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Second Best?

Investment Climate and Performance in Africa's Special Economic Zones

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Abstract

As an instrument of trade and investment policy, special economic zones have played a catalytic role in processes of industrialization, diversification, and trade integration in many countries, particularly in East Asia. However, in the African context, anecdotal evidence suggests the experience has been disappointing on the whole. Among the reasons why many zones underperform may be that they fail to establish a high quality investment environment—this is, after all, one of the main promises that economic zones hold for investors. Drawing on original survey research, this paper presents a systematic analysis of the outcomes and the investment climate of economic zones programs in six African countries and four developing countries outside the region. The analysis finds that although performance across zones is mixed—with Ghana and Lesotho in particular performing well on some measures—African zones programs on the whole are underperforming in terms of attracting investment, facilitating exports, and creating jobs. Economic zones in Africa offer an improved business environment relative to what is available to firms based outside the zones; however, in comparison with the non-African countries in the survey, both absolute investment climate performance and relative improvements fall well short.

This paper—a product of the International Trade Department, Poverty Reduction and Economic Management Network—is part of a larger effort in the department to study the role and performance of special economic zones and other instruments of trade and investment policy in developing countries. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at tfarole@worldbank.org.

SECOND BEST? INVESTMENT CLIMATE AND PERFORMANCE IN AFRICA'S SPECIAL ECONOMIC ZONES

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1. Introduction

Export processing zones (EPZs), free trade zones (FTZs), and other forms of special economic zones (SEZs) are demarcated geographical areas within a country's national boundaries where the rules of business are different – generally more liberal – from those that prevail in the national territory. Economic zones are designed as a tool of trade, investment, and spatial industrial policy, aiming to overcome barriers that hinder investment in the wider economy, including restrictive policies, poor governance, inadequate infrastructure, and problematic access to land. Specifically, most economic zones offer export-oriented investors three main advantages relative to the domestic investment environment: 1) a *special customs environment* including efficient customs administration and (usually) access to imported inputs free of tariffs and duties; 2) infrastructure (including serviced land, factory shells, and utilities) that is easier to access and more reliable than is normally available domestically; and 3) a range of *fiscal incentives*[2], including corporate tax holidays and reductions, along with an *improved administrative environment*.

Economic zones have a long-established role in international trade. Since the mid 1980s, the number of newly-established zones has grown rapidly in almost all regions. In 1986, the ILO reported 176 zones in 47 countries; by 2006 this rose to 3,500 zones in 130 countries (ILO, 2007). Despite the continued proliferation of zones around the world, they have had a mixed record of success. Past research on zones shows that many have been successful in generating exports and employment, and most are net positive, if only marginally, in cost-benefit assessments (c.f. Warr, 1989; Chen, 1993; Jayanthakumaran 2003; Arce-Alpizar et al, 2005). However, most economists still view zones as a "second best" solution to competitiveness, whose success is restricted to specific conditions over a limited timeframe (Hamada, 1974; World Bank, 1992; Madani, 1999). However, there are a number of examples of zones playing a catalytic role in processes of economic growth and adjustment processes (c.f. Willmore, 1995; Johansson and Nilsson, 1997), particularly in the East Asian "tiger economies" during the 1980s and in China since the early 1990s, but also in Latin America.

The African experience with economic zones over the past two decades – which has mostly involved traditional EPZs and industrial parks – has been less spectacular. African countries adopted zone policies much later than in other regions, with most programs being initiated only in the 1990s. While there is limited hard data by which to assess the performance of African zones, anecdotal evidence suggests that to date they have performed poorly on the whole, with the significant exception of Mauritius and the partial exception of Kenya, Madagascar, and Lesotho.[3] Governments throughout Africa remain keen, however, to develop economic zones programs in order to support diversification, attract investment, create employment, and benefit from skills and technology transfer.

[2] While fiscal incentives are one of the centerpieces of most traditional EPZs and FZs, more recent SEZ models increasingly moderate or even eschew financial incentives.

[3] Lesotho does not have a zone program per se, but they do combine the same policy instruments to support export manufacturers, including a special fiscal and administrative regime along with the public provision of industrial infrastructure.

A wide number of factors contribute to the performance of economic zones programs, including structural determinants like market size and access and broad national competitiveness (see Farole, 2011). But one of the main factors contributing to unsuccessful zones may be the failure to create an *investment climate* inside the zones that is substantially improved on what is available outside. Anecdotal information suggests that too often, African zones are plagued with the same problems – unstable electricity, lack of water, heavy bureaucracy, inefficient and corrupt customs – that hinder investment in the wider economy. However, to date there have been no comparative studies of the investment climate performance in economic zones, in Africa or elsewhere.

This paper has two objectives: first, to assess the outcomes of African economic zones in a systematic manner; second to assess the performance of African zones in meeting the investment climate requirements of their investors. The hypothesis is that the latter has important impacts on the former. The paper is based on original survey research carried out in 6 African countries (and four comparator countries outside the region). Throughout the remainder of the paper we will refer to the zones programs as being "export processing zones" (EPZs), even though several of the programs are technically considered free zone programs – the reason for this is that the focus of the research was on export-oriented manufacturing activities and thus in line with the traditional EPZ model.

We find that performance across the African zones is mixed, with Ghana and Lesotho (and in some cases Kenya) performing relatively well on some measures. On the whole, however, African programs are underperforming relative to the Asian and Latin American programs included in the study. Moreover, the African zones programs are not yet having any discernable structural impacts on their economies. The results raise questions regarding the competitiveness of African zones programs and the potential of zones which aim to compete for labor intensive assembly employment under a traditional export platform (EPZ) model. In analyzing investment climate performance, we find that, across the criteria that matter most to investors, economic zones in Africa offer an improved business environment relative to what would be available outside the zones. However, in most cases the scale of improvements is limited. In contrast, the zones in the non-African countries in the survey appear to be able to make much more dramatic improvements on the national investment climate. The survey results highlight the critical importance of addressing the basic day-to-day challenges that investors face inside the zones.

The remainder of the paper is structured in seven sections. Section 2 provides a very brief introduction to economic zones in Africa. In section 3 we outline a basic framework for assessing performance of economic zones programs. This is followed in section 4 by a discussion the relationship between the investment climate and FDI, and its specific implications in the economic zone context. Section 5 gives a brief description of the data and methodology used in the analysis. In section 6 we present a detailed assessment of zone performance, covering investment, exports, employment, and structural economic change. Section 7 presents the findings from the survey on the investment climate. Finally, in section 8 we summarize the findings and discuss briefly the implications for African economic zones programs.

2. EPZs in Africa

Although several African countries launched EPZ or free zone programs in the early 1970s – Liberia in 1970, Mauritius in 1971, and Senegal in 1974 – most African countries did not operationalize programs until the 1990s or 2000s[4]. Table 1 provides a broad overview of the African zone programs initiated in each decade since the 1970s. It indicates nearly 30 countries in the region have programs (60% of all countries), with more than 80% of them starting only within the last two decades.

So, most African countries are relative latecomers to economic zones. This has several important implications when considering their success to date. First, few zones see rapid growth in their early years. Even the most successful zones generally grew slowly in their initial five to ten years, later shifting to an exponential growth curve before eventually reaching maturity and experiencing slowing growth. Thus for many African zones programs it may be too early to pronounce on their success or failure or to anticipate it from their initial growth patterns. Second, the macro environment in which these zone programs have been developed differs substantially from that experienced by zones setting up in Asia and Latin America during the 1970s and 1980s. Specifically, most African zones were established during and after the rise of Asia as a manufacturing superpower, and the subsequent structural shift in trade and FDI patterns. As such the level and nature of competition for traditional manufacturing "export platform" FDI is a significant factor that may hinder the speed and scale of growth potential for African zones.

Table 1: Overview of African zone programs by decade of launch

1970s	1980s	1990s	2000s
Liberia	Djibouti	Burundi	Gabon
Senegal	Togo	Cameroon	Gambia
Mauritius		Cape Verde	Mali
		Equatorial Guinea	South Africa
		Ghana	Zambia
		Kenya	Eritrea
		Madagascar	Mauritania
		Malawi	Tanzania
		Mozambique	
		Namibia	
		Nigeria	
		Rwanda	
		Seychelles	
		Sudan	
		Uganda	
		Zimbabwe	

Source: FIAS (2008) with author's additions / amendments

According to FIAS (2008), a total of 114 zones exist in Sub-Saharan Africa – this represents somewhere between 3% (based in ILO data) and 4.5% (based on FIAS data) of the total number of global zones. This

[4] Both the Liberia and Senegal programs became dormant and are in the process, as of 2010, of being overhauled and relaunched.

obviously highlights that Africa remains a very small player in the EPZ market; however, it is broadly in line with the region's share of global trade and investment.

Virtually no detailed data exist that would allow for a broad analysis of Africa's performance in EPZs – in terms of investments, exports, and employment – relative to other regions. The only (limited) data available from the ILO's database (Boyenge, 2007) provides an indication on employment levels in zones. This shows that, as of 2006, zones in Africa and the Indian Ocean (Mauritius, Madagascar, and Seychelles) employed over 1 million workers. This is equivalent to 4% of worldwide zone employment (excluding China; 1.6% including China). However, half of the total employment listed in the ILO database is from one country (South Africa).

Anecdotal evidence suggests that success in African zones (even defined narrowly in terms of scope and time) has been limited to a few countries such as in Mauritius, Kenya, and Madagascar. In many other countries in the region – including Nigeria, Senegal, Malawi, Namibia, and Mali – zones appear to be struggling for a variety of reasons, including poor locational choices, lack of effective strategic planning and management, and problems of national policy instability and weak governance (Watson, 2001). Even where programs have been successful in attracting investment, creating employment, and generating exports, there are concerns over the quality of investment and employment as well as its sustainability. Indeed, the recent experience of Madagascar may highlight the fragility of the economic zones models implemented in Africa to date.

3. Defining and measuring "success" in economic zones

Economic zones are normally established to act as a catalyst for trade, investment, and wider economic growth. Most often they aim to improve competitiveness so as to facilitate the economic transformation of their host countries in a way that is faster or more effective than would be the case without them. In different countries and at different times, however, the more specific objectives may vary. According to FIAS's 2008 report, zones are created with four specific – although by no means exclusive – policy goals:

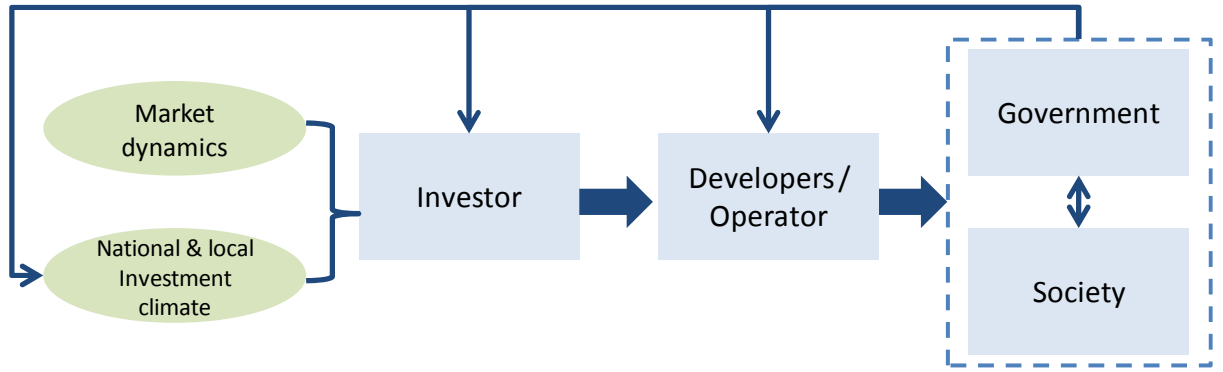
1. *To attract foreign direct investment*. Most new EPZ programs, particularly in the Middle East, are designed to attract foreign investment (FIAS, 2008, p. 12).
2. *To serve as "pressure valves" to alleviate large-scale unemployment*. The EPZ programs of Tunisia and the Dominican Republic are frequently cited as examples of programs which have remained enclaves and not catalyzed dramatic structural economic change, but have nevertheless remained robust, job-creating programs.
3. *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), Mauritius, and the Republic of Korea follow this pattern.
4. *As experimental laboratories for the application of new policies and approaches*. China's EPZs are classic examples of this category. Financial, legal, labor, and even pricing policies were introduced and tested first within the EPZs before being extended to the rest of the economy.

