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Research papers

# Reassessing the Role of Special Economic Zones in Africa

## Evidence on Export Performance and Socioeconomic Impacts

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# Reassessing the Role of Special Economic Zones in Africa

Evidence on Export Performance and Socioeconomic Impacts


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**Abstract**
This study evaluates the role of Special Economic Zones (SEZs) in Africa using newly compiled datasets covering over 230 zones across 43 countries. It examines SEZ impacts on export diversification, technological sophistication, market penetration, and integration into global value chains, while also assessing their influence on local household welfare. Findings show that SEZs significantly improve export sophistication and market access, but their contribution to product diversification and regional value chain participation remains limited. Empirical evidence from household-level data reveals that proximity to SEZs correlates with measurable wealth gains, better access to services, and improved housing quality. These benefits are broadly distributed, suggesting that SEZs can enhance welfare without exacerbating inequality. However, job creation —particularly for women— varies by sector and zone design. The study concludes that governance structure, incentive strength, and alignment with regional and sustainability goals are key to maximizing SEZ performance. Next-generation SEZs embedded in broader economic frameworks, including ESG principles and the AfCFTA, hold promise as inclusive and transformative development tools for African economies.



**Keywords**
Special Economic Zones (SEZs), Africa, Export Diversification, Export Sophistication, Global Value Chains (GVCs), Household Welfare, Industrial Policy, Trade Policy, ESG, African Continental Free Trade Area (AfCFTA)

**JEL Classification**
F13, F14, F15, O25, O55



**Résumé**
Cette étude évalue le rôle des zones économiques spéciales (ZES) en Afrique à l'aide de nouvelles données compilées couvrant plus de 230 zones dans 43 pays. Elle examine l'impact des ZES sur la diversification des exportations, la sophistication technologique, la pénétration des marchés et l'intégration dans les chaînes de valeur mondiales, tout en évaluant leur influence sur le bien-être des ménages locaux. Les résultats montrent que les ZES améliorent considérablement la sophistication des exportations et l'accès aux marchés, mais que leur contribution à la diversification des produits et à la participation aux chaînes de valeur régionales reste limitée. Les données empiriques issues des ménages révèlent que la proximité des ZES est corrélée à des gains de richesse mesurables, à un meilleur accès aux services et à une amélioration de la qualité du logement. Ces avantages sont largement répartis, ce qui suggère que les ZES peuvent améliorer le bien-être sans aggraver les inégalités. Cependant, la création d'emplois, en particulier pour les femmes, varie selon les secteurs et la conception des zones. L'étude conclut que la structure de gouvernance, la force des incitations et l'alignement sur les objectifs régionaux et de durabilité sont essentiels pour maximiser les performances des ZES. Les ZES de nouvelle génération, intégrées dans des cadres économiques plus larges, notamment les principes ESG et la ZLECA, sont prometteuses en tant qu'outils de développement inclusifs et transformateurs pour les économies africaines.



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# Executive summary

This report presents an in-depth exploration of Special Economic Zones (SEZs) in Africa, providing comprehensive evidence of their impacts on export performance, economic diversification, employment, and household well-being. Drawing on novel datasets, empirical research, and extensive case studies, the analysis evaluates both the promise and limitations of SEZs as strategic tools for economic transformation across the continent.

SEZs have increasingly become a cornerstone of Africa's industrialization agenda. Their purpose is to facilitate investment, stimulate exports, and create employment by offering tax incentives, streamlined regulations, and infrastructure development. Historically inspired by Asian models, African SEZs have evolved since the 1970s and expanded rapidly post-1990s. By 2023, over 230 SEZs have been established in 43 countries, often supported by foreign investment, especially from China.

The typology of SEZs in Africa is diverse, including Export Processing Zones (EPZs), Free Trade Zones (FTZs), Industrial Parks, and more innovative models such as Charter Cities. Geographically, SEZs are concentrated in North Africa and major economic hubs such as Morocco, Kenya, South Africa, and Ethiopia. Despite growth, challenges such as limited infrastructure, governance inefficiencies, and uneven integration with local economies persist.

Export performance outcomes indicate that SEZs positively affect export sophistication and market penetration, allowing African countries to access new markets and improve the complexity of their export baskets. However, SEZs have not significantly contributed to product diversification or integration into regional and global value chains. In fact, many SEZs remain focused on extra-continental trade, reducing their role in enhancing intra-African trade.

Crucially, the effectiveness of SEZs is shown to depend on governance models and the nature of incentives. Diversified and specialized SEZs with strong incentives outperform others, and zones governed through private or public-private partnership structures show better export outcomes than those under public administration.

From a microeconomic perspective, SEZs have tangible effects on household welfare. A spatially matched analysis using Demographic and Health Survey (DHS) data across ten African countries reveals that households living within 10 kilometers of SEZs experience significant gains in wealth, utilities access, and housing quality. These gains are equitably distributed among both native and migrant households, without exacerbating local inequality. Further, SEZs contribute to occupational shifts, especially away from agriculture, and support educational attainment among women.

Empirical results show significant wealth gains realized within the first decade of SEZ operations and are driven by industrial and mixed-use zones rather than service-oriented ones. However, job creation remains uneven, with limited female employment in African SEZs due to sectoral biases and cultural factors.

SEZs also appear to support urbanization, stimulate infrastructure development, and deliver broader developmental benefits, including improved consumption of durables and increased educational enrollment. Nonetheless, their long-term success is conditioned by integration with national development strategies, investment in public infrastructure, and sustained institutional support.

