50 percent of revenues can be derived from these sources in addition to traditional rental and sales income.

The development of these “next generation” zones has in many cases outclassed traditional EPZ estates. In countries such as the Dominican Republic, private sector zones cater to higher value-added industries, and are able to charge premium rates. Public zones

cater to low-margin, cost-sensitive industries like apparel assembly. This pattern is increasingly apparent in the Philippines, as private developers move “up-market” in terms of facilities and services catering to

electronics and ICT operations, leaving government zones to accommodate apparel, handicrafts, and footwear assembly activities.



ZONE GROWTH AND KEY CHARACTERISTICS

Overview

The number of zones—especially EPZs—has grown dramatically, particularly over the last decade (Table 12). Before the 1970s, most zones were clustered in industrialized countries, primarily in Western Europe. Inspired by the performance of the first modern industrial free zone in Shannon, Ireland in 1959, a number of developing countries, mainly in East Asia and Latin America, initiated EPZ programs. In the 1980s, the pace of zone development increased and expanded to new regions, including South Asia (Bangladesh, Pakistan), South America, and sub-Saharan Africa (Mauritius). The first privately developed and operated zones came on line in the Caribbean and Central America in the 1980s. Since then, zone development has exploded with the emergence of new programs in the countries of Eastern and Central Europe, the Commonwealth of Independent States, and Middle East and North Africa.

Today, according to this assessment, there are currently 2,301 zones in 119 developing and transition countries, clustered mainly in Asia and the Pacific and the Americas⁸ (Table 13). China alone accounts

for about 19 percent of these zones. Just over half of them are privately owned and operated. Altogether, these zones account for approximately \$200 billion in gross exports per annum and directly employ some 40 million workers, and perhaps some 60 million indirectly. In 1975, in contrast, there were only 79 zones in 25 countries around the world, employing about 800,000 people (ILO, 2003). All were government-owned and -operated.

Numerous studies have pointed to certain key characteristics of zones in developing and transition countries:

- **Concentration in a few countries.** A relatively small number of countries account for the majority of worldwide zone activity. Zones are concentrated in Asia and the Pacific (mainly China), Latin America, and Central and Eastern Europe and Central Asia. In general, less than a dozen countries account for most jobs created within zones and exports generated (Table 14). China

⁸ This figure excludes single factory zone programs and sponsoring countries unless they also have a physically defined zone program.

TABLE 12

Dates of Establishment of Zone Programs

	Before 1970	1970s	1980s	1990s	2000–Present
Industrialized Countries	Denmark Finland Germany Greece Iceland Ireland Italy Spain Sweden Switzerland United Kingdom United States		Australia* Malta Portugal	Canada France	Japan
Americas	Bahamas Brazil Colombia Dominican Republic Mexico Panama	Chile Costa Rica El Salvador Guatemala Honduras Jamaica	Paraguay Peru Trinidad and Tobago Uruguay	Argentina Belize Cuba Ecuador Nicaragua Venezuela, R.B. de	
Asia and the Pacific	Hong Kong (China) India Macau Singapore Taiwan (China) Thailand	Korea, Rep. of Malaysia Philippines Sri Lanka	Bangladesh China Fiji* Indonesia Pakistan	Korea, Democratic People's Republic of Mongolia Vietnam	
Middle East and North Africa		Cyprus Egypt, Arab Rep. of Israel Syrian Arab Rep.	Jordan Morocco Tunisia Dubai, United Arab Emirates	Algeria Bahrain Iran, Islamic Rep. of Kuwait Lebanon Libya Yemen, Republic of	Oman
Central and Eastern Europe and Central Asia			Bulgaria Hungary	Belarus Croatia Czech Republic Estonia Kazakhstan Kyrgyz Republic Latvia Lithuania Macedonia, FYR Poland Romania Russian Federation Serbia Montenegro Slovak Republic Slovenia Ukraine Uzbekistan	Albania Bosnia and Herzegovina Moldova

(Continued)

TABLE 12

(Continued)

	Before 1970	1970s	1980s	1990s	2000–Present
Sub-Saharan Africa		Liberia Senegal	Djibouti Mauritius	Burundi Cameroon Cape Verde Equatorial Guinea Ghana Kenya Madagascar Malawi Mozambique Namibia Nigeria Rwanda Seychelles Tanzania Uganda Zimbabwe	Gabon Gambia, The Mali South Africa Zambia

*Fiji and Australia withdrew their free zone schemes in 2003–04.
Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

hosts a greater number of zones, zone workers, and exports than any other emerging market except for Mexico, which employs a single factory *maquiladora* scheme.

- Concentration in a few product areas.** The majority of zone enterprises worldwide are engaged in labor-intensive, assembly-oriented activities such as apparel, textiles, and electrical and electronic goods. In 1999, it was estimated that these activities accounted for more than 80 percent of zone output worldwide (Madani, 1999). This is less the case today, given the recent increase in zones with a diversified output, especially in the CIS. The degree of product specialization tends to be linked to the level of industrial development of the host country. Apparel assembly operations, for example, dominate activity in low-wage countries like Bangladesh, Sri Lanka, Madagascar, and the Dominican Republic.⁹ Electronics, electrical and automotive components predominate in middle-income countries like Mexico, Malaysia, and Thailand.

- Reliance on a female workforce.** Female workers account for 60–70 percent of the zone workforce worldwide, a number that has remained consistent since the inception of EPZs. As economic activity diversifies away from simple assembly operations, the percentage of women in the workforce decreases. In the Malaysian EPZs, for example, 40 percent of the workers are female, down from 60 percent two decades ago.

Zone Development Characteristics by Region

Americas

The Americas are characterized by the widespread use of zones to support export development and facilitate trade. The U.S. Foreign Trade Zone (FTZ) program, which permits both trading and manufac-

⁹ Exceptions include the cases of Tunisia and Mauritius, which tend to specialize in the apparel sector although they are middle-income countries. This is due to the outward processing benefits granted to both countries by the EU (Cling and Letilly, 2001).

TABLE 13

Zones in Developing and Transition Countries

Number of countries with zones	119
Number of zones	2,301
Asia and the Pacific	991
China	187
Vietnam	185
Americas	540
Central and East Europe and Central Asia	443
Middle East and North Africa	213
Sub-Saharan Africa	114

Notes: Excludes single factory zone programs and sponsoring countries. Zones in the entities of Macau, Hong Kong (China), and Taiwan (China) are included in the Asia and the Pacific region. Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

turing activities, was established in 1934. The U.S. FTZ program dominates zone activity in the Americas, with 266 industrial estate-style zones at ports of entry in the country. The region also hosts some of the most dynamic zone programs in the world—in Mexico, the Dominican Republic, and Costa Rica.

Over the past three decades, free trade zones and export processing zones have become ubiquitous in the region. Initially, most were developed and operated by public sector entities. This approach was quickly abandoned in favor of private zone development in most countries, influenced by the experience of private zones in the Dominican Republic and Costa Rica, and private industrial parks in Mexico. A number of countries in the region have fully or partially privatized government-owned zones; prominent examples include Costa Rica, Colombia, and the Dominican Republic (with projects underway in El Salvador and Honduras). Still others, such as Uruguay and Argentina, relied on private zone development initiatives from the beginning.

Some of the key characteristics of these programs are presented in Table 2–1, Annex 2. In general, they can be grouped into the Mexican *maquiladora* program, comprised of a countrywide, single factory EPZ approach; the Central American industrial free zones, exemplified by the Dominican and Costa Rican zones; zones in the English-speaking Caribbean; and South American zones, typified by Colombia and Uruguay. While similar in many ways, these zones face quite different competitive environments.

- The Mexican *maquiladora* program consists of some 3,700 factories spread throughout the country, employs over 1 million, and exports close to \$80 billion per year. Unlike other zones in the region, industrial activities are highly diversified and important sources of foreign investment from Japan as well as the United States. The key competitor for the Mexican zones is China, rather than other zones in the region; since 2000, Chinese exports have been able to displace a number of Mexican products, and have become the second-most important supplier to the U.S. market in doing so.
- Unlike the *maquiladoras*, zones in Central America and the Dominican Republic are focused on the United States, both as an export market and the chief source of foreign investment. In fact, FDI inflows fund 80 percent of Dominican zone enterprises, and 54 percent of those in Costa Rica. Most of the zones in these countries are privately developed and operated, and focus almost exclusively on apparel, footwear, luggage, and other sewn good products. Even the pharmaceutical industry in the Dominican Republic is comprised mostly of assembly activities. Industrial diversification is taking place much more rapidly in Costa Rica, where zone production is dominated by electronic semiconductors, due to the establishment of a large Intel plant.
- Zones in the English-speaking countries of the Caribbean and Central America—mainly Jamaica, Trinidad and Tobago, and Belize—remain mostly in public sector hands, and they have not kept pace with their Latin counterparts. These zones depend almost exclusively on the United States as both investment source and export market. Apparel and sewn goods

TABLE 14

Zone Development Rankings

	Number of zones		Employment (thousands)		Exports (US\$ millions)	
Regions	Asia and the Pacific/Latin America/Central and Eastern Europe and Central Asia/Middle East and North Africa		Asia and the Pacific/Latin America/Central and Eastern Europe and Central Asia/Middle East and North Africa		Asia and the Pacific/Latin America/Central and Eastern Europe and Central Asia/Middle East and North Africa	
Countries	China	187	China	50,000	China	\$145,000
	Vietnam	185	Indonesia	6,000	Malaysia	117,013
	Hungary	160	Mexico	1,300	Hong Kong (China)	101,500
	Costa Rica	139	Vietnam	950	Iran, Islamic Rep. of	87,289
	Mexico	109	Pakistan	888	Ireland	82,500
	Czech Republic	92	United Arab Emirates	552	Czech Republic	68,626
	Philippines	83	Philippines	545	India	49,000
	Dominican Republic	58	South Africa	535	Algeria	39,423
	Kenya	55	Thailand	452	Argentina	36,478
	Egypt, Arab Rep. of	53	Ukraine	387	Philippines	32,030
	Poland	48	Malaysia	369	Korea, Rep. of	30,610
	Nicaragua	34	Lithuania	369	Tunisia	20,544
	Thailand	31	Honduras	354	Bangladesh	11,716
	Jordan	27	Hong Kong (China)	336	Lithuania	11,404
	United Arab Emirates	26	Tunisia	260	Mexico	10,678

Notes: Excludes zones in OECD countries. Also, for India, the updated FIAS database using WEPZA data shows 341 zones having received final approval, but exact operational figures for India are not available. According to WEPZA, data on exports from zones is not easily available and makes it difficult to issue meaningful rankings.

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

dominate, although zones in Jamaica, Barbados, and elsewhere have been successful in diversifying into data entry, call centers, software coding, and other information technology (IT) services.

- The majority of South American zones, with the notable exception of Colombia, are relative late-comers to zone development. Most of these were in private hands from the start, or were later privatized. Many—particularly in Colombia and Uruguay—are “high-end” zones, offering cutting-edge facilities and services (Box 3).

Asia and the Pacific

The Asia and the Pacific region has been at the forefront of zone development over the last three decades, led by the “Asian Tigers” in East and Southeast Asia. The region displays a wide range of

development and management approaches (Table 2–2 in Annex 2). Zones in East Asia and South Asia continue to be mostly government-run, usually by central government zone authorities (for example, the Republic of Korea, Singapore, and Bangladesh), state government corporations (Malaysia, India) or ministerial departments [Taiwan, (China)].

Traditional export processing zones have played a key role in the development of export sectors in a number of Asian economies, including Sri Lanka, Taiwan (China), and Malaysia. However, only a few of these economies have been able to break away from low-skilled textiles and apparel manufacturing into higher value-added manufacturing and services. Thailand, Malaysia, and Taiwan (China) are all often pointed to as models in utilizing their zones to both promote and diversify their export bases. Each of these economies has succeeded in moving from low value-added manufacturing to attracting investment and encour-

BOX 3

ZonaAmerica Business and Technology Park, Uruguay

ZonaAmerica is one of the leading-edge special economic zones oriented to IT, software, regional headquarters, and bio-technology and electronics operations.

Tata Consulting Services (India) is among the leading companies engaged in software development for the Spanish-speaking market.

Examples of specialized facilities provided by the zone include:

- Fiber optic and Wifi network
- Teleport and microwave links
- Internet security and on-site help desk
- Intelligent buildings
- Wireless perimeter security
- Research lab facilities
- Business services center
- Medical and daycare facilities

Source: www.zonamerica.com.

aging exports in a wide range of industries, including electronics assembly and component manufacturing (Thailand, Malaysia, and Taiwan, China), automotive assembly (Thailand), and chemical processing (Thailand).

A trend towards private zone development in Asia has developed recently, particularly in the Southeast Asian countries. In the early 1990s in Thailand and the Philippines, for example, the decision was taken to stimulate the development of private zones and industrial parks rather than expand public ones; the Philippines has completely eschewed the development of new public sector zones since new legislation was passed in 1995. Vietnam has relied mostly on private zone developers from the very start of its program in 1991 with the establishment of the

private Tan Thuan EPZ in Ho Chi Minh City. Indonesia's bonded zones are in government hands, but its over 100 export-oriented industrial estates are almost wholly privately developed and run.

While most zones host traditional light manufacturing and assembly-style export processing activities, Asia has taken the lead in promoting large-scale freeports. Following the phenomenal success of China's freeports (Box 4), a number of other countries in the region have sought similar results, including:

- The Philippines, which converted a number of former U.S. military bases into large-scale freeports—Subic Bay and Clark—with impressive results.
- Indonesia, which provided bonded zone status to Batam and Bintan islands, located 20 minutes away from Singapore.
- India, which has launched a major freeport development initiative—some 26 freeports have been approved for development, 5 of which are underway, several by leading private sector consortia.
- The Republic of Korea has initiated a major large-scale Free Economic Zone development program, with three large-scale zones being implemented by private property development consortia; it has also designated Cheju island as a “Free International City” with special benefits.

A number of Asian countries have also implemented specialized zones for financial services, information technology, science-based industries, and other industries requiring tailored infrastructure, facilities, and business development services.