These are all, therefore, sources of possible objectives by which to measure success of zone programs. We employ a framework that draws on each of these principal objectives to assess zone outcomes (see Figure 1). The distinction we make in our framework is between objectives whose outcomes are "static" in nature and those which are "dynamic".

We define *static economic benefits* as being those derived in the relatively short-term through the use of economic zones as instruments of *trade and investment policy*. These static benefits are the result of capturing the gains from specialization and exchange. They include: employment creation; the attraction of foreign direct investment (FDI); the generation of foreign exchange through exports; the creation of economic value added. Economic zone programs which are successful in contributing to long-term development leverage these static benefits for the creation of *dynamic economic benefits.* These encompass the promotion of non-traditional economic activities, hard and soft technology transfers, the encouragement to domestic entrepreneurialism, and the promotion of economic openness. While this paper will focus only on macro-level outcomes, a comprehensive analysis of economic zone performance must also include social impacts as a measure of success in zones – this addresses primarily the quality of employment created and the gender-differentiated impact of zones.

As illustrated in Figure 1, when we consider the outcomes of zones from a micro perspective, we must consider how the zones meet the objectives of different actors. First are the firms, foreign and domestic, who make decisions on whether to invest in the zones. This is the starting point – without investors, no benefits will accrue from the zones, static or dynamic. These firms have specific requirements but on the whole are looking for locations that maximize their *appropriable profitability* over some time period. We specifically speak of the "appropriability" of profits for several reasons: it captures the impacts of tax holidays and other fiscal incentives that are common in many zone programs; it takes into account issues of exchange control and the ability to repatriate profits, something which most zone programs guarantee but which is an issue for foreign investors in some markets; and it allows for the impact of broader aspects of the investment climate on the risk calculation of investors. The time period will vary depending on the firm's strategy and industry. Evidence from sectors like garments (Rolfe, Woodward & Kagira, 2003) suggests this timeframe may be very short. But where capital investment, scale economies, and learning curves exist, a longer time horizon is likely. Investors aiming to take advantage of dynamic benefits of economic zones will also be concerned with accessing sources of externalities – e.g. through industry clustering in zones – and the degree to which the existence of other leading-edge firms and institutions offer the potential for knowledge spillovers and learning.

Figure 1: Framework for assessing the outcomes of economic zone programs



SHORT-TERM / STATIC	• Factor endowments • Markets • Attractive IC • Appropriable profits	• Attractive IC • Markets (investors) • Appropriable profits	• Investment • Exports • Employment
LONG-TERM/ DYNAMIC	• Sources of externalities • Upgrading / innovation potential	• Value-added services potential • Increasing quality of investors	• Local market integration • Diversification / upgrading • Positive social impacts

Source: Author

The second set of stakeholder that must be considered are the zone developers and operators, who may be private or public entities. For private entities, their objectives are broadly similar to investors – they are looking to maximize profits, which for them come via attracting investors into their zones and, in the longer-term by developing new revenue streams that tap into the value-added services required by higher quality investors. Public developers and operators may not have the same profit objectives, but the proximate goals of attracting investors and meeting their day-to-day needs, should be the same. Finally, the third set of stakeholders is the government and, through them, the local and national society in which the zones are based. They rely in developers and operators to invest in zones and on investors for the demand side of the equation. Their short term goals are generally focused on attracting investment, generating exports (foreign exchange), and creating local employment (the latter – along with land appropriation and environmental impact – normally being the most important issues for local communities in the short term). In the longer term they are concerned with the wider socio-economic impact on the local economy and how the zones program overall contributes to meeting wider economic policy objectives, particularly diversification and upgrading.

4. The investment climate and economic zones

The investment climate describes the risks, opportunities, and transaction costs involved in investing in and operating a business, and is determined by a complex interaction between laws, policies, and *de facto* implementation. Firms decide where to invest, how and how much to invest, and how to operate based (explicitly or implicitly) on the perceived and experienced investment climate, including such

factors as finance (access and cost), infrastructure (cost, availability, and reliability), labor (cost and quality), the regulatory environment, taxation, corruption, and the wider policy environment. These investment climate factors also determine export outcomes, both through their impact on FDI and directly through the way they shape the opportunities and constraints of domestic producers. In export-led growth models, FDI tends to play a particularly crucial role in catalyzing export activity, and so the relationship between the investment climate, investment, and exports is strong.

FDI is often categorized by its objectives, as either market-seeking or efficiency-seeking (Helpman, 1984; Markusen, 1984). For market-seeking (or "horizontal") FDI, investment climate certainly matters; however, factors like market access and the size of the market opportunity that the investor seeks to exploit will be critical determinants which may act as a counterbalance where the investment climate is poor. A similar situation may hold when investors seek access to particularly precious materials inputs or particularly low-cost or high-skilled labor. But in most cases, efficiency-seeking (or "vertical") FDI, which aims to make use of a country's factors of production order to establish a platform for regional or global exports, is strongly determined by the investment climate.

The relationship between investment, particularly FDI, and the investment climate has been widely studied. The literature linking investment climate to trade and investment outcomes is extensive, but the findings show consistently that a better investment climate (often equated with meta institutions like property rights and the rule of law) is associated with higher levels of productivity, exports, and investment (c.f. Knack and Keefer, 1995; Smarzynska and Wei, 2000; Acemoglu et al, 2001; Benassy-Quere et al, 2007)[5]. Another set of literature focuses more on what may be called micro features of the investment climate, including infrastructure, trade facilitation, and business regulations. Empirical studies in this area have tended to focus on trade as the outcome rather than investment, although for at least for vertical FDI one can assume a strong correlation. Djankov, Freund, and Pham (2006) highlight the importance of trade and transport facilitation on trade outcomes, particularly for time-sensitive products, such as those that are physically perishable of operating in global "just-in-time" production networks. More recently, Portugal-Perez and Wilson (2010) assess aggregate indicators of hard and soft infrastructure in 101 developing countries and find a strong correlation between infrastructure quality and export outcomes. Eifert, Gelb, and Ramachandran (2005) show the impact of investment climate on firm-level productivity and exports in Africa. Drawing on firm-level surveys in eight developing countries, Dollar, Hallward-Driemeier and Mengistae (2004) find that the investment climate – as defined by customs clearance times, infrastructure reliability, and access to financial services – is associated with firm-level productivity and export propensity as well as with inward FDI flows.

The findings from this broad set of research supports the strong relationship between the investment climate and firm productivity. This translates into trade outcomes, although foreign investors tend to outperform domestic producers in export markets even in poor investment climates (Eifert, Gelb, and

[5] Of course, this is not without debate. For example, Rodrik, Subramanian, and Trebbi (2004) point out that, despite their findings on the importance of property rights, investment levels are higher in China where property rights are absent than in Russia, where formal institutions are in place.

Ramachandran, 2005). While the relationship may be somewhat weaker in terms of attracting FDI, the research to date suggests that the investment climate remains a critical location determinant for multinational investors. This presents a clear challenge for low income countries, whose investment climates – by and large – are much poorer than in middle and high income countries, who have limited resources and capacity to implement major investment climate reforms quickly, and who face political economy barriers to such reforms. It is an even greater challenge in regions like Africa whose markets are mostly too small and poor to attract market-seeking FDI. In such environments, targeted FDI regimes like economic zones are seen as one instrument of overcoming these constraints.

Several specific aspects of the investment climate are usually targeted for improvement inside economic zones. First, economic zones are designed to overcome *serviced land and infrastructure* constraints that may hinder investment in the national economy by providing investors access to long-term leases, pre-built factory shells, and reliable utilities (electricity, water, telecommunications). Second, economic zones normally aim to improve the overall *administrative environment*, particularly with regard to the procedures required to register a business, acquire the licenses required to operate, obtain visas and work permits, and access key services like utilities and construction. This is often facilitated through the establishment of "single window" or "one-stop shop" services, whereby the zone authority will be a single point of contact to arrange the delivery of these administrative services through coordination with the relevant government agencies. Finally, another important component of the administrative services offered in zones is a privileged and expedited *customs administration*. Such services often involve the stationing of customs officers inside or at the gate of the free zone to offer on-site clearance in order to speed up import and export procedures. It is usually also combined with a range of other advantages, including the ability to move and hold goods in bond as well as the removal of financial requirements for bonded and duty-free inputs[6].

But despite the relative orthodoxy in approach to economic zones, at least in terms of aiming to address the issues discussed above, it is not yet clear which, if any, of these factors has a bearing on the success of SEZ programs in meeting short-term objectives of attracting investment and longer-term objectives of generating quality employment and sustainable, diversified, exports. Empirical studies of zones have been limited, in a large part due to the poor availability of consistent, reliable data (Kusago and Tzannatos, 1998; Cling and Letilly, 2001). There are, however, a few studies in the past decade which provide some initial insight on these questions. Schrank (2001) conducts a cross-country quantitative analysis testing the variation of national economic zones outcomes against measures of national institutions the size of the local market. He concludes that both measures play an important role in determining the success of zones and their ability to act as a catalyst for industrial upgrading and economic transformation. Rolf, Woodward & Kagira (2003) use a survey-based experiment conducted with investors in Kenya's export processing zones to determine investor incentive preferences. The findings suggest the importance of upfront corporate tax holidays and infrastructure to investors over

[6] Many countries offer drawback mechanisms for exporters holding goods in bond or making use of duty-free imported inputs for export production. However, these mechanisms usually require companies to post bonds and then claim refunds, a process which can tie up considerable capital. Most free zone arrangements allow exporters to avoid such payments.

longer-term lower taxes, location, and local market access. Whether this expressed preference translates into improved zone performance in terms of exports, employment and economic transformation, however, is untested – indeed, it runs against most of the outcomes based findings in the FDI literature. Finally, in a study covering India, Bangladesh, and Sri Lanka, Aggarwal (2005) finds that infrastructure, good governance, and the overall national investment climate contribute to the success of economic zones. In a separate, recently completed paper (see Farole, 2011), we conduct a cross-country investigation of the determinants of economic zone performance and find that among the key factors are market size and access, national competitiveness, and the zone-level investment climate. In this paper, we focus specifically on the latter issue.

5. Data and methodology

Original surveys and case study research was carried out during the second half of 2009 in six African countries (Ghana, Kenya, Lesotho, Nigeria, Senegal, and Tanzania) as well as two countries each in Latin America (Dominican Republic and Honduras) and Asia (Bangladesh and Vietnam). In addition, some data on zone performance are compiled from other sources including national zone authorities, key informant interviews, and established databases such as UNCTAD's FDI database, UN COMTRADE, and World Development Indicators. The surveys provide a profile of the nature of investment in the zones and the expectations of investors, and then explore critical issues that may determine the degree of success of zones programs. Details of the survey methodology are provided in the appendix.

On some variables, the results from the zones surveys are compared with the conditions offered by the national (non-SEZ) economies using weighted averages from the World Bank's Enterprise Surveys. Although Enterprise Surveys use stratified samples to depict an accurate portrait of the business environment in the host economies, they were conducted in different years in the ten countries of study[7]. Insofar as some conditions captured by the Enterprise Surveys are not expected to change drastically over short periods of time, comparisons with EPZ survey data should remain valid, especially when differences are relatively large. However, these comparisons should also be treated with caution.

