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Special economic zones in Southern Africa: white elephants or latent drivers of growth and employment?

The case of Zambia and South Africa

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SA-TIED is a unique collaboration between local and international research institutes and the government of South Africa. Its primary goal is to improve the interface between research and policy by producing cutting-edge research for inclusive growth and economic transformation in the southern African region. It is hoped that the SA-TIED programme will lead to greater institutional and individual capacities, improve database management and data analysis, and provide research outputs that assist in the formulation of evidence-based economic policy.

The collaboration is between the United Nations University World Institute for Development Economics Research (UNU-WIDER), the National Treasury of South Africa, the International Food Policy Research Institute (IFPRI), the Department of Monitoring, Planning, and Evaluation, the Department of Trade and Industry, South African Revenue Services, Trade and Industrial Policy Strategies, and other universities and institutes. It is funded by the National Treasury of South Africa, the Department of Trade and Industry of South Africa, the Delegation of the European Union to South Africa, IFPRI, and UNU-WIDER through the Institute's contributions from Finland, Sweden, and the United Kingdom to its research programme.

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Abstract: The successful use of special economic zones as economic tools for export-led industrial development in East Asia propelled a wave of similar initiatives across Africa. In Southern Africa, Zambia and South Africa instituted special economic zones in their respective legal and institutional frameworks in the 2000s as mechanisms for catalysing industrialization and employment creation by means of domestic and foreign investments. Using a case-study approach, we find that special economic zones in the Eastern Cape, South Africa, are largely latent drivers of growth and employment hampered by inadequate infrastructure financing and provision and weak local supplier capabilities. Special economic zones in Lusaka, Zambia, face similar constraints but are further hampered by inadequate business services provision, burdensome regulations and business procedures, a fragmented incentive framework, institutional coordination failures, and a weak design that does not leverage strategic anchor industries for greater agglomeration economies, thus rendering them more of white elephants.

Key words: special economic zones, agglomeration, industrialization, employment creation

JEL classification: F15, J23, O14, R12

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1 Introduction

The successful use of special economic zones (SEZs) as economic tools for export-led industrial development in East Asia propelled the wave of similar initiatives across Africa (Farole and Akinci 2011). In Southern Africa, Zambia and South Africa instituted SEZs in their respective legal and institutional frameworks in the 2000s, as mechanisms for catalysing industrialization and employment creation by means of foreign and domestic investments. The desire to hasten inclusive industrial development motivated the development of SEZs that, seemingly, had been successfully tried and tested in countries such as China.

While Zambia experienced strong economic growth, particularly over the decade 2004–14, this growth has not been sustained, nor has it been commensurate with poverty reduction.[1] In the same vein, South Africa's high unemployment and poverty rates are indicative of an industrial process that has not been inclusive.[2] Part of the structural imbalances in these two countries stems from their continued reliance on commodities. The cyclical nature of commodity prices renders such growth unsustainable. Moreover, extractive industries are typically enclave and capital-intensive with limited prospects for absorbing large numbers of workers. Consequently, the type and pace of economic growth that has been witnessed in Zambia and South Africa has fallen short of what is needed for a sustained growth path that contemporaneously provides poverty-reducing employment.

Arguably, inclusive economic development should be grounded in industrial growth, with specific emphasis on manufacturing growth (Chang 2007; Teignier 2012; Rodrik 2013). However, like many Southern African countries, Zambia and South Africa are grappling with how to industrialize or sustain industrialization in an era of intense global competition. Moreover, industrialization remains constrained in part by weak '*fundamentals*'—that is, limited industrial capabilities; inadequate skills, education and training; inadequate technology and investment in research and development (R&D); inadequate infrastructure; burdensome business registration and licensing procedures; inconsistent and incoherent fiscal and regulatory policies; and unfavourable and high cost operating business environments (GRZ 2017a; RSA 2012a; McMillan et al. 2016).

East Asia's successful experience in accelerating the process of industrial development with SEZs—China's Shenzhen transformation is an outstanding example—paved the way for the use of SEZs as policy instruments for countering the fundamental challenge and hastening the pace of industrialization (Farole and Akinci 2011). By definition, SEZs are designated geographical areas that provide world-class infrastructure, tailored and streamlined fiscal, regulatory, administrative, and customs procedures set apart from the rest of the country (Farole and Moberg 2014). SEZs are deliberately intended to skew investments—both foreign and domestic, but mainly foreign direct investment (FDI)—towards host countries with the added potential benefit of conferring horizontal and vertical technology and skills spillover effects. The provision of a competitive and enabling business environment has the potential to stimulate FDI critical for sustaining growth and employment creation (FIAS 2008).

According to Newman and Page (2017), such preferential modern built-up locations could give Southern Africa a competitive edge in attracting world-class investors with the potential of

[1] In 2015, 54.4 per cent of the population of Zambia was estimated to be poor.

[2] Unemployment was estimated at 27.1 per cent in the fourth quarter of 2018 and poverty at 49.2 per cent in 2018 overall.

improving the region's industrial prowess and integration into industrial global markets. The spatial concentration of firms can also yield positive agglomeration economies emanating from input sharing or specialized suppliers, labour pooling, and knowledge and technological spillovers (World Bank 2017; Krugman and Obstfeld 2003). Beyond this, there is also an argument for SEZs to be regarded as experimental grounds for broader economy-wide business and regulatory reforms that support more widely distributed growth and employment creation. For instance, China has been noted to be very effective in bringing about broader economy-wide reforms (Farole and Akinci 2011).

Notwithstanding the potential of SEZs, their mere development does not guarantee these espoused benefits. Success to a large extent is a function of a myriad of factors such as the design, location, domestic linkages, incentive packages, financing, development, and management model of the SEZ (Farole 2011; IPRCC and UNDP 2015; FIAS 2008). To these factors, Moberg (2013) adds an important determinant of success—a robust political economy. Accordingly, the plethora of literature on Africa's experience with SEZs reveals varied industrialization, employment, and economic diversification outcomes. With the exception of Mauritius, Africa has generally failed to replicate East Asia's successful experience with SEZs (FIAS 2008).

Despite the damning evidence on the sub-par performance of SEZs in Africa, the development of SEZs continues to expand in both Zambia and South Africa. This begs the following question: are SEZs white elephants or justified investments whose potential to drive growth and employment is simply latent and can still be unlocked? This paper interrogates this question using two case studies of SEZs in Zambia and South Africa. It provides a country-level comparative analysis of the approaches, implementation experiences, and outcomes vis-à-vis growth and employment of SEZs in these host regions. While most studies have traditionally contrasted the implementation of SEZs in China and Africa, we take a more regional approach and analyse two Southern African countries tied by a common economic development agenda through their membership to the Southern Africa Development Community.

Using primary and secondary data drawn from key informant interviews and an extensive desk review, respectively, we find that SEZs in the Eastern Cape, South Africa, are largely latent drivers of growth and employment hampered by inadequate infrastructure financing and provision and weak local supplier capabilities. In Zambia, notwithstanding the data constraints of measuring performance on a number of metrics, SEZs in Lusaka have attracted fewer investors and local suppliers and created fewer jobs, thus rendering them more of white elephants. Beyond inadequate infrastructure financing and provision and weak local supplier capabilities, the zones in Lusaka are further constrained by inadequate business support services, burdensome regulations and business procedures, a fragmented incentive framework, institutional coordination failures, and a weak design that does not leverage strategic anchor industries.

The rest of the paper is structured as follows. Section 2 provides an overview of the theoretical and empirical literature on the role of SEZs in catalysing industrial growth and employment creation. Section 3 briefly describes the research methods employed. Section 4 provides an exposition of the country comparative approaches, implementation experiences and outcomes. Finally, Section 5 concludes with country-specific policy recommendations on how to unlock the full potential of SEZs.

2 Theory and empirics

2.1 Typology of SEZs

SEZs have evolved over time and now cover a broad range of economic zones. These vary in purpose, economic activities, and markets (i.e. domestic or foreign, or both) (Farole 2011). In this paper, we focus on multi-purpose SEZs primarily designated for a wide array of economic activities ranging from commercial and industrial to high-tech industries serving both domestic and export markets. These are called multi-facility economic zones (MFEZs) and industrial parks in Zambia and SEZs and industrial development zones (IDZs) in South Africa. For the purposes of this paper, the terms SEZs, MFEZs, and IDZs are loosely taken to be equivalent and used interchangeably. Table 1 provides a brief description of variants of SEZs. For this typology, we lean heavily on the categorization and description by FIAS (2008), World Bank (2017), Zeng (2016), and Aggarwal (2010).