Middle East and North Africa

Several countries in the Middle East were early adopters of free zones. The Arab Republic of Egypt, the Syrian Arab Republic, Israel, and Jordan, for example, established government-run zones in the 1960s and 1970s, at about the same time that zones were first set up in the Philippines, the Dominican

Zones within Zones: The Unique Case of China

Special economic zones were established by China to serve as “demonstration areas” for policy reforms and to encourage foreign investment. The economic impact of these zones has been far-reaching, transforming entire regions and economies.

The Shenzhen Special Economic Zone provides a snapshot of the impact of the SEZs on China’s economic development. Twenty-three years of growth has transformed Shenzhen from a small, sleepy fishing village into a thriving urban metropolis. Today, Shenzhen is an export-oriented economy with an export value in 2003 of \$48 billion (14 percent of the national total), some \$30 billion in FDI, and 3 million directly employed.

What is less well known is the fact that the SEZs host hundreds of national level zones, all with special and differing incentive regimes, including:

- 14 open coastal cities
- 15 free trade zones
- 17 export processing zones
- 54 economic and technological development zones
- 53 high technology development zones
- 15 border economic cooperative areas

Many other provincial- and city-level zones exist as well.

Republic, the Republic of Korea, and Taiwan (China). The majority of zones in the Middle East and North Africa region are free trade zones (Table 2–3 in Annex 2), aimed at facilitating trade with their host countries. Though many of these zones permit manufacturing, trading and associated activities (for instance, packaging and repackaging, break bulk) remain predominant. With a handful of exceptions, the economic contribution of zones in the Middle East has been negligible compared to zone programs in the Far East and Latin America, largely due to their traditional focus on trading activities rather than manufacturing. The notable exceptions to this are zones in Egypt and Jordan, which have developed a manufacturing focus. Enterprises in the qualified industrial zones (QIZs)¹⁰ in Jordan, for example, are engaged in apparel assembly operations for the U.S. market.

The government-developed Jebel Ali Free Zone in Dubai, a major regional distribution and logistics

hub, has become an important development model in the region. Its success has spawned an increasing number of similar zone developments in the Gulf, not just within the other Emirates, but also in Oman and Bahrain. Dubai has also taken the lead in developing new, specialized zones, including both Internet City and Media City, which promote exports in IT and media-related services. A \$3.3 billion large-scale offshore financial services zone and commodities market is being developed on Saadiyat Island, Abu Dhabi.

¹⁰ The QIZ framework was successfully implemented by extending the provisions of the Israel-United States Free Trade Area Agreement. The key requirement is that a qualifying product must be a “substantially transformed” good, with at least 35 percent of its value added in Israel, a Jordanian QIZ, or the West Bank/Gaza. Of that 35 percent, a minimum of 11.7 percent must be added in a Jordanian QIZ, 8 percent in Israel, and the remaining 15.3 percent can originate from a Jordanian QIZ, Israel, or the West Bank/Gaza.

BOX 5

Shannon Free Zone, Ireland

The Shannon Free Zone is the world's oldest EPZ, established in 1958. Located at Shannon International Airport, the zone offered investors secure access to European markets, attractive tax benefits, and subsidized rent and facilities. Specialized training and manpower development facilities were integrated into zone design from inception. As a result, export manufacturing activities accelerated.

There are presently 120 companies employing over 7,500 within the zone. As a large share of the zone's activities are in service sectors, the zone's contribution to overall merchandise exports is relatively small, accounting for less than 3 percent of the total. On a yearly basis, zone exports total \$2.5 billion and imports \$1.2 billion.

Over time, liberalization of the Irish economy outside the zone has reduced its relative importance. Nevertheless, it remains an important catalyst for the region, leading the economy's diversification into new, value-added sectors.

Western Europe

The concept of special economic zones is not new to Western Europe (Table 2–4 in Annex 2). Many of these countries (the United Kingdom, Italy, Denmark) have used free trade zones for centuries. Most Western European zones restrict manufacturing and other activities, only allowing packing/re-packing and warehousing. This is due in large part to EU regulations.¹¹ As a result, processing operations are only permitted in the Hamburg FTZ (Germany), and in the FTZs of the Canary Islands (Spain), Azores and Madeira (Portugal) and overseas departments. All other zones in the EU must operate as free trade zones. Because most of these zones are located in ports, they are controlled by port or customs authorities, and are therefore publicly developed and managed.

The Shannon Free Zone in Ireland (Box 5) was the world's first EPZ, inspiring the development of EPZs in emerging markets worldwide. Although less important now as a catalyst for economic growth, the zone was critical to the growth of exports, attraction of FDI, and outward orientation of the Irish economy.

Another noteworthy program is the Urban Free Zone program of France. Modeled after the United Kingdom's Enterprise Zones and Empowerment Zones in the United States, over 85 urban zones

have been designated in the country to promote the revitalization of distressed urban areas.¹²

Central and Eastern Europe and Central Asia

Following the break-up of the Soviet Union, many countries of the former Soviet bloc turned to free zones as a means of attracting foreign investment and integrating their economies with the global economy through export-led expansion (Table 2–5 in Annex 2). In some cases in Central and Eastern Europe, free zones pre-dated the dissolution of the Soviet Union and were carried forward as export development tools. Early reformers in the region include Bulgaria, Romania, the Kyrgyz Republic, and the former Yugoslavia.

Another interesting feature of several zone programs is the reliance on the re-use of existing infrastructure and facilities in addition to “greenfield” development (new facility construction by investors). Several Polish and Ukrainian SEZs, for example, cover parts of existing towns and specialized facilities (Box 6). Likewise, the Klaipeda zone in Lithuania is the

¹¹ Countries must abide by Council Regulation (EEC) No. 2913/92, Title IV, Chapter Three, entitled “Free Zones and Free Warehouses” (Articles 166 through 182).

¹² France also hosts an additional 751 *Zones Urbaines Sensibles*.

conversion of a former Soviet air force base. This approach avoids the need for huge outlays of public funding and improves the economic returns of zone development, as discussed in the next section.

The accession to the European Union of a number of the countries in the region will require some adjustments to their zone programs. Each of the countries needs authorization from the EU to retain its free zones and must negotiate the relevant terms. In some cases, such as Hungary, it is expected that many zones will be eliminated, particularly those that do not serve any regional development purpose.

Sub-Saharan Africa

Several African countries were pioneers in using free zones as economic development tools. Liberia and Senegal, for example, established EPZs in the early 1970s. In 1981, Mauritius started a single factory-based EPZ program whose prominence and success led to a wave of zone development throughout the continent in the late 1980s in East, Southern, and West Africa.

As shown in Table 2–6 in Annex 2, most countries in the region implemented both pure EPZ approaches along with single factory models. With the notable exceptions of Ghana (which opted for private sector zones) and Kenya (where most zones are private), most zones are developed and operated by government, typically by an EPZ authority. A number of countries—Madagascar, Mali, Mauritius, and the Seychelles—operate single factory EPZ programs that have been quite successful in terms of job creation and exports.

The dominant industries in African zones are apparel/textiles and food processing. Traditionally, the bulk of FDI to Africa has come from the EU, but an increasing number of East Asian and South Asian companies have located in African zones in recent years. The key export market remains the EU,

BOX 6

Pomeranian Special Economic Zone, Poland

Poland has 14 free zones established throughout the country. Though identified as SEZs, the zones generally cover only a limited land area and focus on traditional EPZ and FTZ activities. The program, established in 1995, has been designed as a regional development tool.

The experience of the Pomeranian Special Economic Zone exemplifies the Polish approach to re-use existing infrastructure for zone development. The Pomeranian SEZ was established in 2001 as a result of the merger of two special economic zones in Tczew and Żarnowiec. The Zone covers an area of 677 hectares and is located in the Pomorskie Province, Kwidzyn, Starogard Gdański, Tczew, and Żarnowiec. The Zone will operate until the year 2017.

By the end of June, 2007, the total number of permits granted to conduct business activities in the Pomeranian SEZ was 60, with a total investment outlay of \$870 million in projects employing 13,866 people.

One of the key aims of this zone is to make effective use of existing buildings and infrastructure, and to develop the grounds of the former site of the discontinued nuclear power station project in Żarnowiec.

although sales to the United States under provisions of the African Growth and Opportunity Act framework are increasing.

South Africa has two new industrial development zones in East London and Port Elizabeth, which are attracting a diverse group of investments, including automobile assembly, metalworking, and other fairly capital-intensive operations.

ECONOMIC PERFORMANCE AND IMPACTS

The economic performance and impact of zone programs in developing countries have been evaluated in numerous studies. Most of these, however, have focused on government-developed and -run zones and largely neglected the economic impact of private zone development. Social critics of zone development, on the other hand, have emphasized the social and environmental impacts of zones and largely dismissed economic contributions. And almost all studies have failed to evaluate the contributions of zones relative to other duty-abatement mechanisms. How do zone-based enterprises compare to firms operating under other incentive regimes in terms of their economic, social, and environmental impacts? This section outlines the major policy issues associated with zone development and documents their overall socio-economic economic benefits and costs.

Defining Zone Benefits and Costs

The economic benefits from zone development are both static and dynamic. The static benefits are quite straightforward and include:

- Direct employment creation and income generation

- Export growth and export diversification
- Foreign exchange earnings
- Foreign direct investment
- Government revenues

The impact of these benefits is obviously amplified in poorer countries where jobs and foreign exchange earnings and government resources are scarce. The dynamic benefits are much harder to measure, but are far more important to the long-term contributions from zone development. These include:

- Indirect employment creation
- Skills upgrading
- Female employment
- Technology transfer
- “Demonstration effect” arising from application of “best practices”
- Regional development

Zone development also entails a range of financial and economic costs, including: salaries of government workers in the zone authority and other operating expenses; infrastructure development outlays; import duties and charges lost from leakages of duty-free goods; and taxes foregone from firms relocating from the domestic customs territory to the zone. But it is

Both Sides of the Zone Debate

Topic	Critics	Proponents
Foreign exchange earnings	Zones host import-dependent activities with low value-added.	Countries can increase value-added through “equal footing” policies.
Industrial activity	Zones perpetuate low-skill assembly operations.	Many zones have promoted industrial and skill upgrading.
Policy reform	Zones help avoid country-wide reforms.	Zones are catalysts to broader reforms.
FDI	Zones attract the “wrong” FDI in low-tech, low-skill, and foot-loose activities.	Zones are an effective tool to attract FDI and most industries are not footloose.
Women	Zone industries segregate women and pay them lower wages.	Zones are an important source of employment for women and higher wages.
Labor rights	Zones suppress basic labor rights.	Most zones comply with ILO standards.
Working conditions	Zones permit companies to get away with poor work place health and safety conditions.	Better run zones offer much better working standards and conditions than elsewhere.
Environment	Zones have lax environmental controls to attract polluting industries.	Well-run zones have better environmental controls and practices.

important to note that a government’s costs associated with zone development are those that are *incremental*—additional costs not otherwise entailed—and *not recovered* through service charges and assessments. Many studies have made the mistake of focusing on total rather than incremental costs specifically linked to zone development. Public expenditures are clearly the highest in the cases where governments develop zones, and even worse when they do not operate on a cost-recovery basis, providing the subsidies typical of most government-run zones.

Adverse financial impacts may also arise from leakages of duty-free merchandise from zones, which not only have negative fiscal consequences but also

unfairly compete with domestic products. Tax losses can also result from the relocation (rather than expansion) of existing, tax-paying enterprises in the domestic customs territory to a tax-free zone.

SEZs in some countries have also been criticized for negative socio-economic impacts, particularly in relation to the role of women, labor, and working conditions in zones (ILO, 1998). These include:

- Exploitation of women—lower wage levels, lack of training or skill upgrading, use of trainees to lower wage costs
- Suppression of labor standards and core labor rights including trade unionization

- Poor employment conditions (work hours, health and safety)
- Lax environmental standards

Another important issue is whether zone development diverts developing countries from implementing broad-based economic reforms. Some analysts have proposed that zones may act as “pressure valves” for countries with growing unemployment, and allow them to avoid implementing painful structural reforms (Madani, 1999). Proponents argue, on the other hand, that when implemented properly, zones can serve as catalysts for countrywide reform by allowing countries to pilot and test new reforms and approaches before extending them countrywide.

Related to this is the opportunity cost of zone development. Does a focus on zone development divert scarce government resources from addressing other pressing needs such as education, health, or infrastructure? Does the establishment of zone authorities draw away scarce human resources in government from other priorities, or does the implementation of best practices in governance enhance the capacity of government employees to benefit governments more broadly?

Another consequence of zone development frequently raised by critics is the impact on industrial upgrading. Do zones stimulate and/or perpetuate a dependence on low-skill, low-technology, assembly-type operations and a dangerous dependence on one sector (such as apparel)? Or do zones actually promote industrial upgrading and diversification? (See also Box 7, which summarizes key issues in the zone debate.)

Economic Impacts

Employment Generation

One of the key objectives for EPZ development is employment generation. EPZs are viewed as highly effective tools for job generation, particularly for women first entering the workforce. Experience suggests, however, that the direct employment impact of zones is marginal. In most countries, zones are not a major source of employment. As shown in

Table 15, SEZs account for less than 1 percent of the global workforce, and are above 1 percent only in the Americas and the Middle East and North Africa.

While the direct employment impact of zones on average is marginal, the indirect employment effects can be quite substantial. The ratio of indirect to direct jobs created ranges from 0.25 percent in Mauritius (ILO, 2003) to 0.7 percent in Madagascar (Cling, Razafindrakoto and Roubaud, 2004), to 2.0 in Honduras (ILO, 2003). This implies that the indirect employment effect of EPZ development globally could range from 9.6 million to 77 million jobs.