Although it is possible to compare the business environment inside EPZs with exporting firms outside them, there are two problems with this approach. First, the Enterprise Surveys were not sampled to be representative of exporting companies, and any comparison would have to perform some sort of post-stratification with data not readily available. Second, in some countries, the sample size for exporters is small and particularly problematic for some questions in this study. For this reasons, the analysis presented here compares the business environment reported by companies inside the EPZs with Enterprise Survey results from both exporters and non-exporters. For the issues compared in this analysis – utilities set-up times, utilities outages, and customs clearance – we have no reason to believe there should be any systematic difference in response from exporters and non-exporters.

[7] Enterprise Surveys were conducted in 2009 in Lesotho, Nigeria and Vietnam; 2007 in Ghana, Kenya, Senegal, and Bangladesh; 2006 in Tanzania and Honduras; and 2005 in Dominican Republic.

The results reported for the EPZ surveys are simple unweighted averages due to the non-randomness of the sample and the different coverage strategies described above. Furthermore, the small sample size of respondents and some item non-response issues in some countries prevent the use of more sophisticated statistical analysis with the data. Finally, it should be noted that the small sample size of EPZ firms in some countries (and enclaves) makes our averages sensitive to the presence of outliers and firm and item non-response. In the most extreme case – Tanzania, with only 17 operational EPZ firms – a relatively small number of outliers (or refusals to respond) can significantly bias our estimates.

It should be noted that even for the ten countries included in the study, the data are not comprehensive. In some zone programs (e.g. Nigeria) we were unable to get access to any reliable time series data on the free zone program. In other countries – e.g. Senegal – data are available on the small "free zone" program, but not always from the other parallel programs (the now-defunct "points francs" and the large "EFE" regime). Moreover, the operation of single-factory programs, especially in Ghana and Senegal but also on a smaller scale in Kenya (and a much smaller scale in Tanzania) makes direct comparisons (and in some cases, conclusions) difficult. Where possible, we have separated data on the zones programs delineated within specific industrial parks or enclaves, and dispersed through "single factory" licensing.

6. Assessing performance in African zones

This section provides a summary and discussion of outcomes across the ten zone programs included in the study, with the specific focus on the six African zones.

Investment

The first proximate measure of success of an EPZ program is the investment it attracts. Without investment there will be no employment or exports and no possibility of realizing structural economic benefits. In this section we review the scale and nature of investment in African EPZ programs to date. Note that we have very limited data on investment patterns in the economic zones of Senegal and Nigeria and so any comparisons which rely on time series data exclude these countries.

Table 2 summarizes the results on FDI in the EPZs. On measures of FDI stock and FDI per capita the non-African zones generally outperform the African zones. One important exception is Ghana, which experienced large-scale investment in their free zones program during the 2000s. Most of the FDI in Ghana has come through "single unit" free zones[8]. These "single unit" firms are licensed as free zone companies but entitled to operate anywhere in Ghanaian territory. A similar program operates in Kenya, Senegal, and Tanzania. The last column shows the relative importance of the EPZ program as a source of FDI. What is striking is that – with the exception of Nigeria, whose free zone program has failed to attract significant investments by almost any measure – the African zone programs show

[8] As opposed to investment in firms based in the Tema Free Zone

relatively high contributions to national FDI inflows from the EPZ programs, despite low absolute levels of investment in the EPZs. This perhaps highlights that the relative failure of African EPZ programs to attract investment may be more attributable to a poor investment environment overall than to the failure of the zone programs per se.

Table 2: EPZ investment statistics[9]

	FDI statistics		
	Total EPZ FDI stock (2008) (US$m)	**EPZ FDI per capita (US$) (2000-08)**	**EPZ FDI as % of total national (2000-08)**
Bangladesh	1,435	6	30
DR	2,611	141	18
Vietnam	36,760	325	100
Ghana (Tema)	68	3	48
Ghana (single units)	2,806	120	
Kenya (EPZs)	162	6	20
Kenya (single units)	155		
Nigeria	N/A	<1	<1
Tanzania[10]	210	5	18

Source: EPZ FDI author's compilation from individual country EPZ authorities; national FDI data from UNCTAD

How does this investment translate into actual firms operating on the ground in the EPZs? Figure 2 gives a perspective on the number of active firms operating in the zone programs in each country under study, distinguishing between those firms operating in spatially-defined zones (or "enclaves") and firms which operate as "single factory" units. Again, what is clearly apparent from Figure 3 is the gap in scale between the African and non-African zones in the study. The zone program in the Dominican Republic supports more than 550 firms, in Honduras there are nearly 350 firms, and in Bangladesh nearly 300. Vietnam (whose data are not presented in the graph for scale reasons) supports 3,500 firms in its export processing and industrial zones. In contrast, excluding the single factory units, the African zones in the study have, on average, little more than 35 firms operating in them. Such small scale operations not only have financial implications on program outcomes but are also likely to restrict the potential for their host countries to leverage dynamic benefits through the programs.

Both Senegal and Ghana (with 300 and 180 firms respectively[11]) have a large number of firms operating through "single unit" free zone programs. But even taking these into account, the scale of the African

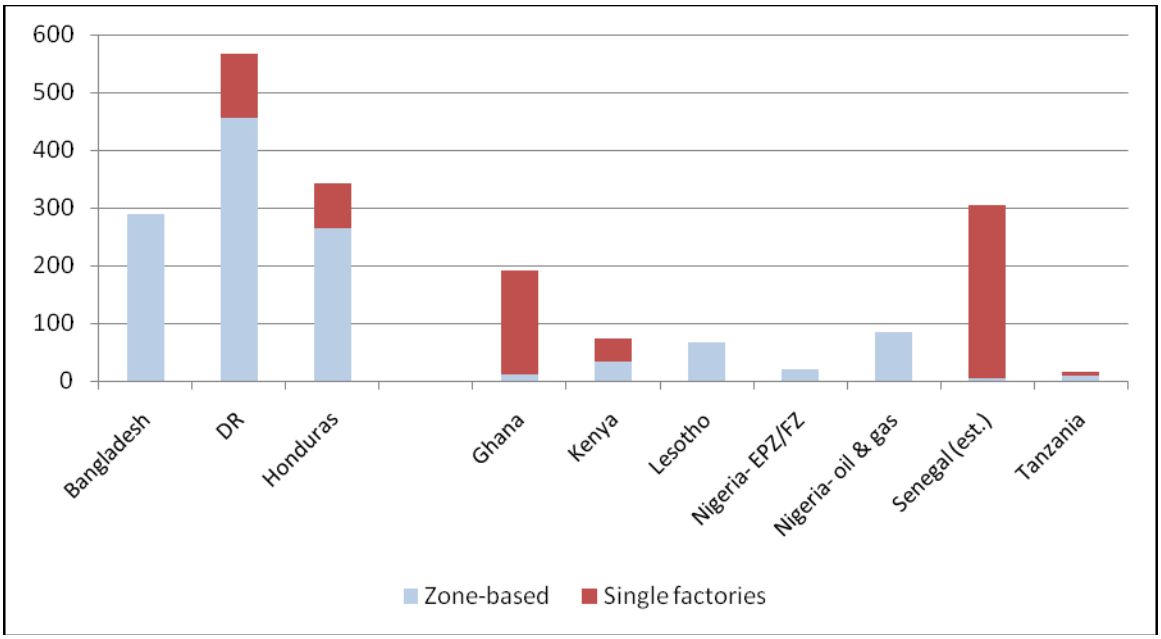
[9] Source: compiled from data provided by national zone authorities. Note that data on investment in most EPZs: 1) does not differentiate FDI from domestic investment and 2) reports only the cumulative value of annual investments and does not provide actual FDI flow data. As a result, we have determined annual "flows" by taking the difference in cumulative FDI from one year to the next. We have then compared this to FDI stocks data from UNCTAD and again taken the difference in reported stocks from one year to the next as a proxy for the annual FDI flow.

[10] Data in columns 2 and 3 are the average over the period 2005-2007.

[11] In the case of Senegal, data is only available on the number of newly-established "EFE" firms each year; no data is available on the number of these firms which are operating actively at any one time – thus the actual number of active firms will be somewhat smaller than what is reported here.

programs appears to be limited. Part of the explanation for this – at least relative to Bangladesh and Vietnam, and excepting Nigeria – is size of the population and economy. A second reason is the fact that the African zones have been established relatively recently.

Figure 2: Number of active firms operating in the economic zones (2009)

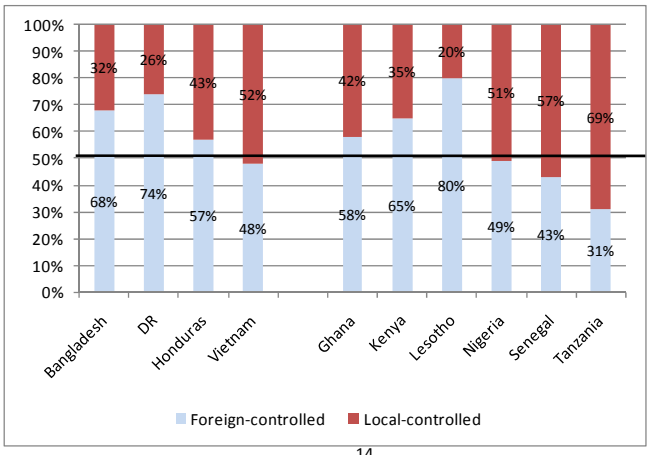


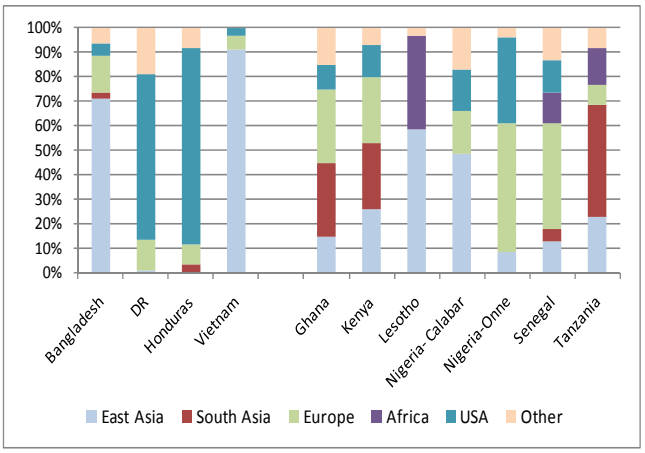
Source: Author's compilation from individual country EPZ authorities

Figures 3 and 4 summarize the source of investment in EPZs, including the degree to which companies investing in the zones are foreign or locally-controlled, and the source regions of foreign investors. Traditionally, EPZ policy has focused on foreign sources of investment as a priority. However, while EPZs generally need to attract a substantial volume of FDI at least in the initial stages in order to bring the knowledge and technology that can be the basis of structural economic transformation, local investment also plays an important role in time. In fact, most successful zones that start with substantial FDI are eventually dominated by locally-based firms. This was the case, for example, in Malaysia and Korea[12]. A similar pattern is beginning to emerge in China as well. Looking at our sample countries, we find some moderate share of local ownership in most countries, with substantial levels in Vietnam, Senegal, and Tanzania. However, this top-line figure may mask real underlying differences in the nature of investment in the African and non-African zones.

[12] In some other cases, like Mauritius, Honduras, and El Salvador, local investors played a critical role from the start, catalyzing FDI.