Table 1: Examples of special economic zones

Zone	Description
Free trade zones (FTZs)	FTZs are often duty-free areas, located in most entry ports around the world. They offer services such as warehousing, storage, and distribution facilities for trade and re-exports.
Export processing zones (EPZs)	Targeting foreign markets, EPZs offer firms free trade conditions coupled with a liberal regulatory environment. Typically, there are two types: comprehensive and specialized EPZs. Comprehensive EPZs are open to all types of industries whereas specialized EPZs are open only to certain specialized sectors/products.
Hybrid EPZs	These are typically divided into two zones: a general zone and a separate EPZ area. The general zone is open to all industries irrespective of export alignment whereas the separate EPZ area is reserved for export-oriented and EPZ-registered companies.
Enterprise-specific (single-factory) zones	These '... provide incentives to individual enterprises regardless of their location. As such, factories do not need to locate within a designated area to receive incentives.' (FIAS 2008)
Multi-purpose zones	These cover varied economic activities such as manufacturing, tourism, retail, and residential. Firms in these zones are provided incentives to undertake economic activities in these areas.
High-tech parks	'These zones mainly promote R&D activity and high-technology or science-based industries' (FIAS 2008)
Transnational zones	These are typically developed by neighbouring countries with the aim of fostering cross-border production, trade, and regional integration. As such, they are often situated at the border or across borders.

Source: authors' compilation based on FIAS (2008), World Bank (2017), Zeng (2016), and Aggarwal (2010).

2.2 Theoretical underpinnings

The theoretical argument for SEZs is mostly centred on agglomeration economies that are encapsulated in spatial policies aimed at reallocating resources for productivity and innovation gains. Agglomeration economies are the firm-level cost-savings and productivity gains—external to the firm—derived from the spatial concentration of firms and people in economic clusters or cities (Newman and Page 2017). The conceptual rationale for agglomeration economies dates back to Marshall (1920) who argued that the clustering of firms reduces transport costs and yields agglomeration economies of scale. He classified three categories of transport cost-savings associated with moving goods, labour, and ideas. Ottaviano and Puga (1998) posit that transport costs are reduced through two transmission channels. First, the close proximity of suppliers and workers to SEZ-based firms reduces transport costs for labour, raw materials, and intermediate

goods in backward linkages. Second, transport costs are reduced through forward linkages between SEZ-based firms themselves that produce and consume each other's goods.

The espoused benefits of agglomeration for firms emanate from three main sources: knowledge spillovers, resource sharing, and labour pooling (Marshall 1920). The core argument is that the clustering of firms in and around SEZs draws a pool of skilled labour which lowers labour search costs and improves matching between firms and workers as well as labour mobility between firms (Rodríguez-Pose and Crescenzi 2008; Combes and Duranton 2006). Firms also benefit from the diffusion of technology and knowledge. This happens particularly when the spatial concentration of firms from the same industry allows workers to interact and share industry knowledge and ideas that foster innovation and firm growth (Henderson 2005). On the other hand, the agglomeration of multi-sectoral SEZs—the subject of this paper—creates an environment for what are known as Jacobian externalities (Carlino et al. 2001; Rodríguez-Pose and Crescenzi 2008). These are externalities derived from the spatial concentration of firms engaged in diverse economic activities which fosters knowledge complementarities and cross-industry transfer of ideas.

Similarly, scholars such as Duranton and Puga (2004) posit that agglomeration economies emanate from input sharing, matching, and learning. Clustered firms stand to benefit from lower operational costs resulting from risk sharing and the sharing of amenities. Industrial clusters are also likely to attract specialized trading firms more easily than an individual firm owing to the larger market provided for specialized goods and services (Sonobe and Otsuka 2006). Thus, there is the added benefit of the availability of a greater variety of inputs. Arguably, specialized suppliers are more evident in SEZs that focus on a common industry or supply chain. Regarding matching, similar arguments espoused by Marshall (1920) are also made by Duranton and Puga (2004). SEZs facilitate easier matching of workers to jobs. Sonobe and Otsuka (2006) also discuss the benefits of the diffusion of knowledge and ideas that happens when firms are located in close proximity to competitors. Beyond this, clustering can also foster collective action for common problems (Sonobe and Otsuka 2006).

All in all, the theoretical premise of agglomeration economies is founded on lower production costs emanating from input sharing, labour pooling, and technology and skills spillovers. This clustering further reinforces these effects by attracting more firms within the same area through second-round effects. This may lead to the creation of more employment opportunities. Agglomeration economies also have potential to stimulate productivity growth and, in turn, economic growth. Typically, SEZs tend to be government-promoted clusters of export-oriented firms aimed at fostering investments, employment, and development in undeveloped areas. In return for incentives and a favourable investment climate, the potential pay-offs are knowledge spillovers, innovation, job creation, productivity, and economic growth.

2.3 Empirical underpinnings

Substantial research has been undertaken to assess the relationship between SEZs and various outcomes. Primarily, SEZ programmes are aimed at attracting FDI for employment creation, economic growth, and industrial capability growth. Some empirical studies have established a positive impact of SEZs on FDI. For instance, Chakraborty et al. (2017) in their study on the impact of SEZ policies on FDI inflows in Indian states found that the SEZ policy induced more FDI inflows. Likewise, Graham (2004) found that SEZs were a necessary first step in China's emergence as the largest developing host nation for FDI, especially during the 1980s. Wang (2013) measured the impact of SEZs on FDI by exploiting the difference in the timing of creating SEZs in various municipalities in China. His results demonstrated that the SEZs had an overall positive effect on FDI. The introduction of an SEZ significantly raised FDI by, on average, 21.7 per cent per capita. He also found that the FDI growth rate increased by 6.9 percentage points.

Job creation and skills upgrading are some of the espoused labour market outcomes of SEZs. However, the jury is still out on the employment creation effects of SEZs owing to inconclusive findings. Sanders and Brown (2012) examined employment generation in SEZs in the Philippines. They found that the SEZs were an enclave, with the new jobs created concentrated in a small number of regions. In addition, the incursion of migrants in the SEZ areas invariably increased the unemployment rates. Amirahmadi and Wu (1995) concluded that the varied performance of SEZs on employment creation is a common outcome in Asia. For instance, Cirera and Qasim (2014) found no evidence of additional employment creation in the regions in which SEZs were based. Conversely, employment in China increased from 30 million in 2002, to 40 million in 2006). According to Mondal (2003), in Bangladesh, the growth of employment in SEZs was found to be much faster than in the total manufacturing sector. Aggarwal (2006) also found that, in Sri Lanka, employment in the SEZs stood at 10 per cent of total manufacturing employment as a result of SEZs.

The empirical findings on the impact of SEZs on improving skills and labour productivity are more positive and consistent. Farole (2011) details evidence of such positive impacts from the examination of the Malaysia Skills Development Centre and the Polytechnic University of Honduras. He found evidence of public–private partnerships in skills development. In another study, Hu (2007) found that skills in regions converge and improve as a result of science and technology industrial parks.

Horizontal and vertical spillovers—the transfer of technology and knowledge from foreign SEZ firms to domestic-like firms and domestic suppliers—have also been studied. Khandelwal et al. (2018) evaluated the performance of the only operational SEZ in Myanmar, the Thilawa SEZ. Their study found that the Thilawa SEZ facilitated knowledge transfers, or 'spillovers', between foreign companies in the SEZ and local companies. Hausmann et al. (2016) found similar results in the evaluation of the three largest SEZs in Panama. Their results suggest that SEZs have been successful as measured by productivity improvement resulting from spillover effects. They found that the three SEZs boosted inflows of high-skill immigrants most likely to generate positive knowledge spillovers on Panama's productivity. In Ireland, Barrios et al. (2006) found that foreign firms that cluster in the same sector and region had a positive impact on the productivity and employment of local manufacturing firms. Nadvi and Schmitz (1994) and Thompson (2002) also found positive horizontal spillover effects emanating from the industrial clustering of firms.

However, some empirical evidence indicates that certain SEZs have failed to realize spillover effects. For example, Brun et al. (2002) found that there was insufficient technology transfer in Chinese SEZs. Similarly, spillover effects in SEZs were found to have been limited in India (Palit 2009). In Asia, Amirahmadi and Wu (1995) equally established that export processing zones were not very effective in facilitating the transfer of knowledge and skills from export processing-based firms to domestic firms. However, there were some exceptions where positive spillover effects were noted in regions that were far ahead in development. Amirahmadi and Wu (1995) attribute limited spillover effects to poor location choices, insufficient infrastructure, and insufficient institutional quality. Limited spillover effects could also be indicative of a much bigger problem of potentially weak absorptive capacity by domestic firms.

3 Methodology

As noted by the World Bank (2017), the dearth of comparable country-level data has limited the use of more robust econometric methods to measure SEZ outcomes, thus, lending most of the analysis on this subject to a case-study approach. We face the same constraint and, subsequently,

adopt a similar approach. The advantage we gain is that we are able to obtain more qualitative in-depth insights on the zones' viability and the success factors.

Our case studies are premised on primary and secondary data drawn from an extensive review of online reports, policies, legal documents, and other e-resources; on-site SEZ visits; and key informant interviews. Primary data was collected from principal respondents by means of face-to-face interviews or electronic mail using semi-structured interview guides over the period December 2019 to February 2020. Principal respondents included zone developers, regulators, government ministries, and investors[3]. Four SEZs were considered purposively owing to the scope of industrial activities in the zones: the Lusaka South and Lusaka East multi-facility economic zones (LS- and LE-MFEZ, respectively) in Zambia, and the East London IDZ (ELIDZ) and Coega IDZ in South Africa.[4] For each zone, developers were interviewed alongside, where possible, one investor operating in the zone, as part of the triangulation approach aimed at minimizing inherent biases and opinions and ensuring a more holistic understanding of the phenomenon. Where interviews could not be secured with investors, we relied on secondary data to fill the gaps to the extent possible.