Looking forward, the report emphasizes the emergence of a new generation of SEZs in Africa aligned with global Environmental, Social, and Governance (ESG) standards, the African Continental Free Trade Area (AfCFTA), and inclusive development imperatives. These next-generation zones prioritize sustainability, innovation, and social inclusion. Case studies from Morocco, Kenya, Rwanda, and Egypt illustrate progress in green industrialization, MSME support, ESG-aligned investment.

Policy recommendations stress the importance of enhancing governance structures, tailoring fiscal incentives, supporting MSMEs, investing in digital and physical infrastructure, and leveraging AfCFTA for regional integration. SEZs must transition from isolated enclaves into integrated engines of national and continental growth, equipped to drive structural transformation and sustainable development.

In conclusion, while SEZs have contributed meaningfully to Africa's export growth and household welfare, their impact remains uneven. With the right policy mix, governance models, and investment frameworks, SEZs can play a pivotal role in advancing Africa's industrialization and inclusive economic future.

# Introduction

Special Economic Zones (SEZs) have increasingly become pivotal instruments in Africa's economic development strategy. As African nations strive to industrialize, diversify exports, and create employment opportunities, SEZs offer a targeted policy tool designed to attract investment, facilitate trade, and integrate economies into global value chains. These zones are characterized by special regulatory regimes, fiscal incentives, and infrastructure provisions that differentiate them from the broader national economy, aiming to foster a more conducive business environment.

Historically, the SEZ model was pioneered in regions such as East Asia, where zones like those in China played a transformative role in accelerating export-led growth. Inspired by these examples, African countries began to establish their own SEZs in the 1970s, with Mauritius, Liberia, and Senegal among the first adopters. Since the 1990s, there has been a substantial rise in SEZ initiatives across the continent, with more than 230 zones currently established in 43 African nations. These SEZs vary in form, including Export Processing Zones (EPZs), Free Trade Zones (FTZs), Industrial Parks, and newer iterations such as Charter Cities. They also differ in their governance models, ranging from public to private and hybrid public-private partnerships.

Despite the expansion of SEZs, their performance and impacts have been heterogeneous. While some zones have achieved notable success in attracting foreign direct investment (FDI), creating jobs, and enhancing export capacities, others have struggled due to inadequate infrastructure, policy inconsistencies, and weak institutional frameworks. This has led to a growing interest in assessing not only the outcomes of SEZs but also the conditions under which they succeed or fail.

This paper seeks to provide a comprehensive assessment of SEZs in Africa, focusing on their role in enhancing export performance, supporting structural transformation, and improving the economic well-being of surrounding communities. The analysis leverages newly compiled datasets, spatially matched household data, and empirical econometric methods to evaluate SEZ outcomes across multiple dimensions, including export diversification, export sophistication, market penetration, and integration into global value chains.

The paper also investigates the micro-level impacts of SEZs on household welfare, analyzing wealth indicators, access to services, labor market participation, and gender-specific outcomes. Additionally, it explores the evolving nature of SEZs in Africa, highlighting how emerging zones are increasingly aligned with global sustainability standards and regional integration efforts under frameworks such as the African Continental Free Trade Area (AfCFTA).

By offering a multidimensional and evidence-based perspective, this paper aims to inform policymakers, investors, and development partners about the current state and future prospects of SEZs in Africa. Ultimately, it underscores the need for well-designed, well-

governed, and contextually adapted SEZ models capable of driving inclusive and sustainable economic development across the continent.

# 1. Special Economic Zones in Africa: New Evidence on Export Performance

## 1.1. An Introduction to SEZ in Africa

Special Economic Zones (SEZs) have emerged as a tool for stimulating economic activity across Africa, offering a range of incentives such as tax exemptions, reduced customs duties, streamlined administrative procedures, and other regulatory benefits to attract both local and foreign investments. These zones are designed to create a business-friendly environment that fosters industrial development, encourages large-scale production, and facilitates trade. By providing businesses with the necessary infrastructure, reduced bureaucratic barriers, and access to international markets, SEZs aim to support industrial and commercial activity.

When discussing SEZs, the comparison with the Chinese model is almost inevitable. As early as 1980, China launched five pilot SEZs under Deng Xiaoping's leadership, offering generous economic incentives—multi-year tax exemptions, removal of customs duties, and free repatriation of profits—to attract foreign investment. These zones operated under a distinct legal framework and benefited from decentralized governance, granting substantial autonomy to local authorities. Crucially, they were embedded in a coherent national industrial strategy and backed by strong central government support. By fostering linkages with the domestic private sector and leveraging local resources, Chinese SEZs catalyzed a remarkable wave of industrial development—Shenzhen being the most iconic success story. Inspired by this model, many African countries progressively adopted SEZs as industrial policy tools. The first SEZs in sub-Saharan Africa emerged in the 1970s in Liberia, Mauritius, and Senegal, primarily as export-oriented export processing zones (EPZs). From the 1990s onward, SEZ development accelerated: 80 percent of SEZ programs were launched after that decade, bringing the total number of zones in Africa to 114 by 2008 (AfDB, 2015). Today, most countries in sub-Saharan Africa have SEZ programs, generally based on the traditional EPZ or industrial zone model, aiming to attract FDI, boost exports, and generate employment.