Figures 3 and 4: Source of EPZ investment projects (2009)[13]





Source: SEZ Investor Survey[14]

Specifically, the non-African zones have shown some evidence of the shift from foreign to local investment, as seen in the Malaysia and Mauritius cases. For example, in Vietnam local share of investment projects rose steadily from around 23% in 1995 to over 50% by 2008. Local investors have also played critical roles in the zones programs in Honduras and the Dominican Republic. In the case of the African zones, however, the same pattern does not appear to hold. For example, new programs like Tanzania have had high shares of local investment from the outset. This, in combination with the low levels of FDI attracted into the African zone programs to date, suggests that the relatively high share of local investment may reflect as much the failure to attract FDI as it does success in attracting local investors. A second explanation, particularly in programs like Senegal, is the existence of "single unit" licenses and the propensity of locally-based firms to switch into the EPZ program. On a more positive note, it may reflect the relative perceived advantage of the EPZ operating environment even to local firms, and so perhaps indicates a pent-up demand for investment opportunities by the domestic private sector. From the data we have available, we are unable to test which, if any, of these explanations holds true.

Focusing on the FDI only, Figure 4 illustrates the main sources of foreign investment into each of the zone programs, by region of investment origination. Several points stand out. First is the general dominance of East Asian investors, particularly in those programs focused on the garments and textiles sectors (with the exception of Dominican Republic and Honduras). Second, while the two Asian EPZ programs are mainly used as export platforms by regionally-based (Asian) investors and the two Latin American zones (Dominican Republic and Honduras) play a similar role for US investors, the African zones have no such dominant investor source. European investors do play a relatively greater role in EPZ investment in the African zones, but they are by no means the dominant source. Indeed, the African

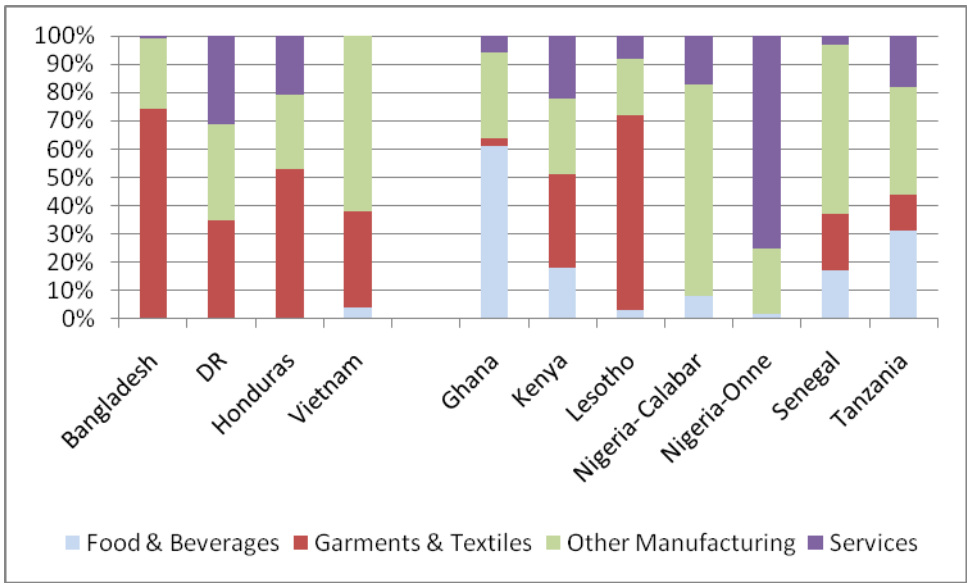
[13] The data shown are percentages of firms not of investment value. The difference can be significant – for example, according to data from the Ministry of Planning and Investment, local investors accounted for more than half of all firms in the industrial zones in 2009, but only 26% of investment by value.

[14] The share of local versus foreign ownership in Vietnam is based on data (2009) from the Ministry of Planning and Investment. This takes into account both firms in Export Processing Zones and Industrial Zones. By contrast the surveys were carried out only with firms in the Export Processing Zones, which are almost exclusively foreign-controlled.

zones tend to source investment from a wide variety of locations – by and large they have not established themselves as obvious regional export platforms. This is further evidenced by the data in Figure 5 which shows that, outside of Lesotho and possibly Ghana, investment in the zones is spread across a variety of sectors (mainly within "other manufacturing"), with little evidence of clustering activity.

Why might African zones be different in this regard? Most investment in EPZ programs is of the export platform variety –it is primarily efficiency- rather than market-seeking. And for most traditional export processing activity, the primary determinant of competitiveness is labor cost and productivity. Here, there is reason to question the relative competitiveness of most African countries as an export platform, given the relatively high labor costs, low productivity, and high costs of transport and other inputs. Although these issues are not analyzed in detail in this paper, suffice to say that in the absence of comparative advantage in labor-intensive assembly, it is not surprising that African zones have had a poor experience in attracting investment in traditional export processing activities.

Figure 5: Principal Industry of operation for EPZ firms (%)



Source: SEZ Investor Survey

Figure 5 illustrates the mix of investments by sector in the African zone programs – several points are worth highlighting. First, as noted above, African zones tend to have investment dispersed across a wide set of economic activities; in particular, outside of Lesotho there is little concentration in the garments and textiles sector (it is worth noting that until recent years, Kenya's program was highly concentrated in garments). Second, while there is virtually no agri-food activity based in the non-African zones, all the African zones programs show some activity in this sector. It is dominant in Ghana, where most of the investment in cocoa processing takes place within the free zones program. In Kenya, Tanzania, and Senegal, it also plays an important role. This is perhaps not surprising given the importance of the agricultural sector in most African countries. It may also suggest that while they may not be globally

competitive as platforms for assembly activity, the activities related to the processing of regionally-sourced natural resources may be a source of comparative advantage for African zones. The case of Nigeria highlights this – while the flagship development of an EPZ in Calabar never took off, a second, smaller initiative to establish a free zone in Port Harcourt to support Nigeria's large oil and gas sector quickly attracted scores of international investors and now employs more than 20,000 workers (compared with little more than 1,000 in Calabar).

Exports

The level of exports sustained is probably the most commonly referred to outcome measure for EPZ programs. Table 3 provides a detailed summary of EPZ export levels, growth, and the relative importance of EPZ exports in the national economy. Again, the small scale of the African programs under study stands out clearly, both on an absolute and a per capita basis (with the obvious exception of Lesotho). We see some evidence of success in Ghana's program. Even in the Tema enclave, which hosts a small number of firms, exports reached US$280m in 2008; exports from the single-factory units were almost four times this level. The success of exports under the Ghana program is partly attributable to cocoa processing activities, which account for a large share of activity under the free zone program and have grown robustly since the free zone program was launched in 1995[15]. But it does go beyond just cocoa, with firms in Tema involved in prefabricated housing (US$64m in exports) and plastic household products (US$11m in exports). Outside the enclave, the free zone includes several exporters including a tuna processor (US$100m in exports); a processor of fresh fruits and juices (US$33m in exports); and a number of timber companies (together accounting for up to US$200m in exports).

In contrast, Kenya's EPZ program, often held up as an example of African success, looks rather anemic. Even including the single factory units, the program, which has been operating for nearly two decades, accounted for just over US$400m in exports in 2008 – just US$11 in exports per capita. The free zone programs in Nigeria and Senegal performed even worse, with Tanzania's program also producing limited exports, but still in very early stages of development. As was the case with investment, what is notable in the African case is that while nominal exports from the African zones programs was extremely small (on average 10-15 times smaller than the corresponding absolute and per capita exports in the non-African programs), their contribution to national exports was much more in line with international EPZ norms. In some countries – particularly Kenya, Nigeria, and Tanzania – the relative contribution of the EPZ program, however, remains limited.

[15] According to trade statistics from UN COMTRADE, between 1996 (the first full year following the launch of the free zone program) and 2008, cocoa exports grew by an average of 10.7% annually, 57% of which is explained by quantity growth and the remainder by increasing prices of the commodity.

Table 3: Summary of key EPZ export statistics

	Exports (US$m)- 2008	Exports per capita (US$)- 2008	EPZ share of national		Growth in exports		
			Non-oil exports	Manu-facturing exports	'00-'08 (CAGR)	'00-'04 (avg.)	'04-'08 (avg.)
Bangladesh	2,430	102	15%	16%	13%	11%	16%
DR	4,545	462	69%	96%	-1%	0%	-1%
Honduras	4,000 (est.)	550	61%	98%	10%	15%	6%
Vietnam	16,175	188	30%	41%	29%	24%	35%
Ghana (Tema)	281	12	33%	590%	29%	56%	31%
Ghana (single units)	1,019	44					
Kenya (EPZs)	145	4	9%	25%	31%	57%	10%
Kenya (single units)	265	7					
Lesotho	425	211	64%	64%	1%	19%	-7%
Nigeria (Calabar- est)	100	1	4%	16%	N/A	N/A	N/A
Senegal (DIFZ)	50	4	16%	42%	26%	144%	-3%
Senegal (single units)	350	29					
Tanzania	59	1	3%	14%	N/A	N/A	N/A

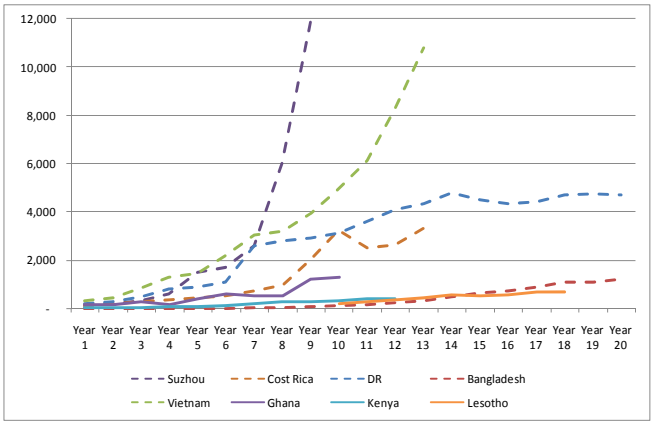
Source: UN COMTRADE via WITS and author's calculations based on data from individual country EPZ authorities

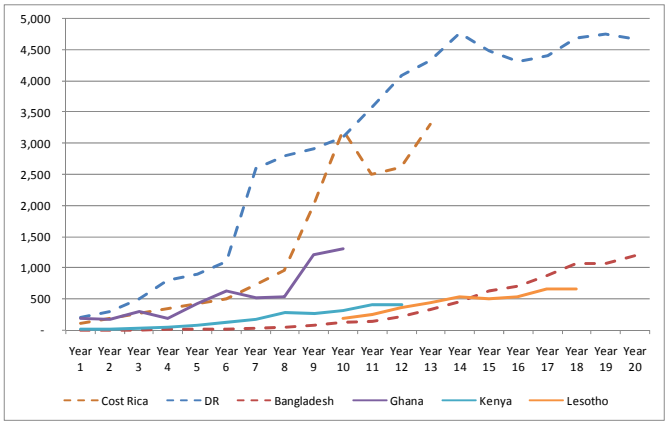
Given that many of the African zone programs were established only recently, could the low levels of exports simply be a function of time? Certainly, this is part of the story. Data on growth of exports during the period 2000 to 2008 do indicate that the African zones, by and large, grew relatively quickly (although in most cases from very small bases) during the decade. A closer look at the growth patterns, however, raises some concerns over many of the African zones programs. As can be seen in Table 2, many of the African programs experienced rapid growth during the period 2000 to 2004, but slower growth or even decline since then. This is partly attributable to the base on which they are growing in each of those periods. But there may also be a structural factor at play. This is competition from Asia in general, and specifically, garment sector competition in the post-MFA environment. In the period 2000 to 2004, African EPZs (particularly Kenya and Lesotho) benefited enormously from trade preferences to the US market granted under the AGOA program. At the same time, they faced limited competition in the US market from Asian producers, who continued to confront quota restrictions until the Multifiber Agreement expired at the end of 2004. At least in the cases of Kenya and Lesotho, declining competitiveness in the aftermath of the MFA is a well-documented source of export stagnation and employment losses since 2005.