Investors operating in the zones were selected purposively based on their longevity in the zone and, to a lesser extent, their export capability. These criteria allow for a more dynamic analysis that permits us to observe variations in investment, employment, exports, and agglomeration effects over time. Additional information was also gathered from key government ministries and regulators in both countries. Notably, resource constraints and challenges in obtaining interviews precluded interviews with at least one investor operating in each zone as envisaged. Only one investor operating in the LS-MFEZ was interviewed. Further, suppliers of goods and services to zone investors could not be interviewed. As a result, information regarding vertical spillover effects such as knowledge and technology transfers could not be corroborated.

4 SEZs: blueprint, implementation experiences, and outcomes

In this section, we provide an exposition of the country-level approaches, implementation experiences, outcomes, and challenges associated with SEZs in Zambia and South Africa using detailed case studies. Building on the work of IPRCC and UNDP (2015), we first discuss the overarching policy, institutional, and incentive framework governing SEZs in each country. Finally, we sum up the similarities and differences across the two countries in the development of SEZs.

4.1 Zambian case studies

Zambia's SEZ programme also known as the MFEZ programme was borne out of cooperation between Zambia and the Japanese government. It was introduced through the Japan International Corporation Agency in 2005 as a tool for propelling economic development and Zambia's competitiveness through increased trade and manufacturing activities. The SEZs in Zambia aim to address investment constraints and catalyse industrial development vis-à-vis domestic

[3] See Appendix Table A1 for a complete list.

[4] Key characteristics are summarized in Appendix Table A2.

investments and FDI.[5] To date, Zambia has designated a total of six SEZs consisting of four MFEZs (three of which are operational) and two industrial parks.[6] The government has earmarked six additional areas to be designated as SEZs and, eventually, to extend SEZs to all provinces.[7] SEZs in Zambia are predominantly developed and managed by private entities. Only one SEZ to date is owned and managed by the state.

Policy, institutional, and incentive framework

The development of SEZs in Zambia is not premised on a defined policy document on SEZs per se. Rather, the initiative is embedded in numerous policy documents that came after the idea was conceptualized as a policy measure for achieving industrial development. These documents include the National Industrial Policy (GRZ 2018a), Industrialization and Job Creation Strategy (GRZ 2013a), National Investment Promotion Strategy (GRZ 2018b), National Export Strategy (GRZ 2018c), and national development plans among others. The two principal statues governing the development of SEZs in Zambia—the Zambia Development Agency (ZDA) Act of 2006 and its subsequent amendments, and Statutory Instrument No. 65 of 2007 and its subsequent amendments—also concurrently provide the overarching policy framework. The core policy objective is to foster economic development through trade and investment underpinned by efficiency, effectiveness, and a 'coordinated private sector-led economic development strategy' (GRZ 2006: 13).

As part of the measures for achieving this, the ZDA Act provides for the development of SEZs and establishment of the ZDA. The ZDA is responsible for developing or facilitating the development of SEZs by investors; administering, controlling, and regulating SEZs; ensuring compliance with the SEZ legal framework; monitoring and evaluating activities, performance, and development of enterprises operating in SEZs; prescribing and enforcing measures, for activities within SEZs, to ensure safety and efficiency; and promoting and marketing SEZs. The ZDA Act confers powers upon the Minister of Commerce Trade and Industry to declare an SEZ through a statutory instrument. The instrument prescribes the delimitation of the SEZ, facilities to be provided and maintained, trading and production conditions, powers and obligations of the zone developer, prohibitions and other matters thereof for the effective and efficient operations of the SEZ (GRZ 2006).

The ZDA Act is supplemented by Statutory Instrument No. 65 of 2007, also called the Multi-Facility Economic Zones (General) Regulations 2007. The statutory instrument provides more specifics on the development and operations of an SEZ and the obligations of the zone developer required to effectively and efficiently operate an SEZ. These may include provision and maintenance of standard infrastructure such as factory buildings, warehouses, information and communication technologies (ICT), water and sewerage, reliable power supply, internal roads, and waste and water treatment. In addition, the instrument outlines the application process that takes into consideration a range of factors, namely, the SEZ's contribution to economic development, growth, and employment creation in Zambia; extent of skills and technology development and

[5] Interview with Department Industry, Ministry of Commerce Trade and Industry, Lusaka, Zambia (27 November 2019).

[6] These are the Lusaka East and Lusaka South multi-facility economic zones (LE- and LS-MFEZ, respectively), Chambishi MFEZ, Lumwana MFEZ, Roma Industrial Park, and Sub-Sahara Industrial Park. Initially, the legal framework in Zambia only provided for MFEZs tailored for relatively large foreign and domestic investments. Through an amendment of the Zambia Development Agency Act of 2006, the scope was expanded to include Industrial Parks for smaller-scale light manufacturing activities (GRZ 2009).

[7] Other SEZs in the pipeline include the Kalumbila MFEZ and the Kafue Iron and Steel MFEZ.

transfer; and the contribution to exports among other considerations. The statutory instrument also outlines conditions under which a licence or permit may be suspended or revoked (GRZ 2007, 2012).

The ZDA Act further provides for fiscal incentives to be awarded to investments equivalent to or in excess of 500,000 US dollars (USD) in an MFEZ, industrial park, priority sector, and rural enterprise under the Income Tax Act or Customs and Excise Acts (GRZ 2006, 2013b). Originally, fiscal incentives were very generous, offering 0 per cent tax rate on dividends and profits for 5 years from the year of declaring dividends and commencing operations, respectively. Capital goods, machinery including specialized motor vehicles, also benefited from 0 per cent import duty rate for 5 years. Non-fiscal incentives included investment guarantees and protection against state nationalization and the free facilitation of immigration permits, licences, land acquisition, and utilities. In 2018, incentives were rationalized. This eliminated the tax holiday on corporate tax and dividends previously applicable to business enterprises approved by the ZDA, operating in an MFEZ, industrial park, or rural area, or undertaking electricity generation and manufacturing activities (GRZ 2017b; ZRA 2018: 19).

There exists a local content strategy, that, inter alia, promotes linkages, technology, and skills transfer between micro, small, and medium enterprises (MSMEs) and large domestic and foreign investors. This strategy provides for the local sourcing of at least 35 per cent of inputs and products required to produce goods and services (GRZ 2018d). However, this strategy is yet to be operationalized; thus, deliberate initiatives to foster local supplier linkages vary from zone to zone.

LE-MFEZ

The LE-MFEZ, also known as the Zambia–China Economic and Trade Cooperation Zone (ZCCZ), was Zambia's first declared MFEZ and, concurrently, China's first overseas economic and trade cooperation zone to be established in Africa. The zone was developed by ZCCZ Ltd, a subsidiary of China Non-ferrous Metal Mining Corporation which has some level of international experience in developing SEZs. Lusaka East is one of two zones developed and managed by ZCCZ in Zambia. It is located 4.5 kilometres away from Zambia's biggest airport, the Kenneth Kaunda International Airport, and 300 metres away from a major road that connects to Zambia's northern corridor. The LE-MFEZ was designated in 2009 and became operational in 2010. It covers a total land area of 570 hectares and was designed to promote, primarily, light manufacturing and real estate. Its land use broadly covers industrial, residential, recreational, commercial, conferencing, and other uses. The zone provides typical infrastructure required in an SEZ–telecommunications facilities, internal roads, electricity supply, and water and sewerage. Beyond this, its development model is premised on the provision of pre-constructed standard office space, factory sheds, and warehouses as well as housing facilities for investors and workers.

By April 2019, ZCCZ Ltd had reportedly invested a total of 25.2 million USD, about one-fourth of the total pledged investments of 100 million USD.[8] Its revenues, largely derived from leasing fees, reduced in 2018 mainly as a result of companies that vacated the zone to set-up in alternative locations. A total of 13 firms were in operation as at end December 2018, representing an occupancy rate of 10 per cent.[9] By April 2019, the number of investors had increased by 15 per

[8] Interview with Acting Director, Investment Promotion, Zambia Development Agency (ZDA), Lusaka, Zambia (4 December 2019).

[9] Interview with Head, Planning and Investment, LE-MFEZ, Lusaka, Zambia (24 January 2020). Occupancy rate is defined as the ratio of rent or used space to the total space available. Owing to the low occupancy rate, the zone has moved away from pre-constructed operating space and now builds on a demand basis.

cent from 13 to 15 firms. Collectively, these account for investments of over 44.4 million USD and a total of 529 jobs.[10]

One of the notable challenges in gauging the zone's performance is the lack of a comprehensive monitoring and evaluation framework required to capture information on exports, industrial output, and the existence of agglomeration economies. In part, this is a result of human resource constraints within ZDA. Notwithstanding these constraints, we are able to obtain some anecdotal evidence on the existence of agglomeration economies from the zone developer and the site visit. Labour pooling seems to be evident as you approach the LE-MFEZ. Job seekers with some level of specialized skills[11] are clustered around the entrance to the zone looking for employment opportunities. Reportedly, these job seekers are matched with investors operating in the zone by the developer, thereby potentially reducing investor's labour search costs. The zone developer also cited skills and knowledge spillovers arising from training of workers by investors.