The primary objective of SEZs is to support industrialization by shifting economies away from reliance on agriculture and raw material exports toward more value-added sectors such as manufacturing, technology, and logistics. Several African countries, including Morocco, Kenya, and South Africa, have implemented SEZs with the aim of promoting economic diversification and reducing exposure to commodity price fluctuations. Morocco's Tanger Med SEZ has been developed with a focus on the automotive and logistics industries, hosting

multinational corporations and connecting local businesses with international value chains. Kenya's Export Processing Zones (EPZs) have been structured to expand the textile and apparel sector, making use of trade agreements such as the African Growth and Opportunity Act (AGOA) to facilitate exports to U.S. markets. In South Africa, SEZs have been designed to serve a variety of sectors, including automotive, energy, and technology.

SEZs continue to represent a key component of economic policy for many African governments seeking to accelerate structural transformation. Their effectiveness is influenced by factors such as infrastructure development, policy consistency, and the extent to which these zones are integrated into the broader economy. In various contexts, SEZs are designed to attract foreign direct investment (FDI), promote linkages with local businesses, generate employment, and support skills development. According to Dinh et al. (2012) and UNCTAD (2019), ongoing efforts in several countries aim to refine SEZ frameworks and address persistent challenges such as weak governance and inadequate infrastructure

**Map 1. Location of SEZs in Africa in 2023**

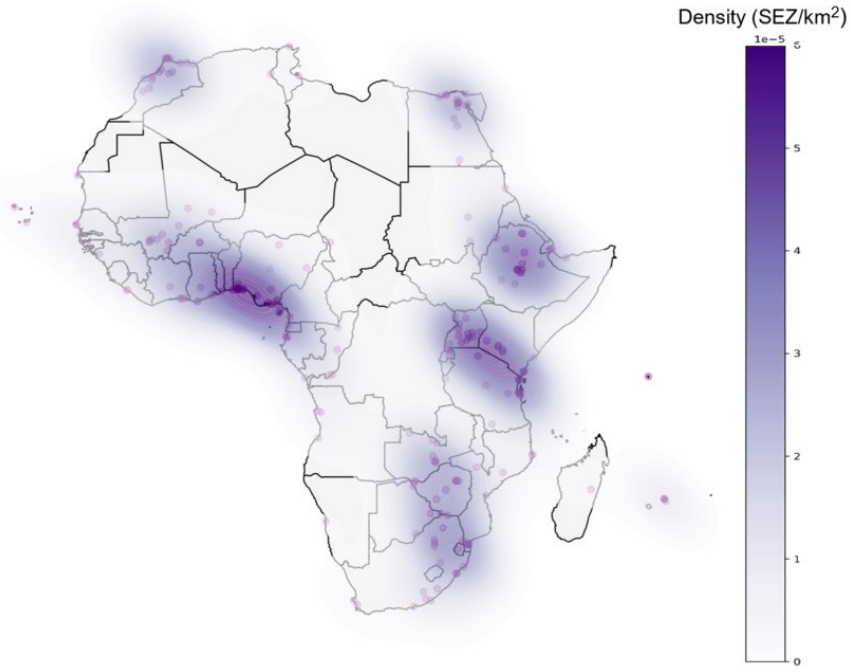
Source: Authors based on Open Zone Map project.

### 1.1.1. Main patterns of SEZ in Africa

*Geographic Distribution and Typology of SEZs*

The geographic distribution of SEZs across Africa is uneven, with North African countries hosting a larger number and a wider variety of zones. In Morocco and Egypt, SEZs have been integrated into broader industrial development strategies, supported by geographic proximity to Europe, trade agreements, and existing infrastructure. In sub-Saharan Africa, countries such as Nigeria, Ethiopia, and Kenya have expanded SEZ initiatives in the 21st century, with stated objectives including economic diversification and employment generation, as noted by Adewuyi and Akinmoladun (2014).

**Map 2. Geographic concentration of SEZ in Africa in 2022**




Source: Authors based on Open Zone Map project.

The typology of SEZs across the African continent includes various forms such as Export Processing Zones (EPZs), Industrial Zones (IZs), Free Trade Zones (FTZs), and Technology Parks. In Ethiopia, industrial parks are oriented toward sectors such as textiles and garments—an orientation highlighted by Tewodros and Moges (2020)—whereas in South Africa, SEZs are designated for a range of industries, including energy, automotive, and manufacturing.

*Number and Evolution of SEZs on the Continent*

The number of SEZs across Africa has increased over the past two decades. While the concept was introduced in the 1990s, the expansion of SEZ initiatives accelerated in the 2000s, as governments began to use them as instruments to attract foreign direct investment (FDI) and support industrial policies. Countries such as China and India had previously implemented SEZs on a large scale, and several African nations adopted similar approaches.

By 2023, approximately 230 SEZs had been established by law in 42 African countries. This expansion has been associated with domestic policy initiatives focused on economic diversification, as well as foreign investments, notably from China. In countries such as Zambia, Ethiopia, and Djibouti, China has contributed to the financing and development of SEZs, drawing on its experience in SEZ implementation and engaging in bilateral economic cooperation, as highlighted by UNCTAD (2024) and the World Bank (2024).