Zones can and do play a major role in employment creation in certain countries. The rate of job creation in a number of programs, for example, has been remarkable. Employment in the Dominican Republic’s industrial free zones rose from 500 in 1970 to almost 200,000 today. Almost 1 million workers are employed in the Philippine eco-zones. The share of zone employment of national employment varies

TABLE 15

Direct Employment Impact of Special Economic Zones

	Direct Employment (millions)	Percentage of National Employment
Global	68.441	0.21%
Asia and the Pacific	61.089	2.3%
Americas	3.084	1.15%
Western Europe	.179	
Central and East Europe and Central Asia	1.590	0.001%
Middle East and North Africa	1.458	1.59%
Sub-Saharan Africa	1.040	0.20%

Note: Estimates from FIAS database were formulated on ILO data. In some cases where discrepancies arise due to inclusion of indirect employment figures (as identified by WEPZA), a revised direct employment figure was calculated using a standard ratio of 1:2; that is, for every one direct job created, two indirect jobs are in turn created. Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

widely, with Honduras at 4.6 percent, the Dominican Republic at 6.2 percent, Tunisia at 8 percent, Fiji at 10 percent, the Seychelles at 12 percent, Mauritius at 24 percent, and the United Arab Emirates at 25 percent. The impact of these jobs in countries with high rates of unemployment and underemployment are significant; as Madani (1999) points out, “for workers, the alternative to EPZ employment is often unemployment, underemployment or return to village subsistence life.”

Evidence suggests that zones are a much more significant source of employment in smaller countries with populations of less than 5 million (examples include Mauritius, the Seychelles, and Jamaica) than in larger countries. Even in Mexico, for example, the highly visible and successful *maquiladora* program accounts for only 3.2 percent of total jobs (Sadni-Jallab and Blanco de Armas, 2002).

Export Development

Another primary goal of zone development is the contribution to export development, not only in terms of accelerating export growth, but also export diversification, particularly important to poorer developing countries reliant on the export of primary products. In contrast to the relatively marginal role that zones have played in terms of employment creation, EPZs account for a significant share of manufactured exports in most regions, particularly in the Middle East and North Africa and sub-Saharan Africa (Table 16).

In many countries, zone programs accounted for a major share of exports in 2005. Examples include:

- **Americas:** Nicaragua (79.4 percent); the Dominican Republic (77 percent); Panama (67 percent).
- **Asia and the Pacific:** Bangladesh (75.6 percent); Sri Lanka (67.1 percent); the Philippines (78.2 percent); Pakistan (50.3 percent).
- **Middle East and North Africa:** Lebanon (36.3 percent); Bahrain (68.9 percent); Morocco (61 percent).

- **Sub-Saharan Africa:** Ghana (22.4 percent); Madagascar (80 percent); Mauritius (34.4 percent).

EPZ programs also spearheaded export diversification efforts in most countries, from an almost total reliance on primary commodities to manufactured exports. For example, most of the countries of the Caribbean and Central America exported mainly fruits and vegetables before the establishment of EPZs. In Costa Rica, the EPZ share of manufactured exports jumped from less than 10 percent in 1990 to 55 percent in 2003. Ten years ago, the main exports of the zones were apparel and textile products; today, over half of zone exports are modular circuits and other electronic components, even excluding exports generated by the Intel plant opened in 1997. Many other countries have had similar experiences. In Tunisia, the EPZ share of manufactured exports has more than doubled since 1990; in Kenya the share increased from 3.5 percent in 1997 to 19.3 percent in 2003; and in the Philippines the eco-zones' share of national merchandise exports increased from 22 percent in 1995 to 76 percent in 2003.

Foreign Direct Investment

Zones can also play an important role in attracting FDI. Supporters claim that by offering world-class facilities and best practice policies, zones can offset some aspects of an adverse investment climate. Unfortunately, the impact of zones on FDI is hard to gauge given the lack of data. Many zones do not track foreign investment flows separately, and data is uneven.

Available data suggests that SEZs are an important destination of FDI in some countries. In the Philippines, for example, the share of FDI flows going to the country's eco-zones increased from 30 percent in 1997 to over 81 percent in 2000 (UNCTAD, 2003). In Bangladesh, \$103 million of the \$328 million of FDI inflows were registered in EPZs. In Mexico, the share of annual FDI accounted for by *maquiladora* operations increased from 6 percent in 1994 to 23 percent in 2000 (Sadni-Jallab and Blanco de Armas, 2002). And in China, SEZs account for over 80 percent of cumulative FDI. However in many other countries, as reviewed later below, zones have played

TABLE 16

Impact of Zones on Exports

	Zone Exports (US\$ millions)	Percentage of Exports
Global	851,032	40.8%
Asia and the Pacific	510,666	41.0%
Americas	72,636	39.0%
Central and East Europe and Central Asia	89,666	38.7%
Middle East and North Africa	169,459	36.4%
Sub-Saharan Africa	8,605	48.7%

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

a marginal role in FDI attraction and most investment is of domestic origin.

Industrial Upgrading and Technology Transfer

The fact that zones have played a major role in diversification of export bases would suggest that they have contributed to upgrading the “skill content” of their output. Critics claim that the opposite is true—that while zone production diversifies from apparel to electronics, skill requirements and production processes remain static and thus zones perpetuate “dead end” simple assembly operations. They suggest that firms engaged in EPZs tend to be low-quality FDI, compete more on the basis of price, and invest little in advanced technologies or enhancing productivity and skills development.

Unfortunately, the lack of zone- and firm-level data precludes any systematic analysis of the issue. An indication of the skill content of zone exports is the share of skilled labor in the total zone workforce. Certain assessments have suggested that skill levels in zone workforces have remained steady over time and have not increased as would be expected. The share of skilled labor in the *maquila* work force,

for example, increased only slightly from 6.6 to 7.2 percent in 1988–1998. Even worse, skill levels in the non-*maquila* workforce were much higher at about 30 percent (Sadni-Jallab and Blanco de Armas, 2002). The high import composition of exports and the low skill levels may suggest that technology diffusion from the *maquila* sector is lower than expected.

Other analyses have suggested just the opposite. There is clearly substantial evidence of the catalytic role played by EPZs in the industrial upgrading and technology transfer in the East Asian newly industrialized economies, especially the Republic of Korea and Taiwan (China). In Malaysia and the Philippines, there has been significant industrial upgrading in the electronics sector located mainly within zones (Lall, 2000). The Philippine Economic Zone Authority has documented the substantial rise in skill levels in the Philippine eco-zones, with decreases in the proportion of the production workforce in electronics industries in favor of more skill-intensive design and research activities. The software technology parks in India, for example, were critical to the expansion and upgrading of ICT activities, not just in terms of routine data entry and software coding operations, but also in much more complex software development, content development, and multimedia operations.

But as with many issues concerned with zones, the key issue is whether enterprises located in EPZs or other special economic zones are any different from those located in the domestic customs territory of a country, registered under a different regime. While it could be argued that the technology transfer and product upgrading is suppressed because special economic zone-based enterprises are provided duty-free status, this is a common benefit given to export-oriented FDI generally. Surveys indicate no significant differences between EPZ and non-EPZ-based export-oriented firms in terms of technology transfer and linkages, suggesting that EPZ enterprises may be wrongly singled out (UNCTAD, 2002).

Foreign Exchange Earnings

An increase in foreign exchange earnings is one of the main benefits expected of zone development. The foreign exchange contribution of zone programs is

hard to establish directly since most do not collect foreign exchange earning statistics. Earnings can be approximated by tracking net exports (gross exports minus imports) as an indicator of the local value-added from zone activity. The net economic impact of zones is increased as local value addition is raised.

The success that some zones have had in increasing local purchases of zone-based goods and services is exemplified by the East Asian newly industrialized countries. In the Republic of Korea, for example, net EPZ exports were over 60 percent in 2000 (Schrank, 2001). Korean zones were successful in developing significant backward supply linkages and sub-contracting relationships with domestic firms, particularly in footwear operations (Healey and Lutkenhorst, 1989). In Indonesia, net exports of firms located in bonded zones reached 62 percent in 1990. The net export ratio among the Philippine eco-zone firms was 45 percent in 2003, according to the Philippine Export Zone Authority.

The experience of other zone-sponsoring countries in other regions has been similar. In Mauritius, for example, net EPZ exports increased from 23 percent in 1980 to 41 percent in 1995 and nearly 50 percent in 2002. The net export ratio of Costa Rican zones rose from 18 percent in 1996 to 40 percent in 2000. Free zones in Honduras increased net exports from 3.3 percent in 1990 to 24.5 percent in 1995; in El Salvador, the increase was from 3.8 percent in 1990 to 20.4 percent in 1996.

There are numerous examples where local value added of zone operations is low or has not changed over the years. It is notable that even in a relatively dynamic economy like Mexico, for example, the net export ratio of the *maquiladoras* has remained steady at about 30 percent between 1991 and 2000 (Sadni-Jallab and Blanco de Armas, 2002). Similarly, in the Dominican Republic, the share of domestic value-added in total output actually fell from 40–45 percent in the early 1980s to 25–30 percent by the end of the decade (Jenkins, Esquivel and Larrain, 1998). Net zone exports were negligible in Nicaragua and Guatemala, at 8 percent and 9 percent, respectively, in 1996. The proportion of raw material purchases that were of domestic origin among Sri Lankan zones remained static at 5 percent from start up

through the mid 1990s (Jayanthakumaran, 2002). In the apparel industry, nearly 90 percent of fabrics are imported. In most under-performing zones, the value-added consists mainly of the wage bill. In Mexico, it has been estimated that domestic inputs comprise only 3 percent of inputs of *maquila* enterprises (Sadni-Jallab and Blanco de Armas, 2002). In most Central American EPZs, wages constitute 55–65 percent of total domestic expenditures, and rent, utilities, and transportation services account for an additional 25–30 percent (Jenkins, Esquivel and Larrain, 1998).

What accounts for this discrepancy in performance, especially in countries with similar cost structures, locations, and resource endowments? There are a number of reasons, including exchange rate devaluations that raise import prices, distorting the value of net exports. Another important factor appears to relate to the degree of success countries have had in fostering backward linkages with suppliers in host economies, in particular, the extent to which domestic inputs are used in the production process. Several theories have been put forward to explain the relative paucity of backward and forward linkages formed by zone-based enterprises and the tendency for some EPZs to remain enclaves:

- **High import dependence of most EPZ activities.** Apparel, footwear, and electronics operations in particular have import ratios of 60–85 percent.
- **Impact of certain export market access arrangements.** “Outward processing relief” schemes—such as United States’ Section 806/807 of the U.S. Tariff Code (now 9802.0) in which duty-free access to the U.S. market is linked proportionally to the use of U.S.-made components—effectively discriminate against the use of domestic inputs favoring imported inputs.
- **Ban against local sales by EPZ enterprises** in some zone programs which preclude the development of forward linkages.
- **Lack of competitiveness of local firms.** Domestic enterprises in many developing and

transition countries are unprepared, unable, and at times uninterested in servicing EPZ firms with completely different quality, scale, price and delivery requirements.¹³

- **Preference by global firms to rely on their international suppliers** for raw materials and intermediate goods as part of their global sourcing strategies.
- **Lack of awareness and information about prospective domestic suppliers** on the part of EPZ-based firms, and potential market opportunities on the part of local enterprises.

From a policy perspective, the precise relationship between limited backward linkages and EPZs and other special economic zones remains unclear. Export-oriented companies located outside zones and benefiting from a special incentive regime (under an investment code, manufacturing under bond, bonded manufacturing warehouse, duty drawback, or other scheme) seem particularly averse to forming backward linkages. These firms are generally import-dependent operations that take part in segmented, global production chains, frequently exporting under outward processing relief types of mechanisms.

It can, in fact, be argued that the scope for supply and other linkages to develop is greater with special economic zones. There is a greater incentive for local firms to sell goods and services to zone-based enterprises because such sales are (typically) “deemed” exports and therefore are eligible for duty drawback and other export incentives. The implementation of these types of “equal footing” policies aimed at domestic enterprises is one reason that linkages are more prevalent in some zone programs.

Budgetary Impacts

The budgetary impact of special economic zones depends in part on the tax policies and fiscal incentives offered to qualifying enterprises. The typical package of fiscal incentives offered by EPZs almost universally includes corporate income tax holidays or reduced tax rates, import duty exemptions, indirect tax abatements, and so on. Some analysts claim that these incentives represent revenue forgone by host

governments. Income tax holidays in particular are regarded as “giveaways” because they are not useful to foreign affiliates in reducing their home country tax burden. Still, the issue with EPZ incentives, as with all fiscal incentives, is whether investors would have located in the zone without the provision of incentives in the first place.

Zone development results in complex revenue impacts for governments (Box 8). The main revenue gains are from personal income taxes (wage bill) and income from import duties and charges on zone output sold into the domestic customs territory.¹⁴ Corporate income taxes, even where they are assessed, are a marginal part of the revenue stream. In the case of government-run zones, revenue is also derived from fees and service charges and land and building rentals and sales.

Set against these are the incremental costs of regulating a zone program, and in some countries, development and management. These are both one-time and recurrent expenditures. Zones can become financial failures for governments under three scenarios: if zone development entails massive government capital outlays (for onsite or offsite infrastructure development); if the zones are not operated on a cost-recovery basis; and/or, if they receive subsidized inputs such as electricity or other services.

The earliest EPZs [in the Republic of Korea, Taiwan (China), India, the Philippines, for instance] were developed and run by governments on a subsidized basis. In most cases, land and building rates were set below cost-recovery levels and zones were not expected to recover operating, let alone development, costs. In a few other cases, zone-based enterprises benefited from subsidized energy, water, and other inputs. And in still other cases, zones were developed

¹³ “In most developing countries a modern, high volume, productive sector, producing essentially for export is superimposed on a small-scale, non-specialized sector, with low productivity, producing for the domestic market.” (Cling and Letailly, 2002). This makes the development of supply linkages difficult.

¹⁴ The contribution of taxes on EPZ wages can be considerable. In Madagascar, over 20 percent of employers’ social contributions are derived from free zone companies, and the program contributed to 2 percent of GDP in 1998. If spillover effects are taken into account, the free zones contribution to GDP increases to 7 percent and an additional 5 percent in tax revenues (Razafindrakoto and Rabaud, 2002).