Notable challenges include the lack of reliable power supply. This is arguably the zone's biggest constraint. According to the zone developer, the lack of reliable power supply has negatively affected the operations and output of firms operating in the zone. The power challenges are largely a result of the wider power deficit the country is facing. This has resulted in the rationing of the Zone's power usage mainly during business operating hours.[12] Consequently, the zone and investors have invested in costlier power back-up systems as a means of countering this challenge. Other challenges include poor management skills of the developer's top management. Major deficiencies include the lack of soft skills such as etiquette and professionalism which are exacerbated by language barriers. Inconsistent government policies, the removal of fiscal incentives, and red tape in processing documentation by the ZDA are other challenges that adversely limit increased investments into the zone.

LS-MFEZ

Dubbed 'a city within a city', the LS-MFEZ is a multi-purpose SEZ established in 2010. The zone became operational in 2013 and is located in Lusaka, about 10 and 21 kilometres from the Lusaka City Centre and the Lusaka International Airport, respectively. It is the first and, so far, the only government-developed SEZ in Zambia managed and operated by a private limited company—LS-MFEZ Ltd. This is a 100 per cent state-owned enterprise. The zone sits on 2,100 hectares of land in the south-eastern outskirts of Lusaka and was designed to catalyse economic diversification and industrial development. It provides land for various uses, namely, industrial, commercial, R&D, residential, institutions, and recreational. Targeted industries consist of R&D, high-tech industries, agriculture and agro-processing, pharmaceuticals, electronics, education and skills training, and precious stones.

The development model of the LS-MFEZ takes a minimalist financing approach. Land is leased out to firms with electricity supply, internal roads, water and sewerage and ICT services. The Zambian government largely provides financing for both infrastructure and operations. LS-MFEZ Ltd also generates its own revenue from leasing fees and the provision of utilities and ICT services.

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[10] Follow-up interview with the Investment Promotion Department, ZDA, Lusaka, Zambia (15 January 2020). This constitutes about 24 per cent of the projected jobs. Notably, these jobs could consist of both full-time and part-time jobs.

[11] According to the zone developers, many of the job seekers are skilled drivers and electricians and others possess marketing and finance skills.

[12] Interview with Head, Planning and Investment, LE-MFEZ, Zambia (24 January 2020).

Notably, other advocated key services—namely, a one-stop shop, market information research, and consulting services—are not yet provided despite being part of the value proposition of the SEZ.

As of December 2018, LS-MFEZ Ltd had reportedly invested a total of 230 million USD out of the total projected investment of 1.2 billion USD for the development of the entire zone. Notably, the zone consists of five development phases to be undertaken over a 30-year period. Total investments realized were estimated at 245 million USD over the same reference period. The majority of these investments are largely domestic. About 960 permanent jobs were estimated to have been created by September 2018. This represents about 1 per cent of the 100,000 jobs the zone is expected to create at full capacity. Output is reported to have increased owing to the arrival of new investors and the commencement of operations by other existing investors. A total of 18 firms were on site, consisting of 10 operational firms and 8 firms in the construction phase. These represent an occupancy rate of less than 20 per cent of the zone.

There is some evidence of the integration of local small and medium enterprises (SMEs) in the value chains of firms invested in the zone. Agro-processing firms are reported to have out-grower schemes with local farmers. One such example is the out-grower scheme for barley between Zambian Breweries and commercial farmers. Another is the tobacco out-grower scheme for farmers to supply British American Tobacco. Notably, these local suppliers of barley and tobacco are not located within or around the zone but in other parts of the country. Beyond these individual firm arrangements with local SMEs, the zone has partnered with the Citizen's Economic Empowerment Commission to construct an SME industrial park within the zone aimed at fostering linkages between local suppliers and zone investors.[13]

One of the challenges in analysing the accumulation of agglomeration economies is the dearth of comprehensive information on the performance of the zone. Nonetheless, according to the zone developer, there is anecdotal evidence of the emergence of specialized human resource and construction service providers. Further, investors are reported to be sharing transportation, cleaning, waste management, and security costs. The zone also alluded to skills and knowledge transfers facilitated by investors through training of employees and suppliers.

Major constraints reported by the zone developer include challenges in sourcing financing for infrastructure and service delivery. Service provision is also hampered by delays and poor service delivery by public utilities providing water and electricity. Labour challenges include skills shortages while other challenges are purported to be poor policy coordination across government agencies and discordances between legal provisions and policies. For instance, the time it takes to fulfil environmental standards counter the zone's objective to provide expedient services.[14] In addition, the lack of a connection to the zone sewer line was cited as a challenge.[15] Constraints around labour include the long distance between residential areas and the zone, which presents challenges in obtaining temporary labour for emergency works.[16] Both the lack of public transportation services for workers as well as the lack of other key support services, such as a canteen, an ambulance, and fire brigade, are other constraints cited.

[13] Interview with Business Development Manager, LS-MFEZ, Zambia (3 December 2019).

[14] Interview with Business Development Manager, LS-MFEZ, Zambia (3 December 2019).

[15] Interview with Corporate Affairs Manager, investor, LS-MFEZ, Zambia (28 January 2020).

[16] Interview with Corporate Affairs Manager, investor, LS-MFEZ, Zambia (28 January 2020).

Rationalization of the incentive structure in 2018 was also cited as a major constraint to drawing investors into the zone. According to the zone developer, the removal of the tax holiday on profits and dividends induced 14 investors with approved projects to withdraw while other investors reduced their pledged investments. Financing constraints and speculation were also cited as other reasons behind the investors' withdrawal. Challenges with local suppliers include capacity constraints and the lack of office facilities within the zone for potential service providers.[17] While the top management of the zone is ably qualified be level of education, the lack of experience in managing SEZs or entities of a similar nature was also identified as a constraint.[18]

4.2 South African case studies

South Africa first envisaged the use of economic zones as instruments for attracting FDI and exports of value-added commodities in 2000 when the IDZ programme was established to reposition the country in the world economy (DTI 2018a). However, the programme was constrained mainly by the criterion used to determine the location of an IDZ which, at the time, required a designated IDZ to be located adjacent to a seaport or international airport (RSA 2012b). This criterion proved to be very restrictive and limiting in unlocking the industrial potential of other regions with no seaport or international airport. Other deficiencies in the design of the IDZ programme were also identified. These included 'lack of coordinated planning arrangements; insufficient guidance related to governance arrangements; dependence on government funding; lack of targeted investment promotion measures; and inadequate coordination across government agencies' (RSA 2012b: v).

Consequently, in 2007, the IDZ programme was reviewed and revised into what is now the SEZ programme that is more inclusive of diverse regional development needs and contexts (RSA 2012b). The programme's revision was also motivated by new national economic policies, namely, the New Growth Path and the Industrial Policy Action Plan, which collectively '…outline the Government's industrial agenda, the critical jobs drivers, prioritized industrial sectors and a range of interventions required to accelerate economic growth, create jobs, and fight poverty and underdevelopment' (DTI 2018a: 4). Developments in the global economy such as the formation of the BRICS (Brazil, Russia, India, China, and South Africa) and increased global competition for FDI, and the modest performance of the IDZ programme were other factors guiding the revision.

Institutional, policy, and incentive framework

In South Africa, the SEZ programme is supported by a specific and clear policy framework for the development, operations, and management of a wide array of SEZs. The general objective of the 'Policy on the Development of Special Economic Zones in South Africa' is to accelerate industrial development through domestic and foreign investments and the development of industrial capabilities (RSA 2012b). The programme draws legal backing from the Special Economic Zones Act, 2014 which outlines the purpose, policy and strategy of SEZs and provides for the designation, promotion, development, operation and management of SEZs. Notably, only public entities such as national government departments, provinces and municipalities or a public–private partnership may apply for a specified area to be designated and developed as an SEZ (RSA 2012b, 2014). Key requirements for a zone to be designated include the ability to demonstrate that the zone will further the country's industrial development objectives; attract foreign and domestic

[17] Interview with Corporate Affairs Manager, investor, LS-MFEZ, Zambia (28 January 2020).

[18] Follow-up interview with Investment Promotion Department, ZDA, Lusaka, Zambia (15 January 2020).

investment; create decent work; facilitate mineral beneficiation, manufacturing, and tradable services; and upgrading.

Other special provisions include the appointment of an SEZ Advisory Board consisting of key ministries and institutions responsible for tax and fiscal policies, public enterprises, financing, transport, and infrastructure and of key businesses and individuals with knowledge, experience, and expertise relevant to SEZs. The SEZ Act also provides for the establishment of the SEZ Fund to finance the promotion and development of SEZs.