*Public Policies and Institutions Managing SEZs in Africa*

The implementation of Special Economic Zones (SEZs) in Africa is shaped by public policies and institutional frameworks that define their development and operations. In several countries, dedicated SEZ authorities have been established to manage investment-related procedures, regulate business activities, and coordinate infrastructure-related aspects. In Kenya, for instance, the Export Processing Zones Authority (EPZA) is responsible for overseeing the country's EPZs, administering incentives, and applying national regulations (Kenya EPZA, 2021). In South Africa, the Special Economic Zones Act (2014) provides the legal basis for SEZs, with implementation overseen by the Department of Trade, Industry, and Competition (DTIC, 2020). These frameworks define the institutional responsibilities and regulatory parameters under which SEZs operate.

Challenges such as bureaucratic inefficiencies, policy inconsistencies, and limited institutional coordination affect the functioning of SEZs in several African countries. In Nigeria, for instance, the Lekki Free Trade Zone has experienced delays attributed to misalignment between federal and state authorities, which has impacted infrastructure development and investor engagement. In Morocco, SEZ governance is managed through the Moroccan Investment and Export Development Agency (AMDIE), which is responsible for coordinating policy implementation and investor services (UNCTAD, 2021). Efforts related to governance structures, inter-agency coordination, and the adoption of international practices remain key areas of focus for SEZ policy development.

### 1.1.2. Key Performance Factors

*Infrastructure and Logistics*

Infrastructure is a central element in the functioning of Special Economic Zones (SEZs). Components such as transportation networks (roads, railways, ports), energy provision, and communication systems influence the operational environment for businesses located within these zones. In Ethiopia, the Bole Lemi Industrial Park has been developed with a focus on infrastructure, including connections to major transport corridors and energy access, in order to support textile and garment production activities.

In several countries, infrastructure-related constraints continue to shape the operational context of SEZs. For example, in Nigeria and Ghana, power supply interruptions have been documented in zones designated for manufacturing activities. In Kenya, limitations in energy provision and transportation connectivity have also been reported within the framework of its Export Processing Zones (EPZs), as highlighted by the World Bank (2020).

*Fiscal Regimes and Economic Incentives*

To attract investment, SEZs in Africa typically offer a range of fiscal incentives, such as tax holidays, exemption from customs duties, and reduced tariffs. Kenya, for example, provides a 10-year corporate tax holiday for businesses in its EPZs and also exempts them from VAT on certain inputs. These policies are aimed at boosting export-oriented industries, especially in the textile and garment sectors.

While these fiscal incentives have been effective in attracting foreign investment, some critics argue that their long-term benefits may be overstated—particularly in countries where industrial capacity remains low and incentives are not accompanied by coherent industrial policies or capacity-building efforts. This concern has been raised both in official policy documents (Kenya Export Processing Zones Authority [EPZA], 2021) and in academic analyses, such as that of Zhang (2017), who highlights the limitations of SEZ strategies in the absence of broader structural support.

*Job creation and industrial development*

Furthermore, job creation has been limited because the zones are (surprisingly) relatively capital-intensive and not so much labor-intensive as we would expect (Tigabu et al. 2018). Most jobs have been created in the labor-intensive industry such as textile and clothing (especially in Mauritius and Madagascar) and in food processing (e.g. Ghana, Zimbabwe) (Späth 2018). The results of the South African Industrial Development Zones (IDZ) are similar

(CDE 2012). The EPZ in Togo, which opened in 1991, boosted exports, but failed to meet expectations in terms of employment. While the SEZs generate more than half of the national exports, 43 the share of domestic value creation fell from 51 percent in 2001 to around 18 percent in 2012. With 13,000 employees, the EPZs fell far short of the expected 100,000 new jobs.

*Labor and Skills Development*

A key consideration for SEZ development in Africa is the availability of a workforce with skills aligned to industrial needs. Although many countries have large and growing youth populations, gaps often exist between the qualifications of available workers and the requirements of SEZ-Based Industries, requirements of firms operating within SEZs. In Ethiopia, training programs have been implemented in collaboration with international companies to support the acquisition of technical and managerial skills in sectors such as textiles (Jaleta & Tsegaye, 2020). In South Africa, partnerships between SEZs, educational institutions, and international firms have focused on skill development in areas including the automotive industry (Dube, 2020). More broadly, vocational training and higher education systems across sub-Saharan Africa continue to evolve in response to labor market demands associated with SEZs, as highlighted by the African Development Bank (2020).

*Linkage to the local Economy*

Positive sign in Rwanda and Kenya the number of employees rose from around 30,000 to over 50,000 during the same period, mainly due to the expansion of the clothing industry and the processing of agricultural products. Expenditure on local procurement also increased steadily (in 2016, a quarter of the production goods were procured locally; three quarters were imported), which is a sign of increased integration with the local economy. Overall, the development of SEZs in Africa is now increasingly focused on creating integrated growth poles rather than the enclave-like EPZs that have often been established in the past, meaning that positive effects from linkages and spillover effects may be more pronounced in the future.

However, Farole (2011) points out that the approach is crucial: while nominal figures show comparatively poor results, the percentage contribution of SEZs to national exports and foreign direct investment in the zone programs he examined is comparable to other countries. This suggests that regional development and competitiveness as a whole could be the problem, thereby hindering zone development. With the exception of Mauritius, SEZs in Africa have not yet to form linkages with the local economy and thus generate dynamic effects, e.g. through technology and knowledge transfer, the “upgrading” of the economy or

the initiation of reforms (CIIP 2017; Kingombe and te Velde 2013; Farole 2011). One reason for this could be the low absorption capacity of the local economy. For example, the findings of Duarte et al. (2014) show that the low level of education in Mozambique hinders spillovers from foreign direct investment. Thus, SEZs in Africa have not yet been able to have any significant impact as "catalysts" for development (Farole 2011).