Government Revenues and Costs from Zone Development

Revenues

- Corporate income tax (if no tax holiday)
- Personal income tax on direct and indirect employment
- Permit fees and service charges
- Rental or sales fees (from sale or rental of public land to developers)
- Import duties and taxes on zone products sold to the domestic customs territory
- Concession fees for other facilities (port, power plant, and so on), linked to zone development

Costs

- Wage bill of government workers needed to regulate zone activity or operate the zone and other operating expenditures
- Public sector capital outlays for external infrastructure (and internal infrastructure and facilities in the case of a publicly developed zone)
- Import duties and charges lost from smuggling
- Taxes forgone from enterprises relocating from the domestic customs territory to the zone
- Subsidies

in remote areas requiring massive public sector outlays. A much cited example is the Bataan EPZ in the Philippines, which required the construction of a \$25 million dam to provide water to zone enterprises (Warr, 1989). In recent years, however, public infrastructure development costs have been reduced through better location and planning of zones and associated infrastructure, and a greater reliance on the private sector to develop and operate zones.

Social and Environmental Impacts

Labor Standards, Pay, and Working Conditions

Since the onset of zone development in developing countries, concerns have been raised about the impact of zones on labor, particularly in terms of gender, wage levels and benefits, worker rights

and work conditions, environmental impacts, and related factors. In recent years, the advocacy efforts of trade unions and non-governmental organizations and improved enforcement by the International Labor Organization have had a positive impact in improving labor policies and practices within zones. In many important respects, significant headway has been made in dismantling the anti-union and labor-suppressing aspects of several EPZ laws. Most zone-sponsoring countries have ratified relevant ILO conventions, and national labor legislation applies to EPZs in most countries. There is a general realization that a zone's competitiveness in attracting quality investors is largely based on the productivity of its workforce and labor-management practices.

Nevertheless, significant issues remain with some countries, as documented by the ILO (2003) and International Confederation of Free Trade Unions (ICFTU, 2004):

- Restrictions on the freedom of association and collective bargaining (in Bangladesh, the Dominican Republic,¹⁵ Nigeria, Pakistan, Panama, Sri Lanka, Egypt)
- Bans on the right to strike (in Bangladesh, Namibia, Zimbabwe, Nigeria,¹⁶ Panama, Turkey¹⁷)
- Non-observance of national labor legislation within zones (in Islamic Republic of Iran, Sudan).

Even where policies are ILO-consistent, there are discrepancies in the implementation of those policies in some zones. These include weak labor inspection practices, intimidation of workers, limited access to zones by organizers, formation of company-controlled unions, and other anti-union practices (ICFTU, 2004). Several countries have instituted special mechanisms for dialogue and dispute resolution of labor issues. Zone authorities in the Philippines, Singapore, and Trinidad and Tobago have trade union representatives on their boards (ILO, 2003).

There are continuing concerns regarding work conditions and social protections, including women's rights in some countries. Some headway has been made in respect to gender discrimination and gender-related barriers in zones, including equal pay, pregnancy, and childcare. Mexican legislation, for example, now explicitly prohibits discrimination on the basis of pregnancy. But gender discrimination continues in some zones, especially in terms of unequal pay, inadequate rights during pregnancy, suitable working hours, and forced dismissals when women reach the fourth month of pregnancy. The ILO (2003) indicates there are difficulties in Bangladesh, Honduras, Indonesia, Madagascar, Mexico, Senegal, and Sri Lanka with working conditions, hours of work, occupational health and safety, and related issues.

Despite the seriousness of these issues, the preponderance of evidence suggests that they may not be as widespread as noted by the ICFTU, and concern only a fraction of the more than 100 zone programs around the world. Evidence also suggests that average wages are higher at EPZ enterprises than outside (Kusago, and Tzannatos, 1998). But wage rates vary

according to the size of firms, nationality, industry, and labor market conditions (Madani, 1999). Occupational health and safety practices are better with foreign multinationals inside zones than domestic enterprises outside. What is more telling is that the adverse labor and social issues are almost wholly associated with countries featuring programs developed and run by the government, especially older zones catering to "low-end," apparel-assembly operations.

Human Resource Development

One of the positive impacts expected of EPZ development is workforce upgrading and skills development, both through formal training and apprenticeship programs, and "learning by doing." However, some claim that anticipated benefits have fallen short in many zones because EPZ production processes typically involve basic skills and low technology (ILO, 2003). There is little incentive for firms with short time horizons to invest in productivity enhancement and skills development. The learning that does take place may be limited to industrial discipline, work habits, and routine. Labor is often seen more as a cost to be contained than as a resource to develop (UNCTAD, 2002).

Other assessments, however, are quite positive about the knowledge spillover effects of EPZs, especially those catering to higher value-added or knowledge-intensive industries (Madani, 1999). The Penang Skills Development Centre in Malaysia, for example, is widely recognized as a very successful model of EPZ company-sponsored skills development. Rhee (1990) notes the sharp productivity improvements among workers in Dominican zones in the first few years of employment. An emphasis on developing human resources is especially evident in zones in tight labor markets, as seen among the Thai Board of Investment enterprises in the mid-1990s. In addition to the benefits of industrial work discipline for new

¹⁵ The Dominican Republic government has since reasserted the freedom of workers to join trade unions and engage in collective bargaining. There are 148 trade unions operating within the industrial free zones in the country.

¹⁶ Nigeria bans strikes or lockouts for a period of 10 years following set up of a company in a zone (ICFTU, 2004).

¹⁷ Turkey has evidently removed the ban against strikes within its free zones, but further information is not available.

TABLE 17

Zones as Catalysts and Enclaves

Zones as Catalysts

Republic of Korea

- Equal footing policies extended to firms in domestic customs area enhancing competitiveness
- Almost \$200 million of local capital and intermediate goods purchased by zone firms per month
- Liberal FDI policies tested in free zones before extended countrywide

Jordan

- Automated customs systems piloted and implemented in the Aqaba SEZ prior to countrywide roll-out
- Aqaba SEZ implements on-line, simple business registration
- Aqaba SEZ customs forces merged with national customs to upgrade latter's capabilities

Kuwait

- FTZ pilot for private infrastructure provision outside utilities
- FTZ law liberalizes foreign ownership restrictions; later extended to countrywide FDI law

Zones as Enclaves

Dominican Republic

- Zones purchase only 0.001% of material inputs from domestic customs area
- Efforts to stimulate backward linkages are unsuccessful
- Domestic economy remains protected by high average tariffs, lack of competition, NTBs

Tunisia

- Single factories, import-dependent with limited backward linkages
- Domestic producers protected by high average tariffs (34%), NTBs, lack of competition

entrants to the workforce, typical of EPZ labor, skills development of local middle managers has been an enormous catalyst for technology diffusion. In the Philippines and Mauritius, for example, local ownership of EPZ and other export enterprises increased significantly as managers left foreign companies to start their own firms.

Environmental Impacts

The experiences of the Mexican *maquiladora* plants are probably the most cited examples of the environmental degradation linked to EPZ development. As growth of the *maquiladora* plants far outpaced the ability of border cities such as Tijuana and Juarez to provide necessary waste treatment infrastructure and facilities, air and solid waste pollution quickly became a health hazard for nearby populations. This was compounded by weak monitoring and enforcement capabilities of national and local environmental authorities and a perception that environmental laws could be weakened in the *maquilas* because of their

“priority sector” status (Williams, 1995). Adverse environmental impacts have also been raised with respect to older EPZs in Sri Lanka, the Dominican Republic, and some EPZ factories in Mauritius.

In evaluating environmental impacts, however, a distinction needs to be drawn between countrywide single factory EPZ programs, as in Mexico and Mauritius, and industrial park-style zones elsewhere. It is much harder for governments to adequately enforce environmental standards for EPZ plants dispersed around a country, as exemplified by the Mexican experience. Industrial park-style zones, especially private zones and more modern zones, on the other hand, offer purpose-built facilities that are specifically tailored to the needs of target industries. These projects have a much better environmental record due to zone-specific environmental regulations with more effective implementation, planned facilities for waste treatment, and a realization that effective management of the environment is a key selling point to investors.

Special Economic Zones and Countrywide Reforms

Some economists suggest that special economic zones are a “second-best solution” to compensate for the anti-export bias of trade policies and other policy distortions typical of many developing countries. Using different hypotheses and parameters, economists have concluded that zones lead to economic distortions (Hamada, 1974) and, conversely, that the establishment of a zone improves a country’s well-being (Young and Miyagiwa, 1997). At a public policy level, the fundamental debate has been whether special economic zones promote country-wide economic policy reforms by serving as “demonstration areas” or catalysts, or whether instead they act as “pressure valves” for unemployment, reducing the incentive to reform and, thereby, diverting reform energies (Table 17). A 1992 World Bank study cautioned against the possibility that EPZs could be used by developing countries to “muddle along without reforms,” and stressed the need to use zones as a supplement to countrywide reform, as opposed to creating isolated free market enclaves (World Bank, 1992).

In this context, the experiences of the Republic of Korea and the Dominican Republic offer an informative contrast. The Republic of Korea is an example of a country where establishment of the EPZ program in 1970 spearheaded broad reform and structural transformation of the overall economy. By the 1980s, almost 35 percent of total consumption of equipment and components of EPZ firms was bought locally. The Korean EPZs purchased almost \$200 million of locally manufactured capital and intermediate goods per month (UNCTC, 1991). In contrast, 30 years after the establishment of the first industrial free zone in the Dominican Republic, the 500 zone firms purchase no more than 0.01 percent of their material inputs from the domestic customs territory. Very few zones coexist successfully with a highly protected domestic economy (Schrank, 2001).

Why are some countries able to use special economic zones as demonstrators of best practice and catalysts of reform and others are not? Perhaps some countries have consciously viewed zones as mechanisms to change their economies and others have not. In countries as diverse as the Republic of Korea,

Ireland, and Malaysia, deliberate efforts were made to integrate zones into national economies at some point in their development process. Zones were used, variously, to facilitate a broader export orientation, transfer technology, and improve the overall business environment by extending best practice policy.

The process of integration has typically been undertaken by extending “equal footing” policies to domestic suppliers of capital and intermediate goods. In Taiwan (China) and the Republic of Korea, governments provided local producers with efficient duty-free access to inputs that they supplied to zone-based firms. Local producers, including smaller businesses, received tax credits and rebates on duties paid on imported materials used in products sold to zone-based firms. In the Republic of Korea, local suppliers were able to import components on the basis of the original letters of credit of the zone-based firms. Another important “transmission and integration mechanism” in these and other countries was the extensive use of sub-contracting by zone-based firms to local producers. Zone-based firms provided materials, technical assistance, and financing as part of the sub-contracting arrangement. These were supported by broader trade and investment reforms that exposed domestic firms to competition and enhanced competitiveness, and focused programs on establishing backward and forward linkages between zone-based firms and domestic enterprises.¹⁸

China, Malaysia, Jamaica, Kuwait, and Jordan have used zones as demonstration areas to test the impact of new policies and approaches designed to improve the business environment. The Chinese SEZs, for example, experimented with market-oriented FDI, land, and tax policies before extending them to all enterprises. Costa Rica used zones as efficient mechanisms to attract foreign investment prior to more broadly extending these approaches to enterprises.

¹⁸ In Taiwan (China), the Republic of Korea, and Ireland, local authorities promoted personnel exchanges, supported training efforts, and provided technical assistance to potential suppliers. The Irish program to increase linkages included the technical departments of local universities. The program also encouraged purchasing managers of export-oriented firms to work with local suppliers to help them achieve the required quality standards and delivery times (Jenkins, Esquivel and Larrain, 2002). In Singapore, the Local Industry Upgrading Program created in 1986 had 30 multinational corporations, 11 large local firms and 670 domestic suppliers by 1999 (Sanchez-Ancochea, 2004).

Difficulties in Establishing Industrial Linkages: The Case of the Dominican Republic

A backward linkages program in the Dominican Republic sponsored by the United States Agency for International Development illustrates the challenge some countries have experienced in developing linkages with EPZs.

While feasibility studies revealed abundant EPZ demand for textiles, precision plastic parts, metal stamping, machine shops, and tool, mould and die making, backward linkages failed to develop.

Among the most important reasons:

- The relevant sectors frequently did not exist as the Dominican Republic never made significant inroads into the manufacture of capital and intermediate goods.
- Local producers generally failed to meet world market standards for price, quality, and delivery terms.
- Local manufacturers frequently had no interest in supplying EPZs because they were satisfied with current operations and profitability levels.

Source: Schrank (2001).

In Jamaica, high-speed telecommunications services were de-monopolized within the Montego Bay Free Zone prior to telecommunications deregulation countrywide. The new SEZ regimes in Panama and India are being used to test ILO-consistent labor policies that are more flexible and market-oriented than current approaches.

Special economic zones in a number of Middle Eastern countries are being used to pilot dramatic liberalization in foreign investment ownership policies. In Kuwait, such policies were originally restricted to the Kuwait FTZ and are being extended generally to FDI in the country. New legislation in India and Panama aims to use SEZs to remove labor market rigidities and promote ILO-consistent approaches. In the Aqaba SEZ, automated business registration and customs systems first fast-tracked and proven in the zone are now more broadly applied in Jordan.

Schrank (2001) suggests that EPZs fail to become “bridges to structural reform” in small markets or where an import-substituting industrialization approach has resulted in inefficiency and lack of competitiveness. In these cases, EPZs remain isolated enclaves and “grow at the expense of national

industry.” The Dominican Republic is a case in point (Box 9). In larger markets, where a solid industrial foundation has already been established, backward linkages are more successful. In general, backward linkages (as measured by net exports) are stronger in larger economies than in smaller ones.

Lessons Learned: Common Obstacles to Zone Success

The economic and financial impacts of special economic zones, especially EPZs, have been extensively documented. A recent review of cost-benefit analyses of selected Asian EPZ programs applying the “enclave model approach” showed that EPZs in the Republic of Korea, Malaysia, Sri Lanka, China, and Indonesia are “economically efficient and generate returns well above the estimated opportunity costs of the respective countries” (Jayanthakumaran, 2003). Only in the case of the Philippines were the results negative due to the high government infrastructure costs and subsidized utilities entailed in developing the Bataan EPZ (Warr, 1990). Other assessments measuring the dynamic impacts of EPZs (in addition

to static effects) find that the benefits of Asian zone development were even greater. Sinclair (2001), for example, concluded that zones act as “a conduit for transition to a stable and open economy.” He found that on average, a zone contributes about 0.52 of a percentage point towards the per capita GDP growth rate of a given country.