More broadly, if we look at the typical growth path of successful economic zones, it appears that most of the African zones are failing to shift to the "exponential" growth path that typically occurs

somewhere between the fifth and tenth year of operations. Figure 6 maps the export growth paths of a two successful EPZs – Suzhou in China and Costa Rica – from their first year of operations. Three African (Ghana, Kenya, and Lesotho) and three non-African (Bangladesh, Dominican Republic, and Vietnam) programs are compared[16]. Figure 6 shows that most zone programs start slowly, growing linearly in the initial stages, before hitting a growth inflection point. The two Asian programs then grow exponentially with, as yet, no sign of slowing. The Latin American examples, however, show a slower (although still strong) growth path and then hit a point of declining growth or stagnation, although in the case of Costa Rica there is some evidence of a renewed cycle of increasing growth. The differences between the Asian and Latin American growth patterns here are probably related to factors such as: timing (the Latin American programs launched in the 1970s, while the Asian programs did so at the outset of a period of huge growth in production-network driven global trade in the early 1990s); the concurrence of wider reforms (in Vietnam and China, the zone programs were one small element of major economic reform initiatives that opened their economies for the first time in half a century); and the huge differences in scale between the Latin American and Asian economies under comparison.

Figures 6 and 7: EPZ Export growth trajectories (US$m) by year of operation





Sources: Author's calculations based on data from individual country EPZ authorities; Arce-Alpazar et al (2005) for Costa Rica; Zhao & Farole (2010) for Suzhou

Of the three African programs, only Ghana appears to be showing evidence of shifting to the higher growth path, although it is unclear how sustainable this growth will be as it is dependent to a large degree on processed commodities (cocoa and timber) which are both limited in their availability and face significant cyclical price fluctuations. Figure 7 removes China and Vietnam to give a clearer picture of the growth paths of the African zones against some relevant comparators[17]. Here it becomes clearer that exports from both Kenya and Lesotho are growing, but they are failing to take off. In contrast the formerly slow-growing EPZ program in Bangladesh appears, after 10-12 years, to have moved to a much faster growth path. This is driven by the increasing competitiveness of Bangladesh in the global

[16] Unfortunately, we have insufficient time series data on Senegal and Nigeria to include them in the analysis, and the Tanzania program has too little history to be useful for this analysis. It is worth noting that based on what we know anecdotally about the Nigeria and Senegal programs, had their data been available it would strongly support the conclusions we make here.

[17] Note that we have data on Lesotho only from 2000

garments market since 2005.

Although we have very limited data on the destination markets of exports from the African zones, anecdotal evidence suggests they are relatively dispersed (as was the case with investment sources). Only Lesotho operates as a true "export platform", serving mainly the US garment sector market. While zone-based firms in Kenya also serve the AGOA market, an increasing share of exports are oriented to Europe. This is also a main source of exports for firms in Ghana and Senegal. But where many of the African zones stand out from programs elsewhere in the world is in their *regional*, *end-product* export orientation. Zones in Latin America tend to serve the US market almost exclusively, both through end-product assembly (e.g. garments and wire harnesses in Central America and the Caribbean; machinery, electronics, and equipment in Mexico; pharmaceuticals in Costa Rica) and intermediates (e.g. semiconductors in Costa Rica). Zones in East Asia operate as global and regional export platforms for end products like clothing, footwear and electronics, and regional intermediates in the electronics and automotive sector. In many of the African zones, particularly those in West Africa, there appears to be substantial production of end products destined both for consumers and business, like metals, building products, chemicals, and food to neighboring countries with very little global or regional value-chain based production outside of the garments sector in Lesotho and Kenya. There are a number of possible explanations for this pattern of activity, including the fact that, given the small-scale activity in the zones and the failure of these countries to compete more effectively as export platforms, the export patterns we observe in the zones simply reflect specific, opportunistic investments. On the other hand, bearing in mind the challenges of scale in most African countries and the significant transactions costs faced in production and cross-border trade, the regional trade observed through the zones might give some indication of what efficient patterns of regional specialization and trade might look like.

Employment

While EPZs are often major contributors to FDI and exports in a country, their overall impact on the labor market tends to be rather less. That is not to say, however, that economic zones are not often a major generator of employment, particularly in small countries. As can be seen in Table 4, the absolute and relative contributions of the EPZ programs to employment in African countries is limited (with the significant exception of Lesotho), even when measured against the limited scale of their industrial sectors. Total jobs supported in the six African EPZ programs under study is equivalent to the employment created in the Honduras or Dominican Republic programs, countries with less than 10 million population. Versus countries like Kenya or Ghana, Honduras and Dominican Republic have generated more than four times as much employment through their zone programs, and 10-15 times on a per capita basis. Programs like Nigeria's have created virtually no manufacturing employment.

The data presented in Table 4 also highlight one of the weaknesses of Ghana's free zones program. Despite its high level of exports, it delivers only limited employment, with activities concentrated instead in resource and capital intensive sectors. Indeed, Kenya's EPZ program creates nearly 3.5 times more jobs per US$ of exports; and Lesotho's is nearly five times more labor intensive, due to its nearly

exclusive concentration in the garment sector.

Table 4: Employment contribution of EPZs

	EPZ employment (2008)	EPZ employment as % of national industrial sector employment
Bangladesh	218,299	3%
DR	124,517	30%
Honduras	130,000	30%
Vietnam	1,172,000	19%
Ghana (Tema)	2,025	3.5%
Ghana (single units)	26,534	
Kenya (EPZs)	15,127	15%
Kenya (single units)	15,551	
Lesotho	45,130	>80%
Nigeria (Calabar- est)	1,156	<1%
Nigeria (Onne- oil & gas)	20,000	N/A
Tanzania	7,500	2.5%

Source: EPZ employment based on data from individual country EPZ authorities; national industrial employment from various sources

Again the bigger concern about the African zones is not so much the scale of their programs at this stage, but the evidence that their growth may already be slowing. Vietnam and Bangladesh have managed to shift to exponential job growth over the last decade. But for African zone programs, the story of jobs is similar to that of exports – rapid growth in the first half of the decade followed by stagnation. Indeed, for African zones dependent on the garment sector (Kenya and Lesotho) it is not a question simply of failure to shift to an exponential growth path, or even just of slowing growth, but of absolute and relatively acute decline in employment. Employment in Lesotho's export garment sector is down 15% from its 2004 peak. In Kenya's EPZ program, the decline is more than 20% from the 2003 peak. Even in Ghana, where exports have risen rapidly under the single factory free zone program, job growth was weak (only 4.5%) since 2004; at the end of 2008 free zone employment in Ghana stood at virtually the same level as in 2005, despite reported exports from the program growing by 2.5 times.

Adjustment

A final measure of economic performance of zones is the degree to which they have played a role in supporting industrialization and/or diversification of their host country's exports. This can be explored through sectoral patterns of exports as well as by analyzing the inter- and intra-sectoral adjustments within the zone programs over time.

An assessment of the broad structure of national exports in each of the ten countries under study over a period of several decades show quite dramatic structural changes in export patterns towards in the four non-African countries, toward greater shares of manufacturing and declining primary exports. In the

case of Vietnam, the data show virtually no change in manufacturing shares of exports until the zone program was established (along with a range of other policy initiatives linked to the opening of Vietnam's economy), followed thereafter by a radical shift in export structure toward manufacturing. Bangladesh experienced a similarly large shift, which only became apparent between 5 and 10 years after its EPZ program was launched. This was driven almost entirely by the growth of the garment sector, which grew from only about 50 firms in the 1980s to more than 4,500 firms employing over 2 million by 2009. In the case of Dominican Republic and Honduras, the structural changes were equally dramatic, although they only occurred after the programs had been operational for 10 years.

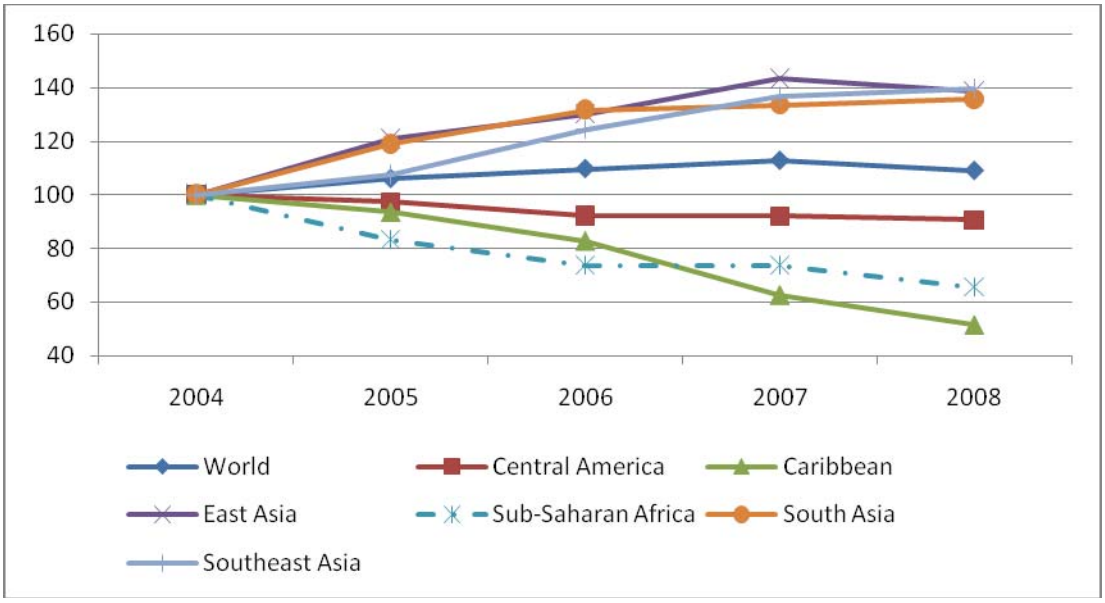
A glance at the African country data shows a very different story. Countries like Lesotho (a garment export mono-economy) and Nigeria experienced no change in their national export structure. Export structures in Senegal and Ghana have fluctuated somewhat over recent decades, with no clear patterns discernable (at least none that appear to have any relationship with their zones programs).Only Kenya and Tanzania appear to show any broad patterns of sectoral adjustment over time. In Tanzania's case, it is a story of increasing growth of non-traditional exports, particularly services and minerals; again, with no real link to the EPZ program. Kenya is the only country to have shown a steady rise in manufacturing exports, with a corresponding decline in agricultural exports. However, most of this adjustment appears to have taken place prior to the establishment of their EPZ program, and, in fact, manufacturing share growth appears to have stagnated in the years following the launch of the EPZ program.

One factor at play here may simply be the timing of the launch of EPZ programs in the context of global trade and investment trends. With the exception of Senegal and Lesotho, the other African programs in the study were only operationalized well into the 1990s – probably too late to take advantage of the massive globalization of manufacturing that accelerated during the 1980s and 1990s. One hypothesis is that the structural adjustment seen in Honduras, Dominican Republic, Vietnam, and Bangladesh is not a story of economic zones but rather of broader macro trends, which African countries were unable to tap into for any number of reasons (weak micro competitiveness, lack of fiscal and political stability, etc.). An alternative hypothesis is that African countries missed the boat on these opportunities *precisely because* most African countries lacked an effective instrument like EPZs through which to channel trade and investment.

Analyzing structural changes *within* the EPZs may provide a measure of the degree to which the zone programs facilitate sectoral adjustment, or instead hinder it. To this end, it is instructive to look at how EPZ programs have responded to changing competitiveness in the garment sector, particularly in the post-MFA environment. In Jayanthakumaran's (2003, p.64) seminal study on EPZs concludes that there is "*a strong correlation between the growth of EPZs and the Multi-Fiber Arrangement in general*" and that the phasing out of MFA and guaranteed market access "*will eventually result in lower rates of return and will be a possible threat to the existing and new EPZs"*. Figure 8 illustrates clearly, at a broad regional level, the winners and losers in the garment sector since the expiration of the MFA at the end of 2004. In terms of exports to the US market, East and South Asia (particularly Bangladesh) have grown rapidly at the expense of Central America, the Caribbean, and of Sub-Saharan Africa, which has experienced declines of up to 40% over just four years. More recent trade data suggest that the crisis

has further accelerated the changing patterns of competitiveness in the sector.