*Integration into Global Value Chains (GVCs)*

SEZs can serve as a channel for African countries to participate in Global Value Chains (GVCs) by facilitating manufacturing and assembly activities connected to international markets. In Morocco, for instance, the Tanger Med Zone hosts operations by global automotive firms such as Renault and Peugeot has been integrated into production networks oriented toward the European market.

The degree and form of integration into global value chains (GVCs) vary across countries. In some contexts, SEZs are oriented toward high-value manufacturing, while in others, activities remain concentrated in lower value-added segments such as assembly—raising important considerations related to technology use, workforce training, and industrial upgrading. The case of the Tanger Med Zone in Morocco illustrates how strategic orientation and infrastructure can support deeper integration into GVCs (Tanger Med Port Authority, 2019).

### 1.1.3. Contribution of SEZs to African Export Patterns

Attempts to replicate SEZ-driven growth as seen in Asia have long fallen short in Africa. An important exception is Mauritius, where the Mauritius Export Processing Zone Program (MEPZ) attracted foreign investors, increased exports, significantly advanced the diversification of the economy, and triggered or supported broad economic and structural reforms (Farole 2011; Baissac 2011; Moran 2011; Farole and Moberg 2017).

However, in terms of static and dynamic effects, African SEZs as a whole fall short of expectations in the first decade. The contribution of African SEZs to exports of SEZs worldwide remains minimal. Farole (2011) was conducting one of the most comprehensive study on SEZs in Africa. He examined production-oriented SEZs in Ghana, Kenya, Lesotho, Nigeria, Senegal and Tanzania, some of which were still in the early stages and therefore difficult to assess. With the exception of Ghana, the zones have very low investment and export levels. Some SEZs that were initially successful were characterized by low-quality investments and unsustainable jobs; Lesotho and Kenya, among others, are cited as examples (Farole and Moberg 2017).

Besides the lack of success in export performance, there are also concerns that SEZs are a new trade protectionist policy that causes the reallocation of economic activities from neighboring districts into the SEZs districts leading to a zero-sum effect (Glaeser and Gottlieb, 2009; Neumark and Kolko, 2010; Grant, 2020). These unintended impacts of SEZs raise fundamental questions of whether SEZs increase the overall economic activities of the target areas and whether African countries with considerable fiscal constraints, should continue to extend tax breaks to SEZ firms in order to spur economic development.

However, in recent years, there have been positive signs for the development of some African SEZs, e.g. in Rwanda and Kenya. According to the figures of the Kenyan Export Processing Zones Authority, for example, the SEZ has seen steady growth since 2010. According to these figures, the value of exports doubled to around 627 million US dollars.

Therefore, there is an interest to revisit the export performance of SEZs in Africa. To support this investigation one can rely on a new dataset collecting a wide range of information on more than 230 SEZ on the continent and presented in section 1. 1.

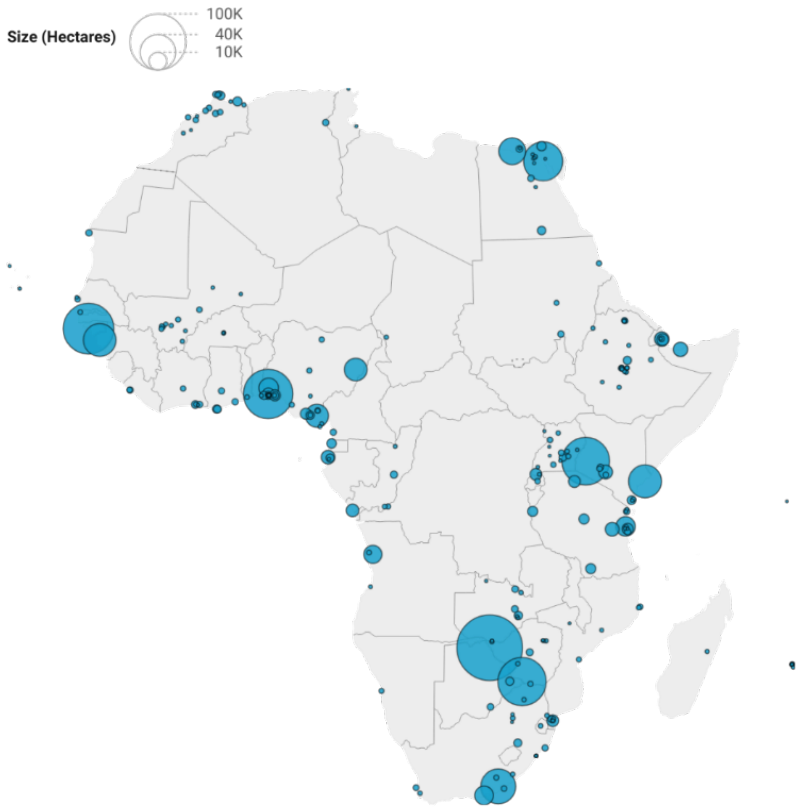
This study draws on the dataset developed by the Adrianople Group as part of the Open Zone Map project, the first comprehensive and interactive global map of Special Economic Zones. For Africa, the dataset identifies 232 SEZs as of 2024, located across 43 African countries, making it the most complete source currently available on the topic. . The data contain information on regional and national location, zone type (based on World Bank and UNCTAD classifications), and management model (public, private, or public-private partnership). This is supplemented by Abagna, Hornok and Mulyukova (2025), who provide the legal year of establishment, ranging from 1990 to 2024, and sectoral specialization of the SEZs, based on information from AEZO and other online sources.