Regulations for the application, issuance, suspension, revocation, and transfer of SEZ permits are also embedded in the same SEZ Act including, the functions and obligations of the SEZ operator such as planning, constructing, and supplying infrastructure and utilities required to meet the strategic and operational goals of the zone. Provisions for incentives to attract domestic investment and FDI are generally covered although these only came into effect in 2016 when the SEZ Act became operational (CDC 2019). SEZ incentives for qualifying investments include a preferential corporate tax of 15 per cent as opposed to the standard 28 per cent; building allowance, namely, accelerated depreciation of 10 per cent for capital structures; tax allowance for capital investments in greenfield or brownfield industrial projects; value-added tax (VAT) and customs relief for businesses within customs-controlled areas; and employment tax incentive for the employment of low-salaried young workers.[19]

South Africa has a local content policy in place that was first introduced in 2011 to amend the Preferential Procurement Framework Act and make provision for the Department of Trade and Industry (DTI) to designate certain sectors for local production and content. Under this Act, all suppliers tendering for goods, works, and service contracts within the public sector have to meet the set minimum local content requirements (Nyakabawo 2017).

Coega IDZ

The Coega IDZ-turned-Coega SEZ is located in the Nelson Mandela Bay Municipality of Port Elizabeth on the east–west trade route to world and African markets. It is the biggest SEZ in Southern Africa by land area (9,003 hectares) and the first zone to have been designated in South Africa in 2001. The zone is well connected by rail, road, and air and is serviced by two ports—the Port of Ngqura and the port of Port Elizabeth—for bulk and container cargo. The zone became operational in 2002. It broadly targets foreign and domestic direct investment in export-oriented manufacturing activities. Fourteen clusters have been demarcated broadly focused on metals, automotive, business process outsourcing, chemicals, agro-processing, logistics, trade solutions, energy, and maritime. Coega IDZ is managed by the Coega Development Corporation which is a state-owned enterprise with a diverse portfolio of activities.

Coega is arguably South Africa's best performing zone that has become an exemplary model for other zones in diversifying its business model to include other income-generating activities beyond zone development and management and investment attraction (CDC 2019).[20] In the financial year 2018/19, the zone developer scored a number of accolades; namely, Top Employer 2019—Certified Excellence in Employer Conditions, 2018 Top Performing Public Service Organization,

[19] Subject to requirements contained in the Employment Tax Incentive Act, 2013.

[20] Interview with Renewable Energy & ICT Sector Manager, ELIDZ, East London (5 February 2020).

and 2019 Investor of the Year—the DTI Annual South African Premier Business Awards (CDC 2019).

Initially, the zone's business model was largely focused on leasing developed industrial land for predominantly industrial activities with the aim of stimulating economic growth and employment creation (CDC 2019). Over time, this model has evolved to include a range of products and in-house commercial services, such as the Coega Human Capital Solutions, the Coega Corporate Travel Agency, Coega Telecoms, and Vulindlela Accommodation and Conference Centre. This strategic shift comes in the wake of reduced government grant funding and the need to become self-sustainable (CDC 2019). As is typical in most SEZs, the zone provides road infrastructure, water and sewer networks, telecommunication networks, and electricity networks. Additional support systems for supply chain management are also on offer as well as a one-stop investor services centre offering human relations support and streamlined business licensing, customs registration, and permit approval services (CDC 2019). The zone scored 3.7/5 or 74 per cent on its customer satisfaction rating for the financial year 2018/19. The zone remains largely funded by the DTI through the SEZ Fund for capital projects and the provincial government and its own-generated revenue for operational expenses.

To analyse the outcomes of the Coega SEZ, we largely rely on annual reports and surveys conducted by Statistics South Africa (see Stats SA 2019).[21] Given the diversified activities undertaken by the zone developer, to the extent possible, we restrict our analysis to outcomes only recorded in the Coega SEZ. The zone's performance, largely measured against a series of targets outlined in successive 5-year strategic plans, shows that the zone has mainly been on or exceeded its annual targets.[22] At the end of the financial year 2018/19, the zone had realized total domestic and foreign investments of 9.53 billion South African Rand (ZAR) (about 678.7 million USD[23]). Forty-five investors were in operation in line with the target for the period, the majority of which are South African companies. Eighteen new investors with a total investment value of 2.06 billion ZAR were secured against a target of seven investors and investment valued at 693 million ZAR (CDC 2019). Between 2015 and 2018, the total income in the zone increased from 5.5 billion ZAR to 9.9 billion ZAR, largely driven by manufacturing activities (Stats SA 2019). This represents growth of 82 per cent over the period or an annualized growth rate of 22 per cent.

Contribution to employment has been positive. The total number of persons employed nearly doubled in 3 years from 2,859 at the end of June 2015 to 4,779 at the end of June 2018. Employment growth over the period was largely driven by non-manufacturing activities with an annualized growth rate of 80.2 per cent (Stats SA 2019). The majority of jobs remain largely permanent and in manufacturing activities. The zone has also recorded positive export growth. Goods and services exported or sold to domestic exporters increased by nearly one-third from 1.2 billion ZAR in 2015 to 1.6 billion ZAR in 2018. To advance socio-economic development and the integration of local suppliers, over the financial years 2015/16–2018/19, 36 per cent of procurement spend was on small, micro, and medium enterprises (SMMEs). This is against 40 per cent which has been targeted by the end of the 5-year strategic plan—2019/20. Over the same period, 27,152 persons were trained against the 5-year target of 27,899. This indicates some form of knowledge, skills, and technology transfers.

[21] Although an on-site visit was conducted, the interview with the developer was not structured. Further, an interview with at least one investor in the zone did not take place.

[22] The current strategic plan covers the period from 2015/16 to 2019/20.

[23] At the end year 14.04 ZAR to 1 USD rate as per the South African Reserve Bank.

Notable infrastructure challenges include the lack of a water return effluent (waste water treatment) for industrial purposes; out-dated ICT networks due to underinvestment in network upgrades; uncertainty on the cost of electricity, particularly for large energy-intensive investment projects; and lack of funding for maintaining and upgrading legacy infrastructure (CDC 2019). Other challenges are in securing funding for technical skills training, including apprenticeship, learnerships, and other accredited training interventions. The lack of funding for SMMEs is another challenge impeding their development and growth (CDC 2019).

ELIDZ

The ELIDZ is one of the zones that were initially established under the IDZ programme. The zone was designated in 2002 and became operational in 2005, primarily as part of the South African government initiative to improve industrial competitiveness, employment creation, and economic growth. The ELIDZ is located in East London and is mainly serviced by the East London Port that is about 10 kilometres from the zone. Other transport networks in close proximity include the East London regional airport, major railways and roads. The zone is run by a state-owned corporation—ELIDZ SOC Ltd—and covers a total land area of 430 hectares. The zone's sectoral coverage spans agro-processing, aquaculture, ICT and electronics, business processing and outsourcing as well as pharmaceuticals. The zone also houses a science and technology park that provides training and business incubation services.

The zone draws its funding from two major sources: the SEZ Fund through the DTI for capital projects and the provincial government for operating expenses (ELIDZ SOC Ltd 2019). A third source is own-generated revenue that was able to cover 60 per cent of the zone's annual operations in the financial year 2018/19 (ELIDZ SOC Ltd 2019). The zone leases out constructed standard factories and provides utility services such as water and electricity, security, a canteen facility, street lighting, landscaping, telecoms, and internet services. Almost all property has been leased. For the financial year 2018/19, the zone's average vacancy rate of constructed operational tenant facilities was 2 per cent in line with the zone's annual target. The customer satisfaction rating for the ELIDZ establishing and operating SEZ facilities and providing service and support measures was 75.2 per cent for the financial year 2018/19. This was marginally above the annual target of 75 per cent (ELIDZ SOC Ltd 2019).[24]

We analyse the outcomes of the ELIDZ based on annual reports and surveys conducted by Statistics South Africa (see Stats SA 2017). We supplement this with information obtained electronically from the zone developer based on a set of predetermined questions. For more recent performance indicators, we mainly focus on the annual report for the financial year 2018/19 which measures the zone's performance against a series of targets outlined in its current 5-year strategic plan. Since inception, the zone has recorded total private investment of 4.4 billion ZAR (about 313.4 million USD[25]) and public investment in infrastructure of 3.4 billion ZAR. By the end of the financial year 2018/19, 32 investors were operational and a total of 4,666 jobs had been created collectively by investors, the zone operator, and service providers. The zone largely met its investment target for the year, with five investment agreements signed between ELIDZ and the approved investors over the period. The number of jobs created was below target by 6.15 per cent

[24] The customer satisfaction survey is carried out by an external service provider to ensure independent evaluation (ELIDZ SOC Ltd 2019).

[25] At the end year 14.04 ZAR to 1 USD rate as per the South African Reserve Bank.

for the period under review. This is largely attributed to the lack of activities in the first two years of the 5-year strategic cycle (ELIDZ SOC Ltd 2019).[26]

The zone recorded positive export growth measured by income from goods and services exported or sold to domestic exporters, which increased from 2.1 billion ZAR in 2015 to 3.2 billion ZAR in 2016, representing a growth rate of 54 per cent (Stats SA 2017). More recently, the zone exceeded its annual target of the percentage of enterprises' production exported by 96.7 per cent in the financial year 2018/19.