These analyses fail to capture the whole picture for two reasons: they cover only Asian zones, arguably the most successful in the world, and they include only government-owned and operated zones. Systematic assessments of zones in other regions are scarce; evaluations of the economic performance of privately owned and run zones relative to public ones have yet to be undertaken.

Zone development initiatives around the world have faced a wide array of difficulties, hampering zone performance to the degree that they are described as “obstructed zones.” These can be divided into two categories: “partial performers,” in which some but not all zones within a development program were beset by serious difficulties, and “severely obstructed,” in which performance has suffered program-wide (Table 18).

The original wave of government-developed and -operated industrial free zones in Central America faced a host of severe obstacles as they pioneered the application of SEZs in developing economies. As a result, both the Zolic Free Zone in Guatemala and the Moin Free Zone in Costa Rica were partial performers, with the latter attracting only three firms in its first eight years. Another partial performer, the Bataan EPZ in the Philippines, was kept from maximizing its potential by the need for massive infrastructure investments, including the construction of a \$25 million dam.

The mixed results of early Latin American and East Asian EPZ programs prompted adjustment and restructuring in the projects that followed. Many public sector free zones in Latin America—Costa Rica, Colombia, the Dominican Republic—were divested to private investors; in Costa Rica and Colombia, the government has avoided public zone development altogether. In El Salvador, Honduras, Nicaragua, and Guatemala, government-run zones were opened to

TABLE 18

Obstructed Zone Examples

Partial Performers	Severely Obstructed
<i>Africa</i> Dakar, Senegal Walvis Bay, Namibia Monrovia, Liberia Athi River, Kenya	<i>Africa</i> Senegal Namibia Liberia Côte d'Ivoire Congo, Dem. Rep. of
<i>Asia</i> Kandla, India Bataan, Philippines	<i>Asia</i> Pakistan
<i>Other</i> Zolic, Guatemala Moin, Costa Rica Puerto Cortes, Honduras Cartagena, Colombia San Bartolo, El Salvador Aden, Yemen, Republic of	<i>Other</i> Ukraine Moldova

competitive pressures from new private zones and forced to operate on a cost-recovery basis. The same approach was also implemented in India and the Philippines; in the latter case, government-run zones were replaced mostly by private ones and the Philippine Economic Zone Authority has ruled out the development of new government zones.

The impediments faced by EPZs in sub-Saharan Africa have been more program-wide in nature, with some notable exceptions. The Dakar Free Zone in Senegal was beset by an assortment of constraints, which ultimately resulted in “severe obstruction” (Box 10). Successful zone activity in Africa is very possible, however, as programs in Mauritius, Madagascar, and Kenya have all performed extremely well.

The majority of economic zone programs in the Europe and Central Asia region have enjoyed at least moderate success, with Poland, Bulgaria, and Romania leading the way. Other programs (particularly in the CIS) have faced more substantial performance barriers, however. In Ukraine, problems with both location and facilities investments and public sector management capacity have undermined operations, and a significant proportion of zone investment

Obstacles Faced by the Dakar EPZ

Senegal was a pioneer in the creation of free zones, establishing its EPZ in 1974. The project generated significant hopes, as Senegal expected to profit from the de-localization of enterprises from industrialized countries, in the same manner as countries of the Maghreb, the Caribbean, or Southeast Asia had earlier. The scheme's promoters sought to exploit Senegal's geographical position as well as the port and airport facilities offered by Dakar.

In 1999, 25 years after its creation, Senegal's authorities closed the Dakar EPZ, which at the time was home to just 14 active enterprises. The principal obstacles to success for this program included:

- Excessive bureaucracy involving different institutions in the country, especially customs;
- Unnecessarily long delays in obtaining necessary permits (often more than one year);
- Unrealistic goals imposed on potential investors, both with regard to jobs to be created (each company was required to employ at least 150 people) and to initial investment;
- Poor reputation of the local workforce, which was labeled unproductive and overly expensive;
- Elevated cost of other factors of production (energy, water, communications);
- Rigid and constraining labor regulations; employment contracts were permanent and employers did not have complete freedom to recruit the people they wanted.

Source: Cling and Letilly, 2001.

seems to be the result of relocation rather than new endeavors.

Are Private Zones Better Performers?

Are privately owned and operated zones better economic performers than public ones? Unfortunately, this is difficult to establish given the lack of analysis of this issue. But available data suggests that—from the perspective of a host country—private zones are both less expensive to develop and operate and yield better economic results.

Private zones usually require less public funding to establish and operate, mainly because private developers finance onsite infrastructure and facilities; governments are required only to provide offsite (external) infrastructure and facilities, which are only a small part of total development costs (usually a

maximum of 25 percent of onsite costs). In addition, most private zones (the Dominican Republic and the Philippines are good examples) are required by law to provide offices and other facilities for government authorities to be based onsite. Government costs of administering zone programs are also reduced in a number of countries. Most private zones in Latin America and the Philippines, for example, pay overtime and other special benefits for customs officers and other officials to remain onsite on a 24-hour basis. In other programs (Kuwait, Costa Rica, Uruguay, Colombia), zone operators assume specific “regulatory functions” such as inventory counts on behalf of customs authorities, thereby further reducing administrative costs of governments.

Public expenditure cost savings through private zone development depends critically on where private zones are located and whether they are subject to any designation criteria and development controls. When private EPZs were first developed in Mexico

and Central America in the 1980s, they were largely uncontrolled developments with no specific zoning controls and land use plans. As a result, rapid growth of private zones strained public infrastructure, facilities, and services. In the Dominican Republic (Box 11), for example, the proliferation of private zones in the early 1990s resulted in growing calls to ban new private zones.

Most modern zone programs, in contrast, have developed zone designation criteria and development controls whose main aim is to ensure that new zone projects are located close to existing public infrastructure and facilities, thereby reducing government outlays. Box 12 outlines designation criteria applied to private industrial estates and EPZs in Thailand as an example.

On the whole, privately operated zones tend to offer better facilities and amenities, command higher prices from tenants, and attract “higher end” types of activities. Because private zones are run on a cost-recovery basis, they are generally more responsive to tenant needs, and therefore provide a wider range of property management services and amenities, including specialized on-site telecommunications facilities, health clinics, day care centers, and business support services.

Private zones are generally able to command higher rates. For example, standard factory building lease rates in the private industrial free zones in the Dominican Republic are up to three times higher than in government-run zones. The preference for the market to locate in better configured and run private zones is common to many other countries where such a choice exists, including Vietnam, Thailand, the Philippines, Lithuania, El Salvador, Kenya, and elsewhere. Most private zones also tend to have a better package of social and environmental facilities than government-owned zones. Due to physical, budgetary, and operational constraints—as discussed further in the next section—many public sector zones have crowded, poorly designed, and inadequately maintained facilities.

Many private zones appear to be better economic performers than government zones. In the Philip-

BOX 11

Private Free Zone Development in the Dominican Republic

The Dominican Republic’s 22 public zones were established primarily as a means to encourage regional development outside the capital city of Santo Domingo. The private sector zones, which today number 31 (including joint public-private ownership), are, instead, heavily concentrated around the capital area, which is the country’s largest population center and is situated near critical port and airport infrastructure. There are currently 194 companies operating in the public zones and 326 in private or joint ownership zones.

Surveys of zone enterprises highlight the role of the private sector in upgrading the facilities and services required of export enterprises, particularly those in manufacturing (Rhee, 1990). The private zones, driven by market forces, are located primarily in the vicinity of Santo Domingo, providing access to the country’s highly qualified and productive labor force, as well as access to high quality transportation infrastructure.

Most important, zone enterprises have demonstrated a willingness to pay higher prices for their space (in some cases, up to three times higher) in return for high-quality services and infrastructure facilities. The private zones boast quality telecommunications services, business support services, and manufacturing and office space.

For example, private zones accounted for over 70 percent of the \$7.18 billion in total zone exports registered in the first quarter of 2004. In El Salvador and Honduras, over 90 percent of exports and employment take place in private zones. In Thailand and Vietnam, most foreign direct investment is in private, rather than public, industrial estates/industrial zones and EPZs; private zones also account for the majority of exports. Outside East Asia, government-developed and -run zones are generally less profitable than their private counterparts, and have a worse track record in terms of negative social and

BOX 12

Private EPZ and Industrial Estate Designation Criteria in Thailand

Qualifying Areas	Minimum area of 80 hectares. Zones must be located close to infrastructure facilities and minimize public infrastructure requirements. Projects located in Bangkok and Samut Prakan (considered over-industrialized) will not be promoted.
Factory Space	Not less than 60 percent and not more than 75 percent of the zone area must be used for factories.
Minimum Road Standards	<i>Two-way main roads:</i> minimum 18 meters wide, of which not less than 12 meters is for traffic, with a shoulder of 3 meters on each side. <i>One-way main roads:</i> minimum 13 meters wide, of which not less than 7 meters is for traffic, with a shoulder of 3 meters on each side. <i>Secondary roads:</i> minimum 8.5 meters for traffic, with a shoulder of 2 meters on each side.
Sewage and Waste Water Disposal	A wastewater treatment plant must be set up as approved by the Board of Investment.
Refuse Disposal	Refuse storage and incineration areas must be sufficient with suitable refuse collection methods.
Estate Usage	Factories must be kept apart from residential and other business areas.
Environmental Protection	To prevent factories which generate smoke and foul odors from being located in the industrial zones, factories in the industrial zones must be approved by the Board of Investment.
Public Utilities	The supply of water, electricity, telephones, and post offices must be adequate.
Time Constraints	Within two years of the date of issue of the promotion certificate, 25 percent of the land area must be developed with full public services and utilities.

environmental impacts as well. These examples provide anecdotal data suggesting that private zones are not only less costly to develop and operate than public zones, but yield better economic impacts, too.

However, more systematic analysis at the individual zone level needs to be undertaken to validate these premises.



LESSONS LEARNED AND IMPLICATIONS FOR ZONE DEVELOPMENT

The previous discussions reviewed development patterns and economic impacts of zones worldwide. That review suggests that SEZs have not been uniformly successful, and the most successful zones tend to be concentrated in East Asia and Latin America. The majority of African zones have found it difficult to replicate this success, despite significant technical assistance and funding from donors. What accounts for the remarkable variance in zone performance between and within regions? The discussion below identifies the major “lessons learned” from zone development, sets out key guidelines to maximize the success of a zone development strategy, and evaluates the current and future rationale for zones.

What Determines Zone Success?

Three decades of zone development experience suggest that the failure or success of a zone is linked to its policy and incentive framework and the way in which it is located, developed, and managed.

Policy, Incentive, and Administrative Frameworks

To a great extent, zone initiatives determine their own destiny from the start, with the establishment of policy frameworks, incentive packages, and various other provisions and bureaucratic procedures. Several main policy issues commonly related to sub-optimal zone performance include:

- Uncompetitive fiscal incentives
- Restrictive controls on zone activity and cumbersome regulations
- Exclusion of merchandise processed in zones from entry under bilateral and regional trade agreements.

Uncompetitive fiscal incentives. The package of fiscal incentives offered by EPZs is increasingly similar around the world. Over the years, this package has expanded from simple import duty exemptions to a combination of corporate income tax reductions or holidays, exemptions from most indirect and local

taxes, unrestricted repatriation of capital and profits, and unrestricted management of foreign exchange earnings. Zones in the Middle East and North Africa region often go further, offering personal income tax exemptions for expatriate workers¹⁹ and zero corporate income taxation in perpetuity.

Experience shows that the use of generous incentives packages to offset other disadvantages (such as poor location and facilities) is ineffective in terms of overall zone performance, due in large part to the increasing commonality of zone investment incentives in recent years. Moreover, the reliance of zone programs on incentives with limited effectiveness (such as income tax holidays) imposes significant costs on government budgets with little benefit (Box 13).

The negative impact of restrictive policies and practices embedded in many zone programs has been proven even greater than that of uncompetitive incentives schemes. Examples include:

- **Restrictive treatment of real assets.** For example, Jordanian zone-based firms are unable to own land within zones, hold title to leasehold improvements, or dispose of real assets after lease expiration. As a result, firms cannot use real assets for collateral financing and must hand over such property to the Free Zones Corporation after lease expiration.
- **Inappropriate application of extraterritoriality principles.** Many Arab special economic zones have an extreme concept of extraterritoriality. As a result, zone products are not granted national certificates of origin.
- **Performance requirements.** Senegalese zone-based firms were subjected to severe employment creation and minimum investment requirements. In Liberia, foreign investors faced inordinately high initial investment requirements.
- **Prevention of private sector development of zones.** Jordanian and Egyptian laws provide a total government monopoly for zone development, financing, operation, and regulation.²⁰

Other weaknesses are found in terms of elaborate procedures and excessive documentation. For example, until recently, the investment application for zone status in Egypt was 40 pages long, and investment approvals took anywhere from 12 to 24 months.

- **Weak administrative bodies.** The lackluster performance of some programs can also be traced to weak government bodies established to develop and operate zones, and to regulate zone activity. In many countries, zone authorities lack necessary powers and autonomy and are underfunded or poorly managed. Decision-making in older zone authorities in Jordan, Syria, and Egypt, for example, is excessively centralized; alteration of a land lease rate usually requires approval of the country's cabinet. Some are subject to political influences and are chronically overstuffed. At one point in Egypt, for example, the Egyptian General Authority for Investment and Free Zone had over 4,000 employees. Still others lack control over their budgets and have restrictive civil service limitations on remuneration and employment conditions.
- **Trade exclusions on zone merchandise.** Some bilateral and multilateral free trade agreements (FTAs), such as the Arab FTA and MERCOSUR in Latin America, exclude products produced in free zones. Products processed in these zones cannot qualify for entry under these agreements. Products produced in Arab zones are not granted national certificates of origin;²¹ preferential access through the MERCOSUR agreements is denied to products produced in zones in qualifying countries.