Figure 8: Index of garment sector exports to the US by region (2004=100)



Source: US Office of Textiles and Apparel, Major Shippers Report (http://otexa.ita.doc.gov)

For EPZ programs reliant on the garment sector, the impact has been indeed been significant. While the Bangladesh and Vietnam programs have experienced rapid growth in exports (16% and 34% per annum, respectively) and employment (12% per annum in each country), programs in Africa (especially Kenya and Lesotho) have suffered. In Lesotho, exports are down 25% since 2004 and, although employment has held firm since 2006, at least 8,000 jobs have been lost since 2004. In Kenya, job losses in the EPZs are nearing 10,000 from their peak. Tanzania was unfortunate to launch their program just as the MFA was being phased out. The result was that the program originally had commitment from a significant number of garment manufacturers, almost all of whom eventually decided against investing or have closed down since. And despite the success of Ghana's free zone program in other sectors, it has been unable to rescue the apparel sector, which has become virtually extinct over the past decade.

7. Assessing the investment climate in African EPZs

As discussed earlier in this paper, one of the crucial determinants of performance of economic zones programs is the investment climate that they offer – particularly offering a substantial improvement on what is available to investors outside the zones. In this section, we look briefly at the performance of EPZs in meeting the investment climate requirements of their investors.

EPZ investors and their investment criteria

What do investors want from EPZs? What are the criteria on which they decide whether or not, or where, to invest? Understanding this is the first step to assessing the effectiveness of the investment

climate performance of the countries in our survey.

Table 5: Criteria for selecting and investment location according to surveyed EPZ firms, rankings by country (top 5 highlighted)

Investment criteria	African zones	Non-African zones
Cost and quality of utilities	1	3
Access to transport infrastructure	2	2
Business regulatory environment	3	5
Tariffs, duties, and rules of origin	4	8
Level of corporate taxes	5	6
Access to highly skilled labor	6	4
Access to suppliers	7	7
Access to low cost labor	8	1
Availability / cost of land and buildings	9	10
Access to local and regional markets	10	9
Access to technology	11	11

Source: SEZ Investor Surveys

Table 5 summarizes investors' ranking of the relative importance of eleven criteria for selecting an investment location[18]. Among the African countries surveyed, there was remarkable similarity in the average respondent rankings, particularly among the top 3 factors. What is also striking is that the top 3 factors ranked by investors are issues over which the EPZ program and individual zone management should have at least a decent measure of control – the cost and quality of utilities, access to (efficient) transport, and the business regulatory environment. The other two factors rated as highly important by investors are tariffs and duties and the level of corporate taxes, the latter of which at least can also be controlled by zones through incentives. Factors like labor, technology, and markets, which are more linked with wider issues of national competitiveness, were ranked lower in importance by investors in African zones. A positive interpretation of these results is that these results suggest that zone programs have significant power over the issues which matter most to investors. A more pessimistic view is that the results are evidence of a selection bias – i.e. investors in the African zones have already discounted deeper sources of competitiveness and their responses suggest they are likely to be footloose.

In comparison, respondents from the non-African zones surveyed also identified utilities and transport as among their most important investment criteria. Their point of differentiation with the investors in the African zones is that they place much greater emphasis on access to labor, both of the low wage (ranked as the most important criteria by investors in the non-African zones and only 8th by investors in the African zones) and high-skill variety, and are much less concerned with tariffs and market preferences. Across countries, there were no significant, consistent criteria ranked differently by foreign and domestic investors. However, it is worth noting that in several countries, local investors ranked

[18] The specific question was as follows: Please rate each of the factors below in terms of their importance to your company in considering a location for investment (rate each on a scale of 1-5, with 1 being "least important" and 5 being "most important"). Average ratings for each factor in a country were then converted into a rank.

"access to technology" as significantly more important than did foreign investors; this most likely reflects the expectation of benefiting from technology spillover effects from multinationals.

Utilities

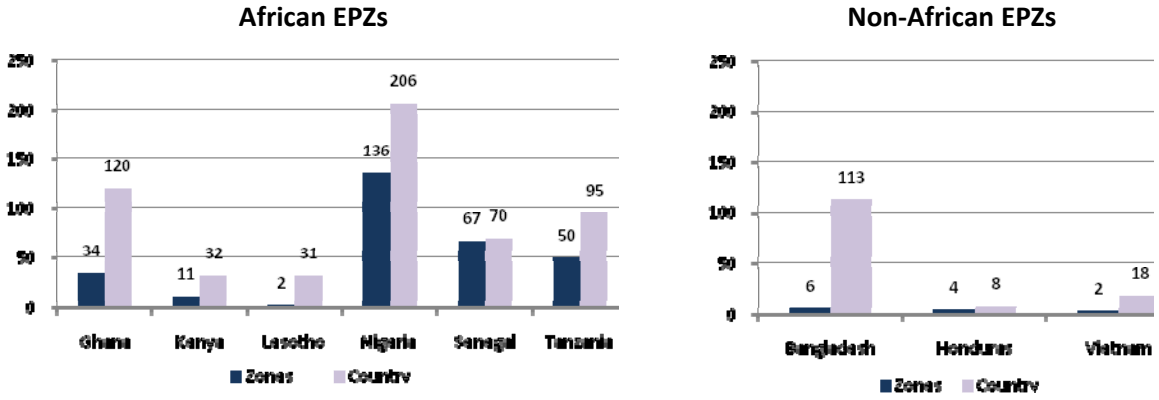
Access to reliable, competitively-priced utilities[19] was ranked as the most important investment consideration by firms in African EPZs. Where high quality, consistent utilities are available, companies can deploy modern production techniques and ensure the efficient utilization of resources; where they are absent costs rise, productivity suffers, and output is inconsistent. Overall, African countries generally fare poorly in the provision of basic utilities services. For example, according to data from the World Bank Enterprise Surveys, electricity-related downtime costs African businesses almost 6% of sales, more than 2.5 times the average in OECD countries and the second worst-performing region (next to South Asia); nearly 26% of all electricity in the region is reported to be reliant on generators, 40% more than in the next worst-performing region (Latin America and Caribbean). Thus, EPZs have the potential to offer a substantially improved operating environment to investors, by providing additional infrastructure (e.g. electricity substations, reservoirs, etc.) or by ensuring dedicated or prioritized utility supplies.

The results of the survey are mixed. In most African countries surveyed, locating inside an EPZ offers much-improved reliability of utilities relative to what would be available in the domestic economy. However, as the quality of the national utilities infrastructure in most countries is so poor, the relative improvement in the EPZ-setting remains well below what would be required to establish a globally-competitive environment for investors. The results are presented below for electricity. A similar pattern of results was found for water.

For most manufacturing and services companies operating in EPZs, electricity is the most important consideration in terms of utilities – both reliability and cost are critical. The results (see Figure 9) show that all African EPZ programs offer a better investment environment with regards to electricity reliability than available to investors in the domestic market. For most, the difference is substantial. However, with the exception of Lesotho and possibly Kenya, they have not been able to provide an environment that is competitive worldwide. Indeed, for an investor looking for reliable electricity in Africa, locating in any other country's EPZ program covered in the survey (Ghana, Nigeria, Senegal, and Tanzania) would not even put them in the top half of locations in Africa (see Table 6). Moreover, the relative improvements in Lesotho and Kenya – whose national environments for electricity reliability are significantly better than in the other African countries – were also the largest (along with Ghana) in the sample. However, the non-African countries in the sample far outperform most of the African countries. As a comparison, although electricity reliability in Bangladesh is as poor as in the average African country, it has managed to establish a much-improved environment within the EPZs that is competitive with countries like Vietnam and Honduras.

[19] The focus of the survey was on electricity and water utilities. Although questions were asked about telecommunications (phone and internet) availability and set-up, the survey did not address questions on the reliability of telecommunications.

Figure 9: Average downtime (hours) monthly resulting from power outages



Source: "Zones" – SEZ Investor Surveys; "Country" – Enterprise Surveys

Table 6: Power outages – ranking of surveyed countries and EPZs among African countries

	Countries		Countries and 6 EPZs	
	Rank (39)	Times top performer (Botswana: 3.8 hrs)	Rank EPZ (45)	Times top performer (Botswana: 3.8 hrs)
Lesotho	17	8.1	1	0.5
Kenya	18	8.3	9	2.9
Ghana	32	31.6	24	9.0
Tanzania	28	25.0	26	13.2
Senegal	26	18.3	30	17.7
Nigeria	38	54.4	39	35.9

Source: SEZ Investor Surveys and Enterprise Surveys

What is behind these results? EPZs have attempted to address the problem of frequent power outages by establishing dedicated substations, where practical in the larger zones. However, because many African zone programs are characterized largely by single-factory units rather than enclaves (e.g. Ghana, Senegal, and Tanzania), the potential for the EPZ program to extend a quality infrastructure environment to all its investors is extremely limited. It is therefore not surprising that programs like Lesotho and Kenya are in the best position to deliver an improved environment to its EPZ investors. However, differences between countries in how the strategy is implemented may also influence the success of these initiatives. Lesotho, for example, not only provides dedicated substations in its main industrial parks, but prioritizes power to industrial areas to minimize downtime when power shortages occur nationally. A similar strategy is followed by Bangladesh and Vietnam. On the other hand, the Tema zone in Ghana and Calabar in Nigeria also have dedicated substations, but problems with investment (in Ghana) and maintenance (in Nigeria) lead to frequent power cuts and force most firms to rely significantly on generators. Finally, it is worth noting that all of the non-African EPZ programs offer the possibility for private companies to purchase electricity from the grid at wholesale rates and provide services into the zones. Such deregulation or de-monopolization of utilities services can be a significant advantage in EPZs – despite the huge problem with reliable electricity in Africa, this approach does not

appear to be in practice in any of the African EPZs.

Transport and trade facilitation

The second most important criteria noted by all EPZ investors, in both the African and non-African countries, is access to reliable transport infrastructure. This relates not only to issues of location and hard infrastructure (roads, rail, ports, etc.), but critically also the soft infrastructure of customs and trade facilitation. Indeed, the overall efficiency of the transport environment has a substantial impact on the competitiveness of exporters, as it impacts their ability not only to access markets cost effectively, quickly, and reliably but also to access critical inputs to the production process.

Although EPZ investments should ensure quality transport access between the zones and key trade gateways, in practice this happens only occasionally. Moreover, it is an expensive proposition. Thus, the investment climate performance of an EPZ with respect to transport is likely to be determined, more than anything, by the decision on where the EPZ is to be located. The closer EPZs are to the main trade gateways (ports, airports, borders), the more likely they will be in a position to ensure an effective transport and logistics environment for investors. In general, most of the African countries in the survey have located their main zones either nearby the main trade gateways or major cities. There are, however, a number of zones located in peripheral regions, including in Nigeria, Bangladesh, Vietnam, Dominican Republic, and Lesotho. In all of these cases, the EPZs have struggled to attract more than a handful of investors.