Opportunities for local suppliers have been created through the development of localized value chains around existing tenants. In addition, the zone procures goods and services for construction and other activities from local suppliers.[27] Labour pooling has taken a more structured form. Job seekers are required to register their information with the zone via an online database. Job seekers are consequently matched with investors and trained to ensure that they are equipped with the right skills required by investors. This has lowered labour search costs for investors.

Skills, technology, and knowledge spillovers have been created through the zone's training facility. The targeted number of beneficiaries trained in the science and technology park was exceeded by 8.75 per cent in the financial year 2018/19 (ELIDZ SOC Ltd 2019). In addition, the zone reported existence of vertical spillover effects and the creation of ancillary jobs around new investors. One cited example is the emergence of a new tooling company servicing and supplying many of the ELIDZ tenants.[28] The consolidation of demand for similar goods and services and increased number of suppliers has also plausibly reduced the costs of inputs and services.

Notable challenges faced by the zone associated with infrastructure and service delivery is largely insufficient funding, legal and legislative barriers, and inadequate skilled expertise to develop required infrastructure.[29]

4.3 Summary of comparative studies: Zambia versus South Africa

Many similarities and differences emerge insofar as the two countries' experience with SEZs is concerned. Both countries instituted SEZs in their respective legal and institutional frameworks about the same time: Zambia in 2006 and South Africa a little earlier in 2000. Whereas the overarching objective of developing SEZs is surmised to be more or less the same—to advance export-led industrial development and employment creation—significant distinctions between Zambia and South Africa are notable starting with the policy frameworks governing the development of SEZs. Relatively, the development of SEZs in South Africa has taken on a more structured and inclusive approach, supported by clear deliberate financing provisions. Zambia, on the other hand, is largely missing a predictable and transparent financing mechanism required to secure resources for the successful implementation of large undertakings such as SEZs.

The SEZs across the two countries come in varying hectarage size and have been designed for various common uses encompassing industrial, commercial, residential, recreational, and R&D activities. Typically, zones in South Africa are anchored on key industries such as automotive,

[26] The total number of jobs, largely in manufacturing, increased from 2,627 as at the end of June 2015 to 3,187 as at the end of June 2016, representing an increase of 21.3 per cent (Stats SA 2017).

[27] Interview with Renewable Energy & ICT Sector Manager, ELIDZ, East London (5 February 2020).

[28] Interview with Renewable Energy & ICT Sector Manager, ELIDZ, East London (5 February 2020).

[29] Interview with Renewable Energy & ICT Sector Manager, ELIDZ, East London (5 February 2020).

mining, oil and gas, precious metals, renewable energy, and light and medium manufacturing, which helps to draw in suppliers of components and other goods and services. For instance, Mercedes Benz is the anchor industry for the ELIDZ although it is not located in the zone.[30] Some SEZs in Zambia were designed with mining in mind, but our case studies are not anchored on any strategic industry. This is seemingly important for realizing agglomeration economies (i.e. pulling support industries and specialized services).

The development and management approaches in the two countries are similar and yet differentiated. Both countries allow for government- or private sector-developed and operated SEZs and nothing precludes public–private partnerships. However, South Africa's restriction on private ownership of SEZs, as noted by FIAS (2008), limits developers' use of zone assets as collateral for financing. Private entities with interest in developing a particular area into an SEZ must enter into a partnership with a public entity for it to be designated. Because private entities operate on a profit motive and thus can easily mobilize resources, permitting the private sector to own SEZs is desirable particularly for the sustainability of the zones. Moreover, this would free up state resources for other competing development needs. Conversely, this requirement could be aimed at ensuring benefits of SEZs are localized and aligned with line national industrial growth aspirations. In contrast, Zambia's policy is flexible and allows sole private entities to own SEZs. Consequently, the majority of SEZs in Zambia are privately owned, developed, and managed.

Further differences are evident in the development model of state-owned SEZs across the two countries. In Zambia, the model takes a minimalist financing approach whereby serviced land is leased out to investors. The main advantage of this approach particularly for a zone dependent on state financing is that it reduces the resources required from the state for capital expenditures. At the same time, this approach invariably increases the fixed costs of setting up a business for investors and raises a more complex question on the fate of the property in the event that the investor vacates the zone. Conversely, in South Africa, public-developed zones lease fully developed buildings constructed using funds applied for and granted by the DTI under the SEZ Fund. Similarly, all zones engage in own-revenue-generating activities, although SEZ developers in South Africa are a step ahead in diversifying their income streams.

While there is a board in each country to review and oversee all matters related to SEZs including applications for designation, in South Africa, the board is solely for the purpose of SEZ activities whereas the board in Zambia is a general board of the ZDA that also provides oversight on other functions of ZDA. Both boards comprise a mix of public and private entities; however, South Africa's board includes public utilities. The advantage this confers is that it can facilitate better coordination among public institutions in the provision of key services required to ensure the optimal operation of SEZs. Second, private-sector representation is important for ensuring flexibility and commitment towards realizing the goals of the zones and fulfilling the needs of investors (FIAS 2008).

The goal of any SEZ is to provide a globally competitive investment location. On paper, the zones in both countries boast of offering a range of world-class infrastructure. With unreliable electricity supply; lack of a quick turnaround time in providing utility services; lack of a one-stop shop, connection to sewer lines, and support services such as an ambulance, fire brigade, waste collection, a canteen, and a shopping centre; and market research, we find that SEZs in Zambia fall short of being world-class as purported. South Africa has seemingly scored greater success in the provision of infrastructure and support services required to make the zone stand out as an

[30] Interview with Renewable Energy & ICT Sector Manager, ELIDZ, East London (5 February 2020).

attractive investment destination. In addition to providing standard infrastructure, the zones studied also provide a wide range of support services needed by investors such as one-stop shops, skills development services, a canteen, business incubation, technology, R&D, investment promotion, and logistics. Moreover, the zones studied in South Africa recorded, on average, a customer satisfaction rating of 75 per cent. Customer satisfaction is harder to assess in Zambia owing to weak monitoring and evaluation systems.

Zone location has largely been influenced by transportation considerations in South Africa. In fact, when the SEZ programme was first conceived, a key criterion was for an SEZ to be located adjacent to a seaport or international airport. This is of benefit for one simple reason: it reduces the cost and time it takes to transport goods. Thus, many SEZs in South Africa are strategically located in areas with access to seaports or located adjacent to the sea coast. This is South Africa's major comparative advantage. As a landlocked country, Zambia lacks this advantage. Invariably, transportation costs are higher. Nevertheless, the location decision in Zambia is still taken in cognizance of logistics routes, although it is less optimal for the government-run SEZ. Other considerations include availability of vast land for the development of an SEZ. For South Africa, additional considerations include local socio-economic conditions, labour market, stakeholder demands, and sector relevance.

Incentives, one of the major features intended to set SEZs apart from the rest of the country as well as other countries, are present in both countries. Fiscal and non-fiscal incentives are central to the design of SEZs albeit incentives are perceived to have been distorted in Zambia and, now arguably, act as a constraint to attracting investors into the zones. Following the rationalization of tax incentives, there is no particular distinction in the type of incentives on offer to SEZ-based firms and non-SEZ-based firms. What is now pertaining—0 per cent import duty on capital equipment and machinery and accelerated depreciation on capital equipment and machinery—is also on offer to other non-SEZ-based firms. Incentives have essentially become non-discriminatory. In contrast, South Africa is offering a suite of fiscal incentives, namely, VAT and customs relief, employment tax incentives, accelerated depreciation allowance on capital structures, and reduced corporate tax rate to qualifying SEZ-based companies. Notwithstanding the potential of incentives to draw investors, the subject of incentives is quite a complex and contentious one in economic literature. Arguments against incentives are premised on, inter alia, the distortionary effect they have on investment location decisions, revenue loss for governments, crowding out domestic firms, and rent-seeking behaviour usually encouraged (Tuomi 2012).

For many governments, the underlying motivation for granting tax incentives is that they are seen as a quid pro quo for investors creating employment opportunities for citizens. South Africa has been very intentional in this regard. The country's employment tax incentive stands out as a purposefully designed incentive to encourage the employment of lowly skilled youths by investors. The objective is to significantly reduce youth unemployment. The extent to which this has impacted employment in the zones cannot be determined by the methods used in this paper. Nonetheless, the most recent surveys by Statistics South Africa indicate that the majority of permanent workers in the ELIDZ and Coega SEZ are above the age of 35 years or are lowly skilled. In Zambia, general immigration and labour laws require investors to use expatriates only where local skills may be deficient. But even then, only temporarily until skills are passed on to a local understudy. Aside from these provisions, no deliberate measures are associated with SEZs to encourage local employment, particularly of youths.

At face value, the outcomes of the SEZs seem more promising in South Africa on account of the level of investment and the number of jobs created to date. However, an interesting picture is revealed when we take into account a more nuanced per capita analysis of the outcomes that control for the number of investors in each zone. With the exception of employment, the countries

are almost at par in terms of their performance (see Table 2). On average, the level of investment by each investor was highest in the LS-MFEZ, with 24.5 million USD invested per firm. This is followed by Coega, with 15.1 million USD invested per firm. Per capita employment is highest in the ELIDZ averaging 111 employees per firm, with Coega closely behind at 106 employees per investor. LE-MFEZ emerges as the most efficient zone in creating jobs, with an average investment spending of 84,000 USD per worker employed. LS-MFEZ is relatively the most inefficient. Each job created in zone required, on average, 255,000 USD. Notwithstanding these job numbers, more temporary and semi-permanent jobs are created during the construction phase of various structures. Moreover, there are indirect jobs created through various domestic linkages not accounted for here. These arguably could be substantial (FIAS 2008). Figure 1 summarizes investment and employment key outcomes.