¹⁹ Free zone companies in the United Arab Emirates zones are able to import expatriate labor and pay them wages and other benefits below that mandated by law for the country's citizens. This has created artificial competitive advantages and increased dependence on foreign labor.

²⁰ This refers to free zones in Jordan, not private industrial estates, most of whom have QIZ status. In Egypt, private free zones refer to single factory zones.

²¹ Some free zones—such as the Jebel Ali Free Zone in Dubai—routinely ignore these provisions and provide national certificates of origin to products processed in the zone destined to regional markets.

BOX 13

Why Are Tax Holidays an Ineffective Incentive?

A tax exemption is of little benefit if the company is not making profits, which is usually the case in the initial years of operation. Firms that are profitable from the outset might not have needed incentives in the first place.

Tax holidays encourage income shifting from non-tax-exempt enterprises to tax-exempt companies through transfer pricing of inter-company transactions.

Tax holidays reduce the appeal of debt financing of capital investment by removing the benefits of interest deductibility. This equity funding bias is accentuated if dividends of tax-exempt firms are also exempt from personal income tax.

Tax exemptions tend to benefit investments with a short-term time horizon. Longer-term projects that generate profits beyond the tax holiday period do not benefit, unless firms are permitted to accrue and defer asset depreciation deductions beyond the tax holiday period.

Tax exemptions do not benefit investors from many OECD countries that tax income on a global basis, unless a "tax sparing" agreement is in place.

Physical Design, Development, and Management Practices

Difficulties in harnessing the full potential of zones are often linked to poor site location, design, and development practices. Most government-developed zones, for example, were located in remote areas to act as growth poles. The location of many others reflected political rather than economic and technical factors. While the Philippines Bataan EPZ is probably the most common example of this, it is certainly not alone. The Cartagena Free Zone in Colombia was located on a swamp resulting in extremely high capital development costs. The San Bartolo Free Zone in El Salvador had to be subsidized to offset high development costs due to poor site conditions.

The Katunayake EPZ in Sri Lanka was poorly designed, resulting in congestion, over-crowding, and social unrest. The design of the Kingston Free Zone in Jamaica did not provide enough open space and social amenities, resulting in over-crowding and continuing labor problems. Other zones were over-developed, much ahead of investor demand. For example, in its first two years of operations the Zolic Free Zone in Guatemala constructed over 24,000 square meters of factory space, which sat empty without adequate marketing support (TSG, 1991).

Inadequate coordination and the lack of effective partnerships between private zone developers and governments in terms of external infrastructure provisions have also caused problems in the past. Most private EPZs and industrial zones in Vietnam, for example, sat vacant because local and national authorities could not provide road and other infrastructure connections to the site.

One of the most significant factors accounting for the financial and economic underperformance of some zones is the once-common practice of subsidizing land and building lease and sale rates. Many government zones do not operate on a cost-recovery basis, leading to drains on national treasuries. This is exacerbated if water, power, and other utility services are also subsidized. The lack of adequate funding has meant that many public zones are inadequately maintained (as exemplified by zones in the Dominican Republic), and/or do not have robust promotional efforts.

In summary, the most common obstacles to success for zones are:

- Poor site locations, entailing heavy capital expenditures
- Uncompetitive policies—reliance on tax holidays, rigid performance requirements, poor labor policies and practices
- Poor zone development practices—inappropriately designed or over-designed facilities, inadequate maintenance and promotion practices
- Subsidized rent and other services

TABLE 19

Export Development Mechanisms

Mostly Export-Oriented Enterprises

EPZs

Bonded manufacturing warehouses

Partial Exporters

Inward processing relief (duty suspension)

Duty drawback/rebate

Indirect Exporters

Common bonded warehouses

Duty drawback

Mechanisms for Infrastructure Provision

EPZs

Industrial estates/industrial parks

Industrial zones

- Cumbersome procedures and controls
- Inadequate administrative structures or too many bodies involved in zone administration
- Weak coordination between private developers and governments in infrastructure provision.

Guidelines for Zone Development

One of the clearest lessons learned from decades of zone development—particularly EPZ development—is that *zones cannot and should not be viewed as a substitute for a country's larger trade and investment reform efforts*. They are one tool in a portfolio of mechanisms commonly employed to create jobs, generate exports, and attract foreign investment, through the provision of incentives, streamlined procedures, and custom-built infrastructure.

But maximizing the benefits of zones depends on the extent to which they are integrated with their host economies. The static and economic impacts of zone development are suppressed when zones are operated as enclaves. They are multiplied when they are accompanied by countrywide economic policy and

structural reforms that enhance the competitiveness of domestic enterprises and facilitate the development of backward and forward linkages.

Zone Concepts

A critical issue that needs to be addressed in the configuration of a zone development program is the type of zone to be promoted (Table 19).

International experience suggests that the recommended approach is to adopt a SEZ model with the following features:

- Permit industrial estates to host SEZ enterprises as well as those licensed under other regimes. The preferred approach is to allow all enterprises to co-locate within the same area, although the development of separately fenced-off areas solely for zone enterprises (as in Philippine and Thai zones) is an acceptable approach.
- Ensure that the SEZ regime is flexible, allowing a range of commercial as well as manufacturing activities. If properly supervised, a separate commercial zone regime, as in Malaysia and Thailand, is not required.
- Promote private rather than public development of zones. International experience suggests that private rather than public development of zones increases the chances of success. Outside East Asia and Dubai (United Arab Emirates), the vast majority of government-developed and -run zones have been consistently less effective than their private counterparts.

However, the implementation of this approach requires greater administrative capabilities within host governments to ensure adequate regulation and facilitation. In particular, facilitating private zones requires the development of an appropriate legal, regulatory, and institutional framework, including:

- A legal framework that outlines private zone designation criteria, incentives and privileges of private zone developers and operators, and rights and obligations of zone developers/operators and

the government with respect to zone development and operation;

- A public-private partnership framework for zone development, outlining rights, responsibilities, obligations, and commitments of all parties with respect to all aspects of zone development, financing and operation, regulation, and promotion.

Some countries have tried to encourage private zones without first developing an appropriate legal and regulatory framework, instead relying on a zone development agreement. The risk with this approach is that the terms and conditions of each zone concession may vary greatly, as in the case of Vietnamese zones, and the zones may lack a firm legal foundation.

Should the development of other types of zones—including technology parks, research parks, and software development zones—be pursued? Best practice suggests that there is a difference between the “hardware” and services offered by a zone and the “software” of incentives and privileges. Certainly, all types of zones should be permitted, offering customized infrastructure, facilities, and services tailored to the specific needs of target industries. But as far as possible, all zones should have a common set of incentives and privileges, rather than duplicating and overlapping regimes which can result in revenue loss.²²

There is the final and unique case of the so-called “large format” SEZs. Should these be encouraged as a zone development mechanism? Certainly, large-scale zones can have significant economic impacts, particularly in terms of exports and foreign investment. The Subic and Clark freeports in the Philippines, for example, together account for almost 10 percent of national merchandise exports. The Shenzhen SEZ in China has attracted almost \$30 billion in FDI and generates 14 percent of Chinese exports. SEZs can also be very effective in promoting the diffusion of new policies, procedures, and governance structures. But administering and regulating an SEZ regime is extremely demanding on governments.

In the case of the Aqaba SEZ in Jordan, for example, a new, 800-person regulatory authority had to be

developed to regulate economic activities within the zone. The Authority has its own revenue officials (tax and customs) that are better qualified, trained, and equipped than their national government counterparts. Staff capabilities have had to be upgraded to adequately control duty-free retail sales and a special income tax and VAT regime. Several SEZ authorities have contracted with private master developers to manage SEZ assets and facilities, mobilize private investment, and reduce demands on government services. In the final analysis, SEZ development efforts should be undertaken only rarely, and only by those countries that have the requisite institutional capabilities, expertise, and commitment to make them succeed.

Core Policy Framework

The earlier discussion showed how the policy environment in a typical EPZ program has evolved over the years from simple customs duties abatement. International experience suggests that a best-practice policy and incentive framework needs to be streamlined, encouraging zones to compete on the basis of facilitation, facilities, and services, rather than on the provision of incentives (Table 20).

The key elements of a best-practice policy framework include the following:

- **Concept of extra-territoriality**—As defined in the Revised Kyoto Convention, free zones should be treated as outside the domestic customs territory, but should be eligible for national certificates of origin and participate in trade and market access agreements.
- **Private zone development**—Private zones, benefits, obligations, rights and public-private partnerships for zone development are clearly defined. Where government-run zones exist, the legal framework should ensure that competition among private and public zones is on a “level playing field” and that public zones do not have unfair advantages (such as subsidies) which

²² Both China and Vietnam have run into difficulties with tax regulation due to the existence of numerous zone regimes featuring varied incentive packages.

TABLE 20

SEZ Basic Policy Framework

	International Standard
Concept of Extra-territoriality	Outside domestic customs territory Eligible for national certificates of origin Eligible to participate in national trade agreements/arrangements
Eligibility for Benefits	No minimum export requirement Manufacturers and services Foreign and local firms Expansions of existing enterprises Private developers of zones
Foreign and Local Ownership	No limitations Equal treatment
Private Zone Development	Clearly defined in legislation; specific zone designation criteria Eligible for full benefits Competition from government-run zones on a level playing field
Sales to the Domestic Market	Liberalized Provided on a blanket basis rather than case by case Treated as import into domestic market, subject to payment of import duties and taxes
Purchases from Domestic Market	Treated as exports from domestic market; enterprises eligible for indirect exporter benefits
Labor Policies	Full consistency with ILO labor standards Specialized dispute settlement mechanism

undercut private projects. The respective rights, responsibilities, and obligations of government and the private sector need to be defined to enable partnerships for zone development.

- **Zone designation criteria**—Physical development standards and clear criteria for the designation of new zones are put in place. Generally, basic criteria include zone design and environmental standards, financial and technical track record of the zone development group, and minimum equity requirements by the zone developer. The objective is to guide, but preserve, the flexibility of individual zone development proposals, while optimizing the impact on government funding for off-site infrastructure connections.
- **Eligibility criteria**—The openness of an EPZ regime is defined in terms of minimum export requirements and the types of activities and

ownership forms permitted. The best approach is to maximize the flexibility of the regime by removing minimum export obligations (in line with WTO requirements, analyzed below); broadening the range of eligible activities (subject to restricted or prohibited activities enumerated on a “negative list”); removing any ownership restrictions; ensuring equal treatment of foreign and domestic investments; and ensuring that indirect exporter benefits and privileges are given to firms in the domestic customs territory that supply goods and services to zone-based enterprises.

- **Labor regime**—International experience strongly suggests that the long-term competitiveness of a zone depends on the quality and productivity of its workers. To achieve this, it is important that labor regimes are fully consistent with ILO standards and obligations, including core rights of assembly, organization, and

collective bargaining. At the same time, there should be the opportunity for freely negotiated labor productivity packages within zones and a generally flexible and liberal labor market regulatory framework. Additionally, the foreign worker employment regime should be transparent, yet discourage excessive dependence on foreign workers at the expense of domestic ones.

Incentive Framework

There has been a great deal of debate regarding the types of fiscal incentives and other privileges at the heart of an SEZ regime. Countries are under pressure to offer a generous package of tax and duty exemptions in order to keep pace with their competitors. The package of fiscal incentives has become almost standardized among zones internationally—corporate tax reductions or exemption; duty-free importation of raw material, capital goods, and intermediate inputs; no restrictions or taxes on capital and profits repatriation; exemption from foreign exchange controls (where applicable); no charges on exports; exemption from most local and indirect taxes; and so on.

There is considerable evidence to suggest that some of these are ineffective and a drain on public resources. In particular, the use of income tax holidays and other differentiated corporate income tax regimes has been widely abused. Some policies also create explicit and implicit export subsidies, increasingly at odds in today's rules-based trading system.

Although SEZs do not appear in the WTO agreements, some of their provisions affect the zone incentive regime. In particular, the Agreement on Subsidies and Countervailing Measures (SCM) poses potential compliance problems for zones. Prohibited subsidies are those conditional on export, or the use of national rather than imported inputs (Box 14). Actionable subsidies, by contrast, may give rise to consultations if they injure another WTO member's domestic industry, nullify tariff concessions, or seriously prejudice another WTO member's interests. These subsidies are, however, permitted under the WTO, and are actionable only in that the affected parties have legal recourse under the WTO dispute resolution mechanism.

The general consensus is that SEZ regimes are consistent with the WTO so long as benefits are not contingent on export performance, use of local content, or maintenance of a foreign exchange balance; or primarily benefit a specific firm, industry, or other interest. Zone regimes that have specific incentives linked to export performance—such as minimum export requirements, subsidized rent or utilities, or a lower tax on export income—are not compatible with WTO mandates and need to be altered. In addition, some analysts conclude that the broad exemptions of import duties and charges granted to EPZ enterprises may constitute a prohibited export subsidy since firms operating under other regimes are permitted duty-free importation of only those inputs used in the production of goods. This “excess” may be incompatible with the WTO (Granados, 2003).

The original deadline of January 1, 2003 in the Uruguay Round for the elimination of export subsidies in developing countries has been extended to 2010. The Doha Round established a set of procedures for developing countries to submit requests to extend the original eight-year deadline in the SCM. Eligible countries are those whose share of total world exports was below 0.10 percent in 1998–2000, and whose gross national income was below \$20 billion in 2000. To date, most of the thirty eligible developing countries have submitted requests to the WTO for extension of the deadline. While a few non-qualifying countries such as Thailand have amended their zone legislations (by removing mandatory export requirements), most are attempting to delay conformance with the SCM deadline on export subsidies.