The dataset used in this study adopts the classification framework developed by the Adrianople Group as part of the Open Zone Map project, which categorizes **Special Economic Zones** (SEZs) into eight distinct types. This typology draws partly on established international definitions and partly on original analytical distinctions. For instance, **Export Processing** Zones (EPZs) correspond to a traditional category used by institutions such as the World Bank (2008) and UNCTAD (2019) to designate small zones offering customs and fiscal incentives focused on export-oriented manufacturing. **Free Trade Zones** (FTZs) are a widely recognized designation in trade and customs regimes, typically referring to large areas with limited incentives aimed at facilitating the import and re-export of goods. The category of **Charter Cities** builds on a concept advanced by economist Paul Romer (2010) and various liberal think tanks, referring to new cities with extensive regulatory autonomy, combining residential and commercial districts with their own institutional frameworks.

Other categories include Specialized Zones, which offer deep incentives for a single sector; **Diversified Zones**, which support multiple industries; **Economic Revitalization Projects**, targeting distressed areas through tax incentives; and Foreign Trade Zones, specific to the U.S. and Canada. In the African context, six of these seven globally recognized categories are represented—excluding only the Foreign Trade Zone category due to its jurisdictional specificity. This classification enables a standardized, comparative understanding of the role, scope, and governance of SEZs across the continent.

The dataset was cleaned and harmonized to keep only the active SEZ and allow for a consistent analysis of SEZ policy evolution across the African continent. It was then merged with macroeconomic and trade data at the country-year level to empirically assess the relationship between SEZ implementation and export performance.

**Map 3. Size and location of SEZ in Africa, 2022**




Source: Authors based on Open Zone Map project.

## 1.2. Measures for export performance of SEZ

The expansion of SEZs should attract companies from a wider range of sectors and generate technological spillovers and agglomeration economies that can contribute to export diversification in terms of products and access to new markets, but also to increased export sophistication, better penetration of export markets, and better integration into global value chains. We therefore examine these different models of export performance.

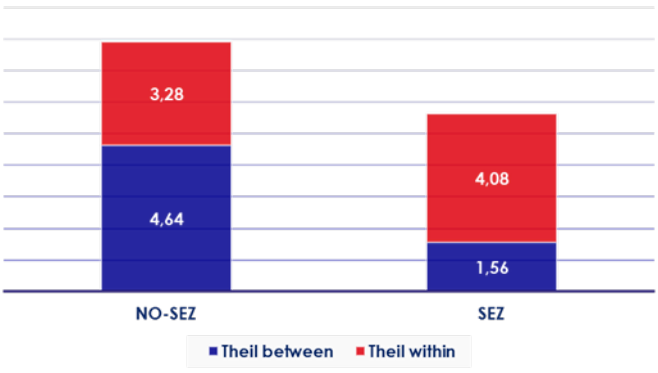
### 1.2.1. Measures of export diversification

Most researchers would agree that export diversification matters and it is especially important for developing countries. Export diversification is held to be important for developing countries because many developing countries are often highly dependent on relatively few primary commodities for their export earnings. Unstable prices for these commodities may subject a developing country exporter to serious terms of trade shocks. Since the covariation in individual commodity prices is less than perfect, diversification into new primary export products is generally viewed as a positive development. The strongest positive effects are normally associated with diversification into manufactured goods, and its benefits include higher and more stable export earnings, job creation and learning effects, and the development of new skills and infrastructure that would facilitate the development of even newer export product. To foster export-led growth and export diversification, many countries in Africa have proceeded to create special economic zones (SEZs) (Newman & Page, 2017).

Export diversification has been measured in many ways. First, it has often been measured using concentration indexes, the most frequently used concentration indices are Herfindahl, Gini, and Theil. We chose the Theil index because it can be broken down into two components, as in Cadot et al (2011), namely, an extensive margin index (EMI) and an intensive margin index (IMI). The EMI measures the part of diversification resulting from the export of new products, while the IMI measures the balance of the mix of already exported products. Therefore, we calculate a Theil for groups of export lines and which can be additively decomposed into within-groups and between-groups components. Hence, after distinguishing three groups (inactive export lines, existing export lines and new export lines) what is referred to as 'Theil within' is a weighted average of change in the within-groups and measure changes at the intensive margin and, changes in the between groups component of Theil's index measure changes at the extensive margin (proportional changes in the number of active lines).

The descriptive statistics in Figure 1 show that between 1995 and 2023, export concentration was significantly higher when countries did not have SEZs, but the most striking finding is that the difference appears at the extreme margins (Theil between component), indicating that concentration is lower during the SEZ period due to the addition of significant new export lines.