Table 2: Summary of outcomes for the financial year 2018/19

Zone	Actualized investment by firms operating in the zone (million USD)	Actualized employment by firms operating in the zone	Number of operational investors in the zone	Investment per capita firm (million USD)	Employment per capita firm	Investment per employee (USD)
Lusaka South	245	960	10	24.5	96	255,000
Lusaka East	44.4	529	13	3.4	41	84,000
Coega	678.7	4,779	45	15.1	106	142,000
East London	313.4	3,554*	32	9.8	111	88,000

Note: *this is a lower bound estimate of the total jobs created by investors in the zone, which does not include jobs created in the energy and aquaculture sectors.

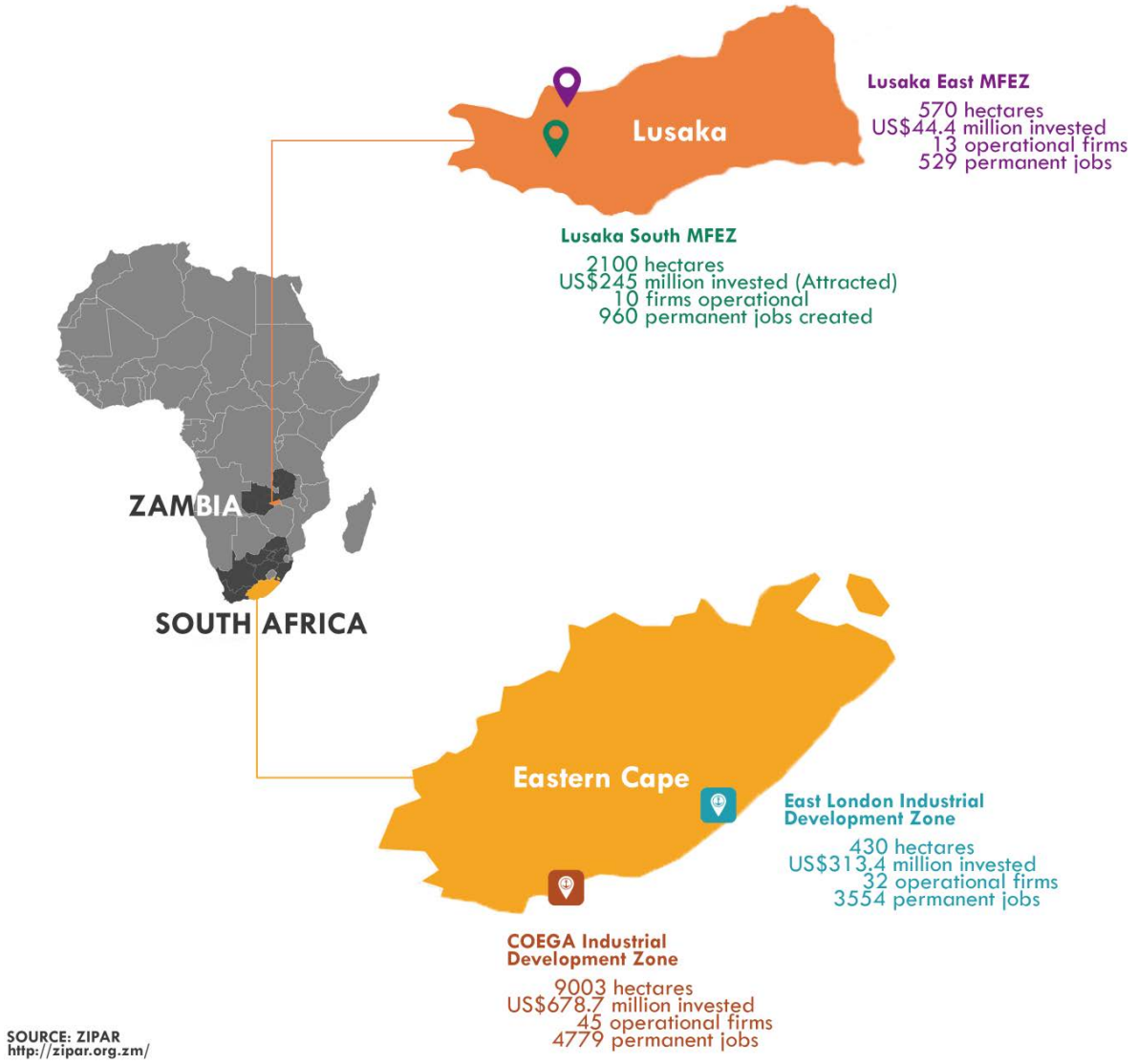
Source: authors' calculations based on Stats SA (2017, 2019), ELIDZ SOC Ltd (2019), CDC (2019), and interviews with zone developers and government ministries and institutions [follow-up interview with Investment Promotion Department, ZDA, Lusaka, Zambia (15 January 2020); interview with Business Development Manager, LS-MFEZ, Zambia (3 December 2019); interview with Head, Planning and Investment, LE-MFEZ, Lusaka, Zambia (24 January 2020)].

A usual concern with the development of SEZs is their inclusiveness and embeddedness in the host economies. To make the most of SEZs, FIAS (2008) contends that zones should be accompanied with policies and reforms aimed at improving domestic capabilities and facilitating domestic linkages. In Zambia, a strategy is in existence on local sourcing but is yet to be operationalized. SEZs, therefore, are not well embedded in the domestic economy. Nonetheless, measures are being instituted between the state-owned zone and the Citizen's Economic Empowerment Commission to foster linkages between investors and SMEs. In South Africa, local content policies are equally in place but largely remain ineffective because local suppliers are less competitive than foreign suppliers on quality and price. A major constraint is financing (Nyakabawo 2017).

One of the espoused gains of the spatial concentration of economic activity is agglomeration economies emanating from labour pooling, convergence of specialized suppliers, and technology and skills spillovers. This is evident across both countries albeit in varying degrees. Technology and skills transfer are present in all countries, largely arising from the training of workers and less from the flow of ideas and knowledge from SEZ investors to local suppliers and local firms. South Africa has institutionalized skills training in the suite of services provided by the zones and has set-up dedicated training facilities. The zones also actively monitor performance on this indicator. Arguably, investors—particularly those operating in the ELIDZ, Coega, and LE-MFEZ—face lower labour search costs arising from labour pooling and labour matching services provided by the zone developer. Labour pooling is less evident in the LS-MFEZ. Nonetheless, investors in this

zone allegedly benefit from lower input costs as a result of shared services. The emergence of specialized services is more evident in South Africa. Specialized service providers are drawn by component manufacturers for Mercedes Benz and other automotive companies. In Zambia, specialized services were reported to have emerged but mainly for construction activities.

Figure 1: Graphical summary of SEZ outcomes



Source: constructed by ZIPAR (2020) from satellite images in public domain.

There are some common challenges around financing faced by state-owned SEZs in both countries which is impeding infrastructure development, maintenance, and upgrading, service delivery; investment promotion activities; and skills developments. A country-specific challenge for Zambia related to infrastructure is the lack of reliable electricity supply. SEZs in Zambia are not insulated from power cuts, thus load shedding is a major challenge that negatively affects the operations of the zones. Other Zambia-specific challenges include poor coordination across government agencies, which results in red tape in accessing public services;[31] lack of experience in managing zones or similar investments in the public SEZ; weak soft skills, particularly for Chinese-owned SEZs; a distorted incentive structure; and policy inconsistency. The zones also lack a

[31] In some instances, accessing an electricity connection can take as long as 1 year (interview, LS-MFEZ, Zambia).

holistic service offering that can meet the varied needs of investors such as canteens and staff accommodation in the public SEZ. In South Africa, restrictions on private ownership of an SEZ is potentially a country-specific constraint.

5 Conclusion and recommendations

Are SEZs in Zambia and South Africa white elephants or latent drivers of growth? This is the question we first posed and consequently sought to answer in this paper. In South Africa, SEZs seem to be taking off. The country's turning point, arguably, came after the review of the initial IDZ programme that revealed a number of challenges the country has since sought to address. Although the level of direct jobs that have been created so far fall short of what is desired, the zones have attracted multinational corporations (but the majority of investors remain domestic firms). These investors are contributing to industrial growth, exports, skills and technology transfer, and employment creation. Major challenges for South Africa include sustainability and how to maximize the multiplier effects of SEZs through the effective integration of local suppliers in both backward and forward linkages.

Zambia is progressing more slowly. Jobs and investments are on the rise but could be rising faster. Lack of a comprehensive monitoring and evaluation system and inadequate reporting by zone developers makes it difficult to discern the actual extent to which the zones are contributing to exports and industrial growth. Major factors constraining the zones' potential in Zambia include inadequate infrastructure[32] provision and services, a fragmented incentive structure, policy inconsistency, inadequate technical capacity and skills shortages, lack of deliberate domestic linkages in place which are further limited by local capacity constraints. The lack of anchor industries also makes it harder to draw commensurate suppliers.