The following are guidelines for design of a special economic zone incentive framework:

- **Leverage the introduction or reform of zone regimes as an opportunity to rationalize income tax incentives.** Ideally, this would result in harmonization of zone corporate income taxation policies with national policies, or at least make zone enterprise taxation comparable to that of “promoted industries.” The best-practice approach for income tax incentives is to have performance-based incentives within a country's

Prohibited and Actionable Subsidies under the Uruguay Round

Prohibited Subsidies are non-agricultural subsidies that are contingent on export performance, and subsidies that are contingent on the use of domestic goods in place of imported goods. Examples of prohibited export subsidies are:

- Currency retention schemes which involve a bonus to exporters
- Internal transport and freight charges on export shipments that are more favorable than for domestic shipments
- Provision of goods and services for export manufacturing more favorable than domestically consumed goods
- Exemptions or allowances for direct taxes or other charges to exports or for export performance
- Exemption or remission of export taxes or indirect taxes in excess of those levied on products when sold for domestic consumption
- Export credit guarantees or insurance at premium rates which are inadequate to cover the long-term operating costs and losses of the insurer
- Export credit rates below the cost of funds.

Actionable Subsidies are those that are granted by a WTO member country that have “adverse effects” on international trade, because they either cause injury to the domestic industry of another member country; nullify or impair WTO benefits; or cause “serious prejudice” to the interests of another member country.

tax code rather than through special legislation such as EPZ regimes.

- **Use zone regimes to advance de-monopolization and deregulation of telecommunications and other utilities where applicable.** Jamaica and other countries have used their zone regimes to accomplish this.
- **Design an incentive framework that is WTO-compliant.** This is best done by removing any export obligation and allowing zone enterprises full access to the domestic market on a duty-paid basis.

Regulatory Framework

In contrast to the attention given to incentives, the importance of regulatory relief to investors is frequently overlooked. Yet a crucial aspect of successful EPZ programs is the simplification and streamlining

of investment approvals, expatriate work permits, removal of required import and export licenses, and so forth, as well as accelerated on-site customs inspection procedures and automatic foreign exchange access.

Special economic zone legislation is increasingly incorporating features to increase the transparency and “automaticity” of programs. Default mechanisms that confer automatic approvals within a pre-determined time period have greatly accelerated the evaluation and approval of EPZ applications. In many countries, the investment approval examination process has been transformed from one of case-by-case evaluation of applications to a process of simple registration of investment, meeting clearly defined criteria. Applications are automatically approved by utilizing a “negative” list of ineligible activities. A key global trend is the movement toward the establishment of one-stop shops to consolidate and expedite government approvals.

There is also enormous scope to streamline customs procedures within special economic zones. In fact, many zones are used to fast-track customs automation systems and the application of new policies. Because the imports of EPZ enterprises are physically secured and do not enter the domestic customs territory (unless subsequently sold to the local market), customs functions are simplified. They do not have to assess and collect duties and taxes and focus on ensuring that merchandise has not been improperly diverted to the domestic customs territory. The main customs principles for zone operations are: the rapid physical transfer of merchandise, reduced documentation, and flexible physical controls during processing. Generally, these are achieved by developing a single declaration form to be administered by customs; providing single, on-site inspection of zone imports and exports to avoid redundant inspections; and developing enhanced enforcement techniques. The tools for a simplified customs regime are contained in the Revised Kyoto Convention and various WTO rules.²³

The following are key guidelines for the development of a best-practice zone regulatory framework:

- Install streamlined procedures for business registration that embody a simple declarative investment registration system rather than any sort of investment approval regime. Key elements include: application to a single government office that provides the license; promulgation of a negative list of ineligible activities and other explicit criteria for approval or denial; and a default clause authorizing automatic approval of the application if no ruling has been issued within the review period.
- Facilitate provision of secondary permits and authorizations. Additional permits—land, buildings, labor, health and safety, and so on—can be facilitated by vesting all such authorizations with the zone authority rather than with other ministries and agencies. The zone authority should have offices within each zone to perform these services.
- Develop special customs rules and regulations drawing upon WCO and WTO provisions,

and fast-track implementation of automated customs systems, with proper inventory controls and audit systems, within the special economic zones.

Institutional Framework

Another major factor contributing to the outcome of the zone program is the autonomy and effectiveness of the body charged with regulating zone operations. While a wide range of institutional arrangements have been used, international experience suggests that success is dependent on the autonomy of the body (particularly over staff hiring/firing and control over budgets); adequate funding; customer orientation and ethos; powers over other government ministries; partnerships with private zone operators and enterprises; and maximizing the role of the private sector in service provision.

One element is particularly important, especially in the context of the increasing number of private zones: it is critical that zone authorities remain engaged in purely regulatory functions, and do not own, develop, or operate zones. As the experience in many zone-sponsoring countries has shown, conflicts of interest arise when regulatory bodies are also engaged in zone development activity, especially when existing zones compete directly with new private zones. Opportunities for perceived and actual conflicts of interest are multiplied when the entity charged with guiding and monitoring zone performance is simultaneously one of the zone operators.

Good-practice guidelines for the development of an effective institutional framework ensure the following:

- Sufficient autonomy of the zone authority, particularly over staffing, budgets, spending, and policymaking;
- Adequate authority by constituting an independent board comprised of key government ministers and private sector representatives reporting

²³ For example, customs valuation, harmonized system, and rule of origin.

to the highest level of government. Ideally, allow private sector representatives to constitute the majority of board membership to ensure flexibility, results-orientation, and customer-focus;

- A one-stop shop approach through legislation that provides the body with single-point authority over other government agencies in core areas;
- The zone entity delegates, outsources, and privatizes as many non-core functions and services as possible to focus on core activities.

Physical Development and Management

The success of zones is critically linked to the way in which they are located, developed, and managed. Management of zones is enhanced when they are operated on a cost-recovery rather than a subsidized basis, and are market-oriented and customer-focused. This is best accomplished when zone development and operation are undertaken by private sector groups on a commercial basis, rather than by government organizations that frequently are subject to political pressures and funding constraints. At the same time, the rapid proliferation of private zones can place significant, unanticipated costs on governments, especially in terms of offsite infrastructure and facilities, as exemplified by the Dominican Republic, and more recently the Philippines and Vietnam.

The following are best-practice guidelines for the physical development of zones:

- Implement land use planning and zoning efforts in defined areas for industrial and commercial development to guide the actions of private developers.
- Develop zone designation criteria in the zone law and implementing regulations to ensure that private zones are conveniently located (near population centers and transportation hubs) and minimize offsite infrastructure development expenditures of government.
- Establish a land use planning and infrastructure development unit in the government to ensure

adequate planning and support of offsite infrastructure provision.

Outlook for Zone Development

What is the outlook for special economic zones in the context of global integration and trade liberalization? Some analysts argue that the rationale for zones is diminishing as average tariff rates fall around the world. Others foresee a diminished role for zones now that the Multi-Fibre Arrangement has been dismantled, given the dependence of many zones on the apparel and textiles industry.

Nevertheless, the case for zones may actually be stronger in the context of trade liberalization. First, even with full implementation of the Uruguay Round, tariff and non-tariff barriers will remain in most countries. Developing country exporters will still need to compete with exporters in other countries who are operating in a duty- and tax-free environment. Second, even with lowered tariffs, anti-export biases will not be removed. Various policy distortions, procedural inefficiencies, and infrastructural inadequacies—many that can be directly addressed only over the long term—will deter exporters. This places great importance on the continued development of focused investment promotion and export competitiveness mechanisms such as SEZs that can provide a simplified regulatory environment.

The prevalence of zones in industrialized countries with open economies also underscores the importance of the concept to competitiveness. The United States, with 266 foreign trade zones, is a particularly prominent example (Box 15). Many companies choose an FTZ location based on the advantages of operating in a flexible, duty-free environment. Operating costs are lower as a result of reduced insurance, security, and overhead costs. Cash flow is enhanced by the ability to postpone duty payments until and only upon entry into the domestic customs territory. FTZs in the United States have been critical in enabling manufacturers to operate “just-in-time” systems. In fact, most vehicles manufactured in the United States are located in FTZs or have factories provided with FTZ status. Mechanisms such as special economic zones that provide efficiency

Advantages of Using U.S. FTZs

- Improved cash flow through payment of duties upon shipment out of the warehouse/factory instead of receipt into the facility;
- No customs duties on scrap, waste, or obsolete materials;
- Option of paying customs duties on the imported materials or the final product shipped from the zones, whichever is less;
- No customs duties owed on the value to labor/overhead/profit incurred in zone processing in the United States;
- No customs duties owed on exported merchandise;
- Ability to hold all goods in a duty-free environment until needed;
- FTZ may be used for quality control inspections to ensure that only merchandise that meets U.S. specifications is imported and that duty is paid;
- Ability to consolidate all outbound shipments per week into one entry for customs purposes.

Source: National Association of Foreign-Trade Zones.

advantages are even more important with the advent of modern production and distribution concepts and approaches, and the reduction of transaction costs.

There is little doubt that zones must continue to evolve in response to global integration, international trading rules, and the rise of regional FTAs. Zones cannot and should not compete on the basis of fiscal incentives, but rather differentiate themselves in terms of facilities, services, and most importantly, streamlined procedures, and purpose-built technology. International manufacturers have realized that there is much greater scope to reduce logistics costs than production costs. This can be accelerated within a zone setting by reducing transaction processing times and paperwork requirements. Many zones, especially those that are privately run, are rapidly

reconfiguring themselves into efficient distribution, production, and trade facilitation hubs to reduce logistics costs in order to meet this demand from international operations.

There is also a continuing role for zones in many countries to incubate and accelerate policy reform. In most developing country settings, the greatest scope may lie in introducing new customs control concepts. In others, zones might be used to side-step public or private monopolies in telecommunications. In still others, such as the Korean SEZs which are “English language-only,” zones may provide a better environment to attract foreign investment. This demonstration effect is magnified through forward planning and participation of the private sector.

ANNEXES

1. Acronyms and Abbreviations
2. Profiles of Zone Programs by Region
3. Bibliography

ANNEX I

ACRONYMS AND ABBREVIATIONS

CIS	Commonwealth of Independent States	MIGA	Multilateral Investment Guarantee Agency
EPZ	export processing zone	NTBs	non-tariff barriers
FDI	foreign direct investment	OECD	Organisation for Economic Co-operation and Development
FIAS	Foreign Investment Advisory Service	QIZ	qualified industrial zone
FTA	free trade agreement	SCM	subsidies and countervailing measures
FTZ	free trade zone	SEZ	special economic zone
IBRD	International Bank for Reconstruction and Development	UNCTAD	United Nations Conference on Trade and Development
ICFTU	International Confederation of Free Trade Unions	WCO	World Customs Organization
ICT	information communications technology	WEPZA	World Economic Processing Zones Association
IFC	International Finance Corporation	WTO	World Trade Organization
ILO	International Labour Organization		
IT	information technology		

Note: All dollar amounts are U.S. dollars unless otherwise indicated.

ANNEX 2

PROFILES OF ZONE PROGRAMS BY REGION

This annex includes six tables that summarize zone activity in selected countries of the world's major regions.²⁴

The regions profiled in the tables include: the Americas; Asia and the Pacific; the Middle East and North Africa; Western Europe; Central and Eastern Europe and Central Asia; and Sub-Saharan Africa.

TABLE 2-1

Profile of Zone Programs in the Americas (selected countries)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
United States	1934	20	246 ^a	FTZ	Japan, United Kingdom	Automobiles, petroleum, electronics	United States, domestic
Panama	1948	2	8	FTZ, EPZ, Freeport	United States, Japan	Transshipment/logistics, warehousing	South America
Brazil ^b	1957	1	8	FTZ, EPZ, Freeport	Japan, Korea, Rep. of, United States	Warehousing and assembly of electrical, electronics	Brazil, MERCOSUR
Colombia	1958	1	14	EPZ, Hybrid EPZ, Freeport	Japan, Korea, Rep. of, United States, local, regional	Petrochemicals, apparel, electronics, services	United States, MERCOSUR

(Continued)

²⁴ The regional groupings of countries depicted in the tables are not always the same as those used for World Bank Group regional classifications.

TABLE 2-1
(Continued)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
Chile	1958	2	8	FTZ, EPZ, Freeport	United States, Brazil, Germany, EU, Canada	Warehousing, duty free shopping	MERCOSUR, United States, Canada
Mexico ^c	1965	2	107	Industrial Parks	United States, Japan	Automotive components, electrical	United States
Dominican Republic	1969	20	38	EPZ	United States, Taiwan (China), Korea, Rep. of	Apparel, health care products	United States
Guatemala	1973	1	15	EPZ, Hybrid EPZ	United States, Taiwan (China), Korea, Rep. of	Apparel	United States
Jamaica	1976	2	3	EPZ	United States, Taiwan (China), Korea, Rep. of	Apparel, call centers	United States
Honduras	1977	2	22	EPZ, Hybrid EPZ	United States, Taiwan (China), Korea, Rep. of	Apparel	United States
El Salvador	1976	1	15	EPZ, Hybrid EPZ	United States, Taiwan (China), Korea, Rep. of	Apparel	United States
Costa Rica ^d	1978	0	139	Hybrid EPZ	United States	Semiconductors, electronics, medical supplies	United States
Uruguay	1987	2	7	Hybrid EPZ	Japan, United States, regional	Logistics, trade, electronics, call centers	MERCOSUR, United States
Trinidad and Tobago	1988	17 ^e	0	EPZ	United States	Warehousing, break bulk, petrochemicals	United States
Belize	1990	0	3	EPZ, FTZ	Local	Trading, apparel, food	United States
Cuba	1997	5	0	EPZ	Local	Agro-processing	MERCOSUR, Venezuela, R.B. de
Puerto Rico ^f	1942	142	0	FTZ	United States	Pharmaceuticals	United States
Argentina	1995	5	0	FTZ, Freeport	France, Spain, Italy, Germany, Chile, other EU, United States, Canada, Mexico	Forestry, food processing, metals, chemicals, petrochemicals, fisheries	EU, Brazil, United States, Canada, Mexico

(Continued)

TABLE 2-1

(Continued)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
Peru	1991	4	0	FTZ	Brazil, Chile, Uruguay, Bolivia, Japan, China, United States	Textile, automotive, agribusiness	Brazil, Chile, Japan, China, United States, EU, Canada
St. Kitts and Nevis	1978	1	0	EPZ	United States, United Kingdom	Apparel	United States
St. Lucia	1979	2	0	EPZ	United States, United Kingdom	Apparel, sporting goods	United States
Bahamas	1955	3	0	Specialized zones	United States, EU, Japan	Financial	United States
Cayman Islands	1967	0	1	Specialized zone	United States, United Kingdom	Financial	United States

a. Foreign trade zones in the United States, although they are sponsored by a town, county, or a state government, are counted as "private" if they have private investors.

b. Export processing zones in Brazil, other than the public Zona Franca de Manaus, were established in 1989.

c. In Mexico, the maquiladoras have been organized into industrial estates, and are therefore counted as private zones.

d. Source: ILO database. According to WEPZA and ILO, Costa Rica has 127 *empresas de perfeccionamiento activo*, and 12 EPZs.

e. Source: ILO database. These are designated free zone areas.

f. Puerto Rico developed the first modern export processing zones as industrial parks beginning in 1942, although they finally put the first tax exemption laws in place in 1951. Source: Journal of Flagstaff Institute, August 2007.