Table 7: Quality of roads and port infrastructure in selected countries (Country ranking)

	Quality of roads	Quality of port infrastructure
Ghana	76	69
Kenya	91	84
Lesotho	113	114
Nigeria-	112	122
Senegal	78	54
Tanzania	108	120
Bangladesh	95	113
Dominican Republic	70	58
Honduras	74	36
Vietnam	102	99
Correlation		*0.9272*

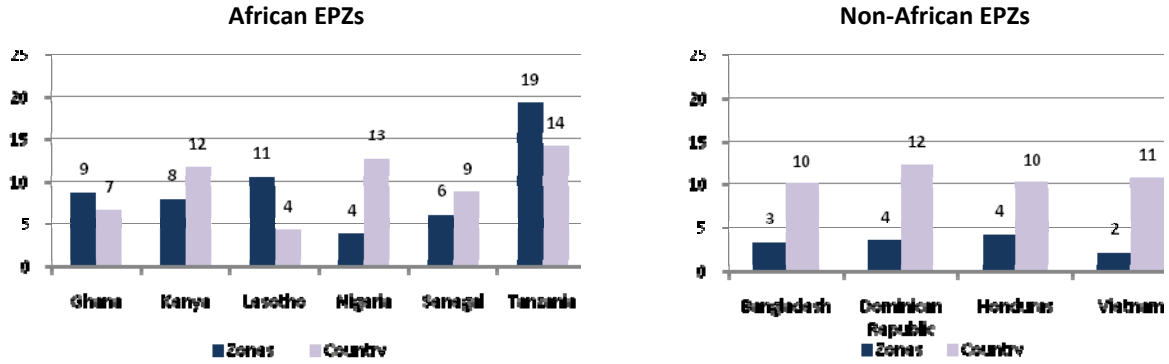
Source: Global Competitiveness Index 2009

The importance of access to quality roads and port infrastructure is highlighted once the poor conditions experienced in the overall economy are taken into account. Table 7 shows the ratings from the 2009 Global Competitiveness Index (World Economic Forum, 2009) on the quality of road and port infrastructure in each country in the study. It shows a high correlation between the rankings of road

infrastructure and port infrastructure. Thus, problems with road infrastructure tend to be coupled with and compounded by poor access to / quality of ports, as in the cases of Nigeria, Tanzania and Lesotho. Moreover, the countries in the survey that had experienced the biggest problems with poor performing zones in peripheral locations (Bangladesh, Nigeria, Lesotho, and Vietnam) are ranked in the bottom half of survey participants in terms of transport infrastructure.

Of equal importance to delivering efficient road, rail, and port access is ensuring that exporters have access to efficient soft infrastructure to facilitate trade, most notably customs clearance but also other procedures that affect trade logistics (e.g. other border-related agencies). As EPZs cater to exporters, they have substantial potential to deliver improvements in import and export clearance procedures. Indeed, this has always been recognized as one of the critical requirements and sources of differentiation for EPZ programs.

Figure 10: Average time needed for imports (through main seaport) to clear customs (days)



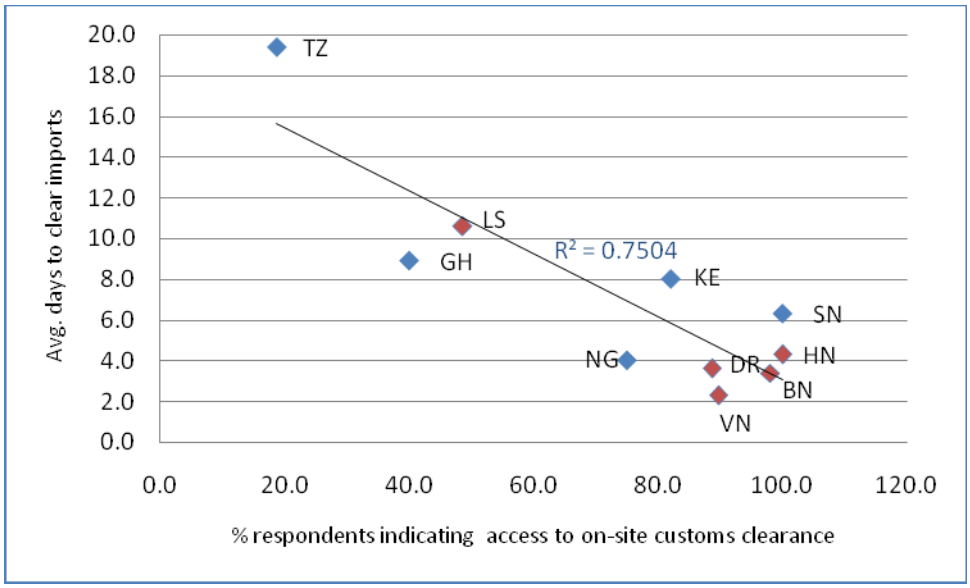
Source: "Zones" – SEZ Investor Surveys; "Country" – Enterprise Surveys

The results from the surveys are mixed. While respondents in EPZs in Nigeria, Senegal and Kenya report clearance times that are faster, on average, to what is reported by exporters in the national economy, respondents in Ghana, Lesotho and Tanzania report clearance times that would suggest the environment inside the zones is actually worse than in the wider national economy[20] (See Figure 10). But what is most striking is the difference between the African and non-African EPZs in the survey, in two respects. First, the average clearance times in the non-African EPZs is reported to be much faster than in the African zones. Second, the relative improvements available inside the non-African zones (relative to their respective domestic environments) is substantially greater than what has been achieved in the African zones. Across the four non-African EPZs, the reported clearance times inside the zones averaged more than 3 times faster than reported outside the zones; only one EPZ in the African sample (Nigeria) reported such a relative improvement, with the remainder offering only marginal improvement or (as already discussed) or decline.

[20] However, there may be explanations related to the biases in the samples. For example, the volume of imports and exports, or the nature of the goods may be different inside and outside the zones. Moreover, there is a lag between the time of the Enterprise Surveys and the EPZ Surveys were conducted; for some countries this may be a year or less, but in others it is 2-3 years. As a result, changes could be due to improvements or deterioration in the national port and customs environment that arose since that period.

There are likely to be a number of factors contributing to the results presented above. First, while most EPZ programs implement on-site customs clearance services, not all the African programs offer this across all their zones. In particular, as discussed previously, where single-factory units proliferate it is particularly difficult to extend privileged customs clearance services. Second, the availability of a special administrative regime for customs clearance does not necessarily guarantee its effectiveness. For example, in Tanzania, many investors complained that while clearance procedures for EPZ firms were established in law, too often customs agents working at the port or airport were unaware of the system. Finally, the effectiveness of the on-site clearance cannot be separated from the efficiency of the ports; many of the African EPZ programs (e.g. Tanzania and Kenya) suffer from serious port-related delays which undermine much of the potential value of the privileged customs administration in the zones.

Figure 11: Relationship between access to on-site customs clearance and average import clearance days



Source: SEZ Investor Surveys

Figure 11 suggests there may be a relationship between the availability and quality of the on-site customs service in the EPZ and the performance of the EPZs on clearance times. The best performing EPZs in terms of clearance times also had the highest share of respondents indicating they have access to on-site clearance services, while those that were rated poorly – particularly in terms of the having a low share of perceived access to on-site customs (Ghana, Lesotho, and Tanzania) – had particularly long average clearance times.

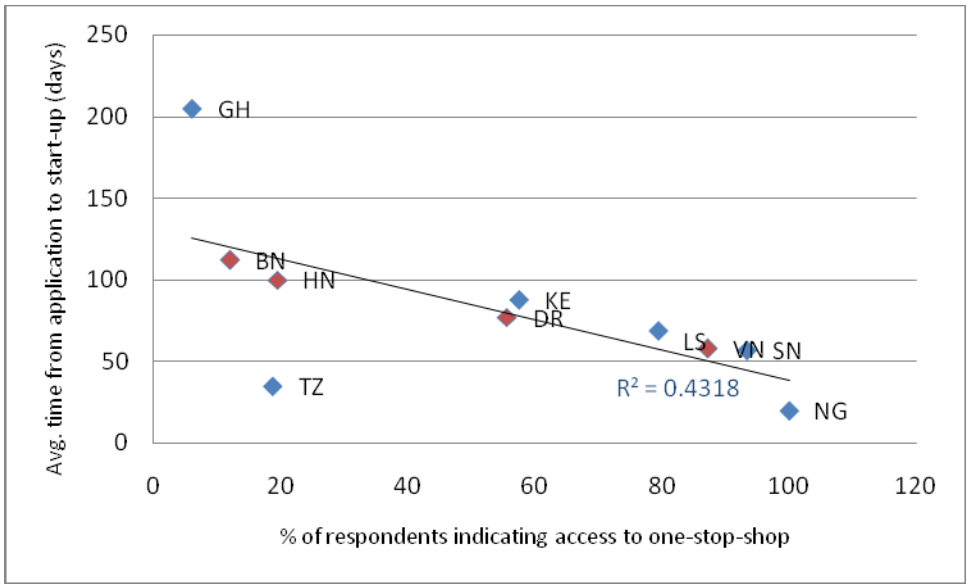
Business regulatory environment

The business regulatory environment encompasses a wide range of issues that have a fundamental impact on the ease with which firms are able to set up businesses and operate on a day-to-day basis. Most importantly, this addresses the relationship between the private sector and the institutions of the

state (i.e. the bureaucracy). In most countries in Africa, excessive and poorly administered regulation undermines competitiveness by raising the costs and risks to doing business, consuming substantial management time, and distorting the incentives that are the basis of competition. In particular, the process of setting up a business, including obtaining licenses and permits, preparing facilities, and getting access to utilities and other services can be time consuming, costly, and liable to rent-seeking by government officials.

One of the principal non-fiscal benefits of EPZs is their potential to streamline this process. This is achieved in part by reducing the regulatory burden on companies operating in the zone (e.g. not requiring compliance with certain regulations and / or not requiring specific permits and licenses). Administratively, most EPZs attempt to shield investors from direct interaction with the bureaucracy by setting up "one-stop-shop" services, whereby the EPZ administration acts as a focal point to coordinate all regulatory requirements between the investors and the various responsible ministries and agencies.

Figure 12: Relationship between access to "one-stop-shop" services and average time from application to start-up (days)



Source: SEZ Investor Surveys

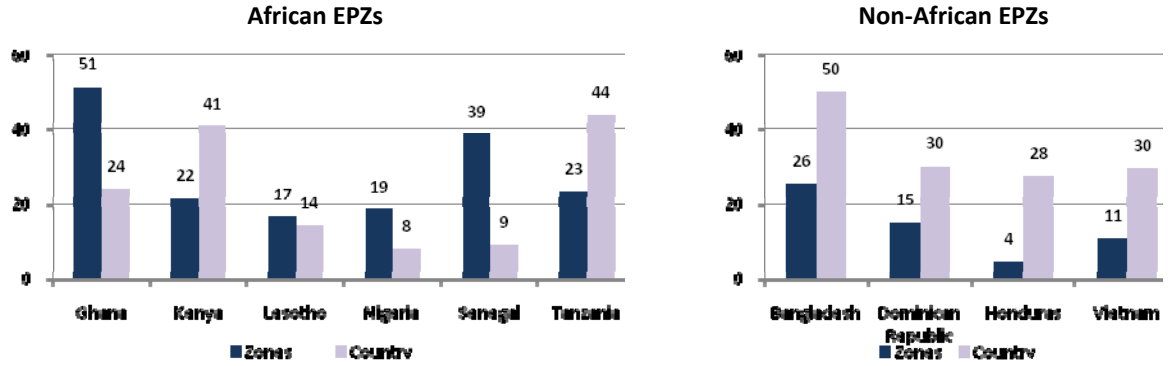
Figure 12 shows a strong relationship among survey respondents between ratings on the access to such one-stop services in EPZs and time required for setting up their business in the EPZs[21]. On the other hand, the country with the second fastest reported set-up time (Tanzania) actually did not have a one-stop facility in place. We also see in Figure 12 that, in contrast to most of the other measures, here the

[21] It is important to note that the survey question asked respondents whether, in respect to a one-stop service for setting up and getting permits whether they had "no access" to such a service, and subsequently if they responded that they did have access they were asked to rate the quality of the service. In many of the zones, the authorities may have advertised or officially offered a one-stop service, but many respondents still indicated that no such service was available.