**Figure 1. Export diversification in SEZ and non-SEZ countries in Africa (1995-2022)**

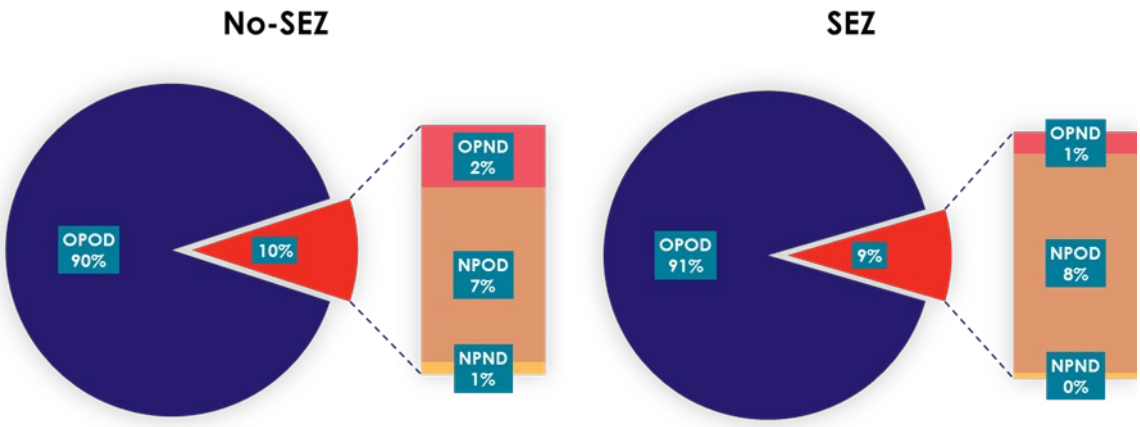


Source : Authors using BACI database from CEPII
Note: A high index indicates a high level of concentration, meaning a low level of diversification.(range from 1.6 to 53.2 in our sample)

However, we consider that this traditional classification for diversification lacks a geographic dimension and we have added a twist to the traditional definition, in including the geographic dimension in order to allow us to distinguish between product and geographic diversification. To do so, we follow Amurgo-Pacheco and Pierrola (2008) in defining the intensive versus extensive composition of trade. The intensive margin of trade refers to the growth of exports in goods that are already being exported and refer to these as "old products". The extensive margin is defined as the growth of exports in new categories of products or destinations. This implies that the intensive margin will consist of "Old Products" being exported to "Old Destinations" (OPOD). In the same way, the extensive margin will consist of "Old Products" being exported to "New Destinations" (OPND), "New Products to New Destinations" (NPND), and "New Products to Old Destinations" (NPOD).

Descriptive statistics in Figure 2 confirm that while the share of extensive margins is roughly similar between the SEZ and non-SEZ periods, the share of new products exported is higher in the context of SEZs, while the non-SEZ period is more strongly correlated with diversification through the export of traditional products to new destinations, an element that was not taken into account in Theil's approach.

**Figure 2. Export diversification in products and destinations in Africa (1995-2022)**




Source : Authors using BACI database from CEPII

Note : distribution of total exports between intensive margin (export of old product to old destination) and extensive margin (in share of total export)

### 1.2.2. Measures for export sophistication and export market penetration

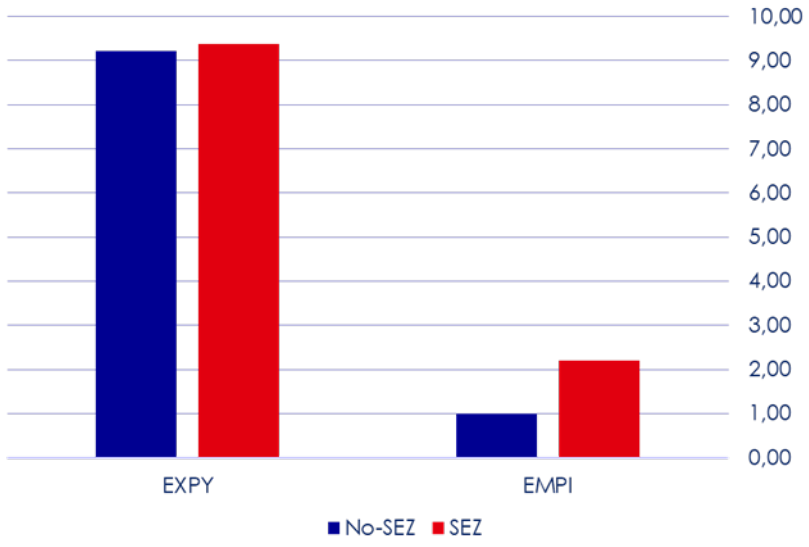
Estimating the level of technological sophistication embodied in a country's export portfolio gives an indication of that country's economic development. Ultimately, the sophistication of goods exports measures has increased over time. However, this trend has been less pronounced in Africa. Greater exports sophistication can contribute to overall economic growth (Jarreau and Poncet 2009). Sophisticated sectors are particularly likely to act as an engine of growth for the broader economy, rather than turn into isolated enclaves. Let us consider that PRODY is an outcome-based measure of sophistication: if a product is mostly produced by rich countries, then it is revealed to be a "rich," or

sophisticated, product. PRODY is calculated as a weighted average of per capita GDP of countries producing that product, with weights derived from revealed comparative advantage. The country's expected GDP per capita, EXPY (downloaded from the World Bank WITS platform), is given by summing all the PRODY values for the products exported by the country, each weighted by the product's share in total exports as in Hausmann et al (2007).

Examining the level of export market penetration for a country gives an indication of its export competitiveness to assess the relative strength of a particular exporter versus a number of other competitors and observe how a country is able to respond to the external demand on its products (Eaton et al 2004). There is a general presumption that by facilitating the host country's insertion into GVCs, SEZs can drive trade, FDI inflows and technology transfers, which in turn generate spillover effects and make a country's exports more sophisticated and competitive on their export market. In this paper the index of export market penetration (EMPI, downloaded from the World Bank WITS platform) is the share of the actual number of export relationships (at the country product level) forged by a country in the maximum possible number of export relationships it can form given the number of its exports. The denominator is calculated by summing the number of countries that import each product that a country exports.