Arguably, given the effect of exogenous factors constraining investors' operations and the relatively young age of SEZs in Zambia (7 and 10 years since operations commenced in the LS-MFEZ and LE-MFEZ, respectively, relative to 15 and 18 years for the ELIDZ and Coega IDZ, respectively), it may be too early to write them off. However, in their current state and design without strategic anchor industries to foster strong domestic linkages, the zones are rendered more of white elephants. Even so, the SEZs could be turned around and used successfully as one of many economic tools to accelerate an inclusive development process, provided the constraints are addressed. Farole and Akinci (2011: 7) sum this up excellently:

> But it is not the existence of a SEZ regime, of a master plan, or even of a fully built-out infrastructure that will make the difference in attracting investment, creating jobs, and generating spillovers to the local economy. Rather, it is the relevance of the SEZ programs in the specific context in which they are introduced, and the effectiveness with which they are designed, implemented, and managed on an ongoing basis, that will determine success or failure.

Therefore, to maximize the potential of SEZs in Zambia and South Africa, the following country-specific recommendations should be considered.

[32] Electricity is particularly a challenge in the LE-MFEZ, while getting connected to the grid in the LS-MFEZ is protracted process.

5.1 Zambia-specific recommendations

Institute robust monitoring and evaluation mechanisms

To adequately gauge the performance of SEZs in advancing export-led industrial development and the quality of service provision, there is need for a more comprehensive framework that captures information on a range of additional factors such as output, exports, investor satisfaction, suppliers, skills development, targets, etc. This is necessary for zone performance to be adequately measured and for timely remedial measures to be undertaken. Further, zone developers could draw lessons from South Africa and start to produce periodical reports open to public scrutiny. These reports should reflect annual targets and the zone's performance against these targets.

Improve infrastructure and integrate support services in zones

SEZs are premised on the idea of providing the right fundamentals in a delineated area required to attract investors. In this regard, electricity in the zones needs to be guaranteed and insulated from load shedding and connections to sewer lines should be provided. The zones should also provide a range of other support services needed by investors such as one-stop shops, skills development services, canteens, business incubation, technology, R&D, investment promotion, and marketing services.

Develop a predictable and sustainable financing model

The development of infrastructure in public-operated SEZs is largely dependent on government financing. To ensure adequate infrastructure provision and other support services, the government should provide adequate financing in a transparent and predictable manner. Zambia could draw lessons from South Africa and institute financing provisions in the legal framework through the establishment of a fund dedicated for the development of SEZ infrastructure. In addition, the LS-MFEZ should diversify its product offering in a bid to raise its own revenues.

Improve policy consistency and coordination across government agencies

Businesses thrive on certainty, predictability, and stability which evoke investor confidence and encourage investments. Thus, government consistency on labour, macro, regulatory, and fiscal policies is imperative for investment attraction. Further, better support from public institutions that provide utility and regulatory services is needed to ensure that expedient and streamlined procedures are provided. Thus, coordination across government agencies should be strengthened to ensure a quick turnaround time in the provision of services such as utilities and processing of licences, permits, and applications. To aid this process, the composition of the ZDA Board should include representation from providers of utility services. An SEZ policy should also be developed and various policies on infrastructure development and utility provision should be aligned to this policy to promote coordination across government agencies (Gebrewolde 2019).

Identify an 'anchor' industry to draw suppliers and buyers

Part of South Africa's success in drawing multinational corporations is the presence of automotive industries that serve as anchor industries in zone regions; for example, Mercedes Benz in East London and a range of other automotive companies in Port Elizabeth. While maintaining diversification, Zambia should identify strategic industries with extensive supply chains that could equally serve as anchors for suppliers and buyers in backward and forward linkages; for instance, Chambishi MFEZ on the Copperbelt leverages mining. Plausibly, the upcoming Kafue Steel MFEZ could be leveraged for supporting industrial activities in the LS-MFEZ.

Re-introduce incentives to set MFEZs apart

Incentives should be re-introduced with the principle of striking a balance between achieving the SEZs' objectives of higher levels of investment, employment, trade, and manufacturing activities and of minimizing investment location distortions, crowding out of domestic investors, and revenue loss for the government. Tuomi (2012) provides an elaborate exposition on how incentives could be optimally structured.

5.2 South Africa-specific recommendations

Sustainable financing model

While SEZ developers in South Africa have been very proactive in diversifying their activities and increasing sources of own-generated revenue, financing challenges still persist for a number of zone activities. To ensure financial sustainability, South Africa should consider amending its SEZ Act and allowing for sole private ownership, development, and management of SEZs. This will expand financing options and promote long-term financial sustainability. Alternatively, capital for SEZs could be raised by listing the SEZs on stock market.

5.3 Cross-cutting country recommendations

Build local capabilities

To foster greater domestic linkages between SEZs and local suppliers, factors such as financing and firm capabilities that constrain the development of MSMEs should be addressed in both countries. Beyond this, although a deliberate local content policy is in place for public procurement in South Africa, this policy should be extended to procurement by investors conditional on local suppliers' ability to meet the quality and quantities of goods and serviced demanded. In Zambia, what is required is the operationalization of the current local content strategy. The development of industrial yards in SEZs could also foster greater linkages with local suppliers.

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Appendix

Table A1: Key informants

Institution	Responsibility	Interview location
Ministry of Commerce Trade and Industry	Investment and trade policy formulation and promotion, industrialization	Lusaka, Zambia
Zambia Development Agency	Promotion and attraction centre for foreign direct investments, oversees the multi-facility economic zones (MFEZs)	Lusaka, Zambia
Zambia–China Economic and Trade Cooperation Zone	Chambishi and Lusaka East MFEZ developer	Lusaka, Zambia
Lusaka South Multi-facility Economic Zone (LS-MFEZ) Ltd	Developer of the LS-MFEZ	Lusaka, Zambia
Department of Trade and Industry	Investment and trade policy formulation and promotion, industrial development	Pretoria, South Africa; information obtained via email
East London Industrial Development Zone (ELIDZ) SOC Ltd	Developer and operator of the ELIDZ	Eastern Cape, South Africa
Coega Development Corporation	Developer and operator of the Coega Special Economic Zone	Eastern Cape, South Africa

Source: authors' compilation based on study data.

Table A2: Characteristics of special economic zones (SEZs) in Zambia and South Africa

SEZ	Total area (hectares)	Year established	Year operational	Use	Targeted sectors/industries	Investment requirements	Incentives	Infrastructure and services that are supposed to be provided
Lusaka East	520	2009	2010	• Industrial • Commercial • Residential • Recreation	• Light manufacturing • Logistics, • Real estate • Construction materials • Warehousing services	• Application in writing to the ZDA Board, which is reviewed based on many socio-economic considerations • Application fee, business plan, and relevant company documents	• 0% import duty on capital equipment and machinery • Accelerated depreciation on capital equipment and machinery	• Electricity supply network • Road network • Sewerage network • Optic fibre network • Water supply network
Lusaka South	2,100	2010	2013	• Industrial • Commercial • Residential • Institutional • Research and development	• Research and development • High-tech • Commercial institutions • Agriculture and agro-processing • Professional, medical, scientific, and measuring services • Education and skills training • Packaging and printing • Palm oil and its derivatives • Processing of gemstones • Pulp and packaging boards • Diagnostic and medical services	• Application in writing to the ZDA Board, which is reviewed based on many socio-economic considerations • Application fee, business plan, and relevant company documents	• 0% import duty on capital equipment and machinery • Accelerated depreciation on capital equipment and machinery	• Electricity supply network • Road network • Sewerage network • Optic fibre network • Water supply network
Coega IDZ	9,003	2001	2002	• Industrial • Residential • Recreation	• Automotive • Business process outsourcing	• Application in writing to the SEZ board	• Reduced corporate income tax rate	• Port facilities • Labour services • Power grid

					• Chemicals • Agro-processing • Logistics • Trade solutions • Energy • Maritime	• Company documents (relevant certificates) • Provision of Identities of directors • Payment of rental/lease fees	• Tax allowance • Employment tax incentive • Building allowance • VAT and customs relief	• ICT network • Established procurement and distribution lines • One-stop shop facilities • Roads • Housing
East London IDZ	230	2002	2005	• Industrial • Residential	• Automotive • Renewable energy • Aquaculture • Agro-processing • ICT and electronics • Manufacturing	• Application to SEZ board • Company certificates • Provision of Identities of directors • Payment of rental/lease fees	• VAT and customs relief • Employment tax incentive • Reduced corporate income tax rate	• Roads • Electricity • Water • ICT infrastructure • Canteen • Conferencing facilities

Note: ZDA, Zambia Development Agency; IDZ, industrial development zone; VAT, value-added tax; ICT, information and communication technologies.

Source: authors' compilation based on online sources (see IDC 2020; ZCCZ Ltd 2020; ECDC 2020; Coega Development Corporation 2020).