African EPZs in the survey generally outperformed the non-African EPZs. No direct comparison can be made between the start-up times in EPZs versus for investors outside EPZs, because the procedures are different. Indeed, across all countries in the survey, average start-up times for companies inside the EPZs were significantly longer than for companies outside. This is not surprising, as the limited space in zones and the associated incentives available to zone companies require an application and a fairly rigorous selection process that would not be necessary to impose in a standard company establishment.

In terms of applying for basic services like electricity and water, most of the African EPZs have not been successful in substantially improving the investment environment relative to the national economy (see Figure 13). In fact only in Kenya and Tanzania do investors in the EPZs report a shorter waiting time for establishing an electricity connection than the average firm in the domestic market. In Senegal, Ghana, and Nigeria, by contrast, the experience of zone investors is actually worse than reported in the domestic market. Again, we find that results are significantly different in non-African zones, where waiting times inside the EPZs are usually half or less than outside them. One of the factors here appears to be the existence of zone enclaves (industrial parks) and pre-built factory units. Where zone environments are managed effectively, there appears to be much greater chance that investors obtain utilities connections in a consistently short timeframe, whereas single unit facilities are likely to face not only longer timeframes on average but much less predictability.

Figure 13: Average time needed to obtain an electricity connection (days)



Source: "Zones" – SEZ Investor Surveys; "Country" – Enterprise Surveys

8. Conclusions

This paper summarizes the results from a ten-country investigation of economic zones, with a specific focus on EPZs in Africa. It had two main aims: 1) to assess the performance of economic zones in meeting the objectives of investment, employment, exports, and structural transformation; and 2) to assess the performance of EPZs in addressing the investment climate issues that matter most to investors.

We find that, on the whole, the African zones included in this study have underperformed – against both

their goals and in terms of their relative progress against objective measures of success. Of course, the data presented here show there is heterogeneity in the story. Ghana's free zones program has seen a steady increase in investment and exports, although the main beneficiaries have been capital and resource-intensive firms based outside the flagship Tema zone. And the rapid growth of the apparel sector in Lesotho cannot be dismissed, although sustaining export growth in the country will likely rely on diversifying market reach in the garment sector (beyond the heavy reliance on the US market under AGOA) and attracting a wider range of light industrial activities into the country.

But most African zones remain in the very early stages of their development and, as we have shown in this paper, in most cases there is evidence of progress – growth rates of exports since 2000 are fairly strong across most zones (although starting from a low base). Even highly successful zone programs have usually taken five or ten year to settle in before beginning to achieve rapid growth. However, assuming that the African zones will just fall into that pattern eventually would be a mistake. Indeed, evidence presented in this paper suggests that, rather than moving toward an exponential growth path, African zones may have already peaked and are beginning to experience slowing growth and stagnation (with some exceptions, particularly Ghana and possibly Tanzania, whose program has not yet become fully-established). This slowdown is evident across investment and exports, but is particularly acute in terms of employment. Perhaps most importantly, none of the African zones appears to have made any significant progress toward taking advantage of the dynamic potential of economic zones as an instrument of sustainable structural transformation. None of the African countries covered in the survey has managed to achieve a significant, lasting change in its export structure in stark contrast to the four non-African countries.

This gives rise to two important questions: 1) Is the performance gap we observe in the African economic zones an issue that can be addressed within the zones program and related trade and economic policy arenas? and 2) If so, how? If the answer to the first question is "no", then the investment and opportunity costs of pursuing zone programs as policy is too high, and zones should be abandoned in favor of alternative policy actions. If the answer is "yes", whether the performance gap is something that can be addressed depends on what are the main reasons for the gap. The results presented in this paper suggest three possible hypotheses for the gap: 1) bad timing or, more specifically, a missed window of opportunity; 2) a fundamental competitiveness problem; and 3) weak planning and implementation. If the performance gap is mainly explained by the first of these, then it may be the case that economic zones are an insufficient instrument. If the issue is a fundamental competitiveness gap in the African economies, then economic zones may or may not play a role, depending on whether the competitiveness gap is comprehensive or rather sector or task specific –i.e. if there is another sector or task in which African countries can achieve a competitive advantage, and economic zones play a relevant role in facilitating or sustaining the advantage, then they would still be relevant. Finally, if it is mainly a function of weak planning and management of the zones programs, then the focus should be less on policy and more on implementation within the existing regimes.

The implicit assumption in the second part of this paper is that addressing the investment climate is at

least part of the answer to improved competitiveness of zones programs. African investors surveyed indicated that the three criteria they considered most important in making investment location decisions were: 1) cost and quality of utilities; 2) access to transport infrastructure; and 3) the business regulatory environment. An important point about these identified criteria is that all are critical components of what can be considered the "doing business" agenda. As such, they are issues over which EPZ programs, and even individual zones, should have significant control. This suggests the importance of EPZ policy and management, and also the potential for zones to play a significant role in influencing investor location decisions.

Several additional findings emerge from the survey analysis. First, on most of the criteria assessed, EPZs in Africa offer an improved business environment relative to what would be available outside the zones. Importantly, however, the scale of the improvements offered in most of the EPZs is not enough to make the zones competitive as preferred investment locations on a global or even a regional basis. A related finding is that the non-African EPZ programs in the study do, in fact, appear to be able to make investment climate improvements over their domestic environment on a much greater scale than is observed in the African EPZs. This suggests that there is scope for the African EPZs to go further in terms of investment climate reform.

One of the reasons why African EPZ programs may be restricted in the improvements they are able to make is that many of the programs involve a large number of "single factory" units. The cost and logistical challenge of addressing investment climate restraints (e.g. providing a special customs clearance regime, offering a one-stop service, and ensuring reliable infrastructure) to a dispersed set of companies is a serious burden on the resources and capacity of EPZ administrators. By contrast, the African zone regimes which perform best across the board – Kenya and Lesotho – and all the non-African regimes in the study are characterized mainly by zone enclaves (industrial estates), most making significant use of pre-built factory units.

The survey results highlight the critical importance of addressing the basic day-to-day challenges that investors face inside the zones so that they can get on with their business. This means ensuring a steady flow of power, avoiding delays in the flow of goods in and out, and dealing with any problems that do arise. In addressing all of these issues, providing access to quality facilities, to on-site customs, and to efficient administrative facilities appears to be related significantly to improving the investment climate performance of the EPZs.

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Appendix

The approach selected for capturing quantitative data on the economic zones in the ten countries is based largely on the methodology of the World Bank's Enterprise Surveys.

Enterprise Surveys: overview

The Enterprise Surveys capture business perceptions on the biggest obstacles to enterprise growth, the relative importance of various constraints to increasing employment and productivity, and the effects of a country's business environment on its international competitiveness. It covers more than 100 indicators from 110 countries[22]. It was developed by the Enterprise Analysis Unit of the World Bank Group and has been running since 2002. The Enterprise Surveys cover 49 indicators within 11 main subject areas.

Description of survey methodology

The surveys were conducted through face-to-face interviews with firm managers and owners in the countries and zones listed in the table below. Surveys were carried out by trained local consultants using a standard questionnaire. The differences in size and composition between zones programs resulted in two different approaches to select firms to participate in the study. In Africa, all firms established in enclaves were contacted and asked to participate in the survey, while efforts were made to include a substantial number of firms with single-unit status[23]. In the non-African countries, where most firms are located inside enclaves, the three or four most important enclaves were selected and all firms inside them approached for the survey. While the selected zones included a significant percentage of SEZ firms and were representative of the overall programs, generalization to national SEZ program results from the specific zones should be done with some caution.

Although all firms in selected enclaves were asked to participate in the survey, some declined to participate. Firm non-response could affect our estimates especially if there is some degree of self-selection into participating in the survey. The firm non-response rate inside enclaves varies by country and is relatively higher in non-African countries. However, because the universe of firms inside selected enclaves was exhausted, not much could be done to improve the estimates for those enclaves. Not all single-unit firms were approached for the survey and their selection was not random[24], mainly due to costs and difficulties of surveying geographically dispersed units, so the results for single-unit zones in Ghana and Senegal, in particular, should be treated with caution.

[22] The data are collected using a standard survey instrument, tailored to specific industry sectors (manufacturing, services, 'global'). The surveys are administered by private contractors on behalf of the World Bank. The survey is completed by managing directors, accountants, human resource managers and other company staff. It uses a stratified random sampling methodology; sample sizes range from 250 to 1500 businesses. For detailed methodological information, please see www.enterprisesurveys.org/Methodology/

[23] In Kenya, Lesotho and Tanzania, the concentration of SEZ firms in enclaves meant that a significant share was asked to participate in the survey. In Ghana and Senegal, the prevalence of single-unit zones resulted in a relatively low share of firms asked to participate.

[24] In Ghana and Senegal, selection of the firms to approach for the survey was determined: 1) by location – only firms located in or near the main capital (Accra and Dakar, respectively) were included in the population; and 2) by industry – only firms in manufacturing and processing activities were included. Based on the population available taking these two factors into account, the sample was constructed randomly.

Although the response rate for the majority of the questions was very high, some firms declined to respond more sensitive questions (especially those related to sales and wages, among others). When item non-response is high and could present a problem for our estimates, we highlight this in a footnote or decide not to include the information for a particular country if too few observations are available.

Summary data of survey samples

Country	Dates of survey	Zones	Completed surveys	Operational Firms	Percentage surveyed
Ghana	Jul-Aug 2009; Oct-Nov 2009[25]	*All Country*	*33*	*131**	*25%*
		Tema	11	11	100%
		Single units	22	120*	18%
Kenya	Jul-Aug 2009	*All Country*	*40*	*56*	*72%*
		Athi River	17	23	74%
		Sameer	6	6	100%
		Kipevu	2	2	100%
		Single units	15	25	60%
Lesotho	Jul-Aug 2009	*All Country*	*35*	*66*	*53%*
		Maseru West	16	23	70%
		Thetsane	9	15	60%
		Nyenye	6	18	33%
		Maputsoe	4	7	57%
		Single units	0	3	0
Nigeria	Nov-Dec 2009	*All Country*	*65*	*98*	*66%*
		Calabar	12	13	92%
		Onne	53	85	62%
Senegal	Jul-Aug 2009	*All Country*	*30*	*304**	*10%*
		Zone Franche Industrielle	4	4	100%
		Single units	26	300*	9%
Tanzania	Jul-Aug 2009	*All Country*	*16*	*17*	*94%*
		Hifadhi	7	7	100%
		BWM	2	2	100%
		MBP	1	1	100%
		Kisongo	1	1	100%
		Single units	5	6	83%
Bangladesh	Oct-Nov 2009	*All Zones*	*148*	*254*	*58%*
		Chittagong	71	140	51%
		Dhaka	64	96	66%
		Comilla	13	18	72%
Dominican Republic	Sep-Oct 2009	*All Zones:*	*107*	*138*	*78%*
		Santiago	51	65	79%
		San Pedro	35	42	83%
		ITABO	21	31	68%
Honduras	May-Jun 2009	*All Zones*	*40*	*60*	*67%*
		Green Valley	5	9	55%
		INDELVHA	17	20	85%

[25] Surveys were conducted in the Tema Export Processing Zone during July and August 2009; additional surveys of single factory free zones in the Accra region were conducted during October and November 2009.

Country	Dates of survey	Zones	Completed surveys	Operational Firms	Percentage surveyed
		Bufalo	13	25	52%
		Choloma	5	6	83%
Vietnam	Aug-Sep 2009	*All Zones*	*117*	*217*	*54%*
		Tan Thuan	85	138	62%
		Linh Trung 1	16	38	42%
		Linh Trung 2	16	41	39%

*Estimate, no exact data available.