Descriptive statistics in Figure 3 show that, in terms of both export sophistication and export market penetration, the SEZ period appears to be more favorable for these characteristics, although this is strongly significant solely for export market penetration..

**Figure 3. Export sophistication and Export Market Penetration in Africa (1995-2022)**




Source: Authors using World Bank Trade data (WITS)

Note: Over the all sample EXPY range from 7.9 to 9.9 and EMPI from 0.5 to 14.3 in our sample

### 1.2.3. Measures for integration into global value chains

Participation in supply chain trade, especially if participation is accompanied by progression up the supply chain ladder, is a means of increasing productivity and growth. Countries can be classified

along a ladder of value chains according to the production and characteristics of their exports. One such classification situates a country at a point in time into one of the 4 groups: commodities, limited manufacturing, advanced manufacturing, innovative activities. Countries change groups over time, usually up the ladder in absence of external shocks or conflicts. Cumulated 20-year growth has been shown to pick up as countries move up through the stages of GVC engagement. Therefore, if SEZs increase participation in GVCs, this could help boost productivity and growth.

In this paper we used the approach and dataset from Borin et al (2021) who develop a new measure of global value chain (GVC) participation that incorporates both trade- and output-based perspectives and distinguishes between three distinct modes of GVC involvement:: backward participation[1] (utilization of foreign inputs), forward participation[2] (input supply to downstream nations and industries) and two sided (mix of both). .

Including an output approach allows to correctly estimate the absolute levels of GVC participation through the inclusion of the contribution by industries not directly engaged in exporting activities despite being important suppliers of GVC-oriented industries; and then to not exaggerate the relative exposure for countries whose traded sector is mostly GVC-related, but it constitutes a small share of overall domestic output. This could matter as the question of inclusion of SEZ in the rest of the economy has long been in the debate.

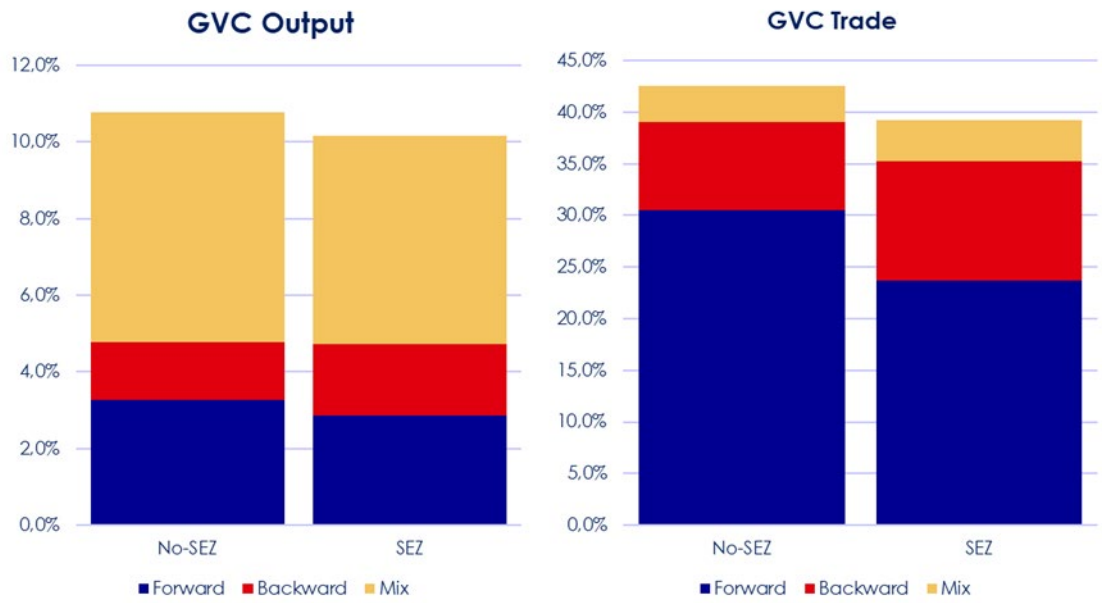
Using three distinct modes allows to distinguish among activities that occur at the start of the value chain (forward), where primary inputs are converted in intermediate goods activities; activities at the end of the chain (backward), which pertains to the final transformation of these goods into final products; and two-sided or mixed participation for activities that are positioned in the intermediary stages of the chain. Here again this aspect matters in the context of SEZ supposedly more focused on final stage production and exports to the countries that supply it with intermediate products.

Descriptive statistics in Figure 7 show that most participation in value chains over the period 1995-2022 was downstream, that is African exports undergoing further processing in destination countries before reaching the final consumer (i.e. forward participation). The import content of African exports over the period was low (i.e. backward participation). The Figure 4 shows that SEZ implementation are less correlated with GVC integration.

**Figure 4. Global value chain integration in Africa (1995-2022)**

[1] utilizing imported inputs for goods exported abroad

[2] producing and exporting inputs for further re-export by the trading partner




Source: Authors using World Bank Trade GVC database

Note : percentage indicates share of GVC type of trade (output) in total trade (output)

## 1.3. Empirical results and discussion