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

TABLE 2-2

Profile of Zone Programs in Asia and the Pacific (selected countries)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
India ^a	1965	87	254	Freeport, Software Technology Park, Export-Oriented Unit	EU	Textiles, electronics, jewelry, leather, textiles, food processing, software	United States, EU
Taiwan (China) ^b	1965	14	0	EPZ, Science Park, Software Park	Japan	Electronics, semiconductors, electrical, high technology	Japan, United States
Korea, Rep. of	1970	9	1	EPZ, Science Park, Freeport, Foreign Investment Zone	Japan	Electronics, high technology	Japan, United States
Malaysia ^c	1971	10	3	EPZ, Science Park	Japan, United States	Electronics, semiconductors, electrical, automotive parts	Japan, United States, ASEAN
Philippines	1972	7	76	Hybrid EPZ, Freeport, Software Technology Park	Japan, Philippines, United States, EU, Korea, Rep. of, Malaysia	Electronics, semiconductors, electrical, automotive parts	Japan, United States, ASEAN
Thailand	1972	5	27	Hybrid EPZ, Science Park	Japan	Electronics, metalworking, semiconductors, automotive parts	Japan, United States, ASEAN
Sri Lanka ^d	1978	15	1	EPZ, Science Park	Hong Kong (China), EU, Korea, Rep. of, Japan, Sri Lanka	Apparel, gems and jewelry, luggage, gloves, food processing	EU, United States
China ^e	1979	164	23	EPZ, FTZ, ETDZ, OCC, HTDZ, BECA*	Taiwan (China), Hong Kong (China), Japan, United States	Apparel, electronics, electrical	United States, Japan, EU
Bangladesh ^f	1980	8	1 ^g	EPZ	Korea, Rep. of, Bangladesh, China, Japan	Apparel, textiles, leather	United States
Indonesia	1986	22	5	Hybrid EPZ, Freeport	Japan	Apparel, footwear, electronics, food processing	ASEAN, Japan, United States
Mongolia	1999	13	0	EPZ, FTZ	China, Russian Federation	Apparel	United States

(Continued)

TABLE 2-2
(Continued)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
Nepal	2006	1	0	EPZ	India, EU, Japan, United States, China	Apparel	India, EU, Japan, United States, China
Cambodia	2001	3	0	EPZ	China, United States, Thailand, Japan, Taiwan (China)	Apparel	United States
Hong Kong ^h (China)	1974	7	0	Industrial Estate, Science Park	Global	Printing, food processing, jet engine repair, biotechnology, information technology	Global
Singapore	1960	42	0	EPZ, Industrial Park	Global	Software, financial services	Global
Pakistan	1989	26	0	EPZ	United Arab Emirates, United Kingdom, United States	Apparel, chemicals, pharmaceuticals, electrical machinery	United States, EU, Gulf countries
Vietnam	1991	20	165	EPZ, Industrial Zone, HTDZ,* Software Park	Japan, Korea, Rep. of, Taiwan (China), Hong Kong (China), China	Apparel, footwear, luggage, electrical, metal working	Japan, ASEAN, Taiwan (China)
Korea, Democratic People's Republic of ⁱ	1992	4	0	Freeport	Korea, Rep. of	N/A	N/A
Japan	1995	2	0	Foreign Access Zone	N/A	N/A	N/A

*Notes: OCC abbreviates open coastal city; ETDZ is economic and technological development zone; HTDZ is high technology development zone; BECA is border economic cooperative area.

a. The data obtained is for zones that have received final approval, according to WEPZA data received directly from the government of India. Available data for operational zones in India (134 in total), and for zones that have received approval in principle (171 in total) has not been received in a format that indicates public or private ownership, and therefore has not been included.

b. There are ten EPZs, three science parks, and one software park in Taiwan (China), according to WEPZA data received from the Ministry of Economic Affairs in Taiwan (China).

c. ILO data indicates there are over 200 industrial and hi-tech parks in Malaysia, but the ownership of these parks is not specified.

d. Sri Lanka has an export factory program, which includes single factories that have not been counted as zones.

e. WEPZA data shows that for China, there are 23 private zones not owned and managed by a Chinese government entity. These are authorized by individual decree, and are not normally included in officially published data.

f. While ILO mentions that there are 5,341 other zones under the Bangladesh Garment Manufacturers Exports Association and Bangladesh Knitware and Manufacturers Association, this figure essentially represents members of the associations that may or may not operate as single factories, or may operate within existing zones. They have, therefore, not been included in the data table above.

g. Youngone Corporation of the Republic of Korea has begun development of a private zone in Chittagong in Bangladesh.

h. Industrial estates and science and technology parks are considered zones within the freeport of Hong Kong (China).

i. In the Democratic People's Republic of Korea, one zone has been established by the Republic of Korea; the other three zones are entities of the Democratic People's Republic of Korea.

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

TABLE 2-3

Profile of Zone Programs in the Middle East and North Africa (selected countries)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
Jordan	1984	10	17	FTZ, EPZ, Freeport, QIZ ^a	Hong Kong (China), Pakistan, India, Israel, China, Korea, Rep. of, Taiwan (China), United States	Apparel, trading	United States, Middle East
Turkey ^b	1985	0	21	FTZ, Science Park	Turkey	Food processing, apparel, trading	Turkey, EU
United Arab Emirates	1985	26 ^c	0	FTZ, Specialized Zone	Middle East, EU, Japan, Korea, Rep. of	Trading, electrical, pharmaceuticals, food, apparel	Middle East, Africa, EU
Tunisia	1994	6	0	Hybrid EPZ, Technology Park	France, Italy, Spain, Germany, Belgium, United States, United Kingdom, Japan	Electrical industries, apparel, mining, leather, textiles, services, tourism	France and other EU
Morocco	1994	2	0	Hybrid EPZ	France, United Kingdom, Switzerland, United States	Manufacturing, agricultural, services	France and other EU
Kuwait ^d	1995	1	0	FTZ	N/A	Trading, logistics, food	Middle East
Algeria	1997	4	0	FTZ	N/A	Agriculture, manufacturing, fishing, glass industry	France and other EU
Gaza and West Bank	N/A	0	1	Industrial Park	N/A	N/A	N/A
Bahrain	1999	1	0	FTZ	N/A	Textiles, footwear, leather packing	N/A
Iran, Islamic Rep. of	1999	22	0	Freeport, FTZ	N/A	Textiles, shoes, leather, commercial	N/A
Egypt, Arab Rep. of	1974	53	0	FTZ, Freeport, Industrial Park, QIZ	EU, Middle East	Apparel, petrochemicals	EU, Middle East
Saudi Arabia	1975	24	0	Specialized Zone, Freeport, Technology Zone	Middle East, EU, United States	Petrochemicals, logistics, finance, tourism	Middle East, EU, United States

a. Jordan's zones include qualified industrial zones, which under a special program with the United States, allow for duty-free entry of all products, including garments.

b. Turkey has 40 organized industrial zones, and 358 small-scale industrial estates that have not been included in the breakdown of public and private zones since they do not offer trade benefits such as reduced customs duty. Other public zones are also not included in the table. Source: Robert Haywood, World Economic Processing Zones Association.

c. A number of the United Arab Emirates zones are owned by Dubai Port World and/or its subsidiaries.

d. The Kuwait Ministry of Commerce has revoked the license of the original private operator of the Shuwaikh Port Free Trade Zone, and is now directly controlling the project.

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

TABLE 2-4

Profile of Zone Programs in Western Europe (selected countries)

Country Name	Year established	Number of zones		Type of zones
		Public	Private	
Cyprus	1973	1	0	FTZ
Denmark	1891	10	0	FTZ
Finland	1970	2	0	FTZ
France	1992	87	0	EZ, * FTZ
Germany	1888	8	0	FTZ
Greece	1914	3	0	FTZ
Iceland	N/A	2	0	FTZ
Ireland	1958	2	0	EPZ, FTZ
Italy	1719	24	0	FTZ
Malta	1988	11	0	FTZ
Portugal	1980	2	0	FTZ
Spain	1998	5	0	FTZ, SEZ
Sweden	1785	4	0	FTZ
Switzerland	1854	4	0	FTZ
United Kingdom	1988	62	0	EZ, * FTZ

* Note: EZ abbreviates enterprise zone.

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

TABLE 2-5

Profile of Zone Programs in Central and Eastern Europe and Central Asia (selected countries)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
Bulgaria	1987	4	16	Hybrid EPZ, Specialized Zone	EU, Turkey, Bulgaria	Trading, transshipment, food processing, apparel	EU, Central Europe, Russian Federation
Kyrgyz Republic	1991	4	0	Hybrid, EPZ, Single Factory	Turkey, Russian Federation, EU, United States	Food processing, garments, construction materials	
Romania	1992	5	2	Hybrid, EPZ, FTZ	EU, Romania, Turkey, Greece, Japan	Warehousing, re-export, food processing, apparel, automotive	EU, Central Europe, Russian Federation
Serbia	1994	0	3	FTZ	N/A	Trading, electrical machinery, food processing	N/A
Poland	1995	0	48	Hybrid FTZ/EPZ, Freeport, Technology Park	Germany, other EU, Japan, United States	Automobiles, parts, furniture, machinery	EU, United States
Latvia	1996	2	2	FTZ, Freeport	EU, United States	Trading, transshipment, electrical machinery, oil products	EU, United States, Russian Federation
Croatia	1996	2	12	Hybrid EPZ	EU, United States	Apparel, textiles, paper, metal-working, glass	EU, United States
Russian Federation	1996	6	0	Freeport	Sweden, Germany, other EU	Automobiles, furniture, metal working, tourism	Russian Federation
Ukraine	1997	5	11	FTZ	EU, Ukraine, Russian Federation, Korea, Rep. of, United States	Food processing, metal-working, coal, chemicals	N/A
Lithuania	2000	10 ^a	0	Hybrid EPZ, Freeport	Denmark, Norway, Russian Federation, EU, United States	Electrical, automotive components, food processing	EU, Russia

a. The industrial parks in Lithuania are currently all owned by municipalities, and are therefore public.

Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

TABLE 2-6

Profile of Zone Programs in Sub-Saharan Africa (selected countries)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
Senegal	1974	1	0	EPZ, Single Factory	France, United States, other EU	Food processing, call center, pharmaceuticals	France, United States, other EU
Mauritius	1970	1	0	Single-Factory EPZ, FTZ	Mauritius, France, Hong Kong (China)	Apparel, textiles	EU
Togo	1989	1 (mixed ownership)	0	EPZ, Single Factory	France, Italy, Korea, Rep. of, Lebanon	Wigs, agro-processing, metal products, apparel	France, United States, other EU, Ethiopia
Cameroon	1990	1	0	EPZ, Single Factory	Cameroon, Spain, France	Agro-processing, chemicals, leather, wood	Cameroon, Spain, France, other EU
Madagascar	1991	0	2	Single Factory, Industrial Park	China, France, India, Hong Kong (China), Mauritius	Apparel, textiles	EU
Nigeria	1991	5	1	EPZ, Single Factory	Taiwan (China), China, United Kingdom, United States	Wood processing, food processing, apparel, textiles, oil and gas	West Africa, Taiwan (China), EU, United Kingdom, United States, Korea, Rep. of, India
Kenya	1993	2	53	EPZ	United States, EU, India, Sri Lanka	Apparel, textiles	United States, EU
Namibia	1995	2	0	EPZ	Germany, China, Japan, Hong Kong (China), South Africa, Korea, Rep. of, India, Lebanon, France	Automotive parts, apparel, textiles	South Africa, Angola, United Kingdom, Germany, United States, other EU
Seychelles	1995	1	0	EPZ, Single Factory	Hong Kong (China), EU, Mauritius	Apparel, textiles, food processing	EU, Japan, Korea, Rep. of
Ghana ^a	1995	0	4	EPZ	United Kingdom, United States, India, Korea, Rep. of, China, Nigeria	Apparel, textiles, printing, agro-processing	EU, United Kingdom, United States
Zimbabwe	1995	3	4	EPZ, Single Factory	China, Hong Kong (China), Korea, Rep. of, Japan	Apparel, leather, metal-working, agro-processing	China, Japan, India, Canada

(Continued)

TABLE 2-6

(Continued)

Country	Year established	Number of zones		Type of zones	FDI sources	Key sectors	Key markets
		Public	Private				
Malawi	1995	1	0	Single-Factory EPZ	United Kingdom, Korea, Rep. of, South Africa	Apparel, textiles, agro-processing	EU, South Africa, United Kingdom, Norway, Denmark
Mozambique	1999	1 (mixed ownership)	0	EPZ	United Kingdom, Portugal, other EU, South Africa, China, Brazil	Aluminum smelting	United Kingdom, Portugal, other EU, South Africa
South Africa	2000	6	0	Hybrid EPZ	Germany, France, other EU, United Kingdom, United States, Canada	Automotive, agroprocessing, aluminum	Germany, France, other EU, United Kingdom, United States, Canada

a. The charter of the Ghana Free Zone Board is to facilitate, regulate, and monitor the activities of private sector developers, operators, and enterprises.
Sources: BearingPoint; ILO database; WEPZA (2007); FIAS research.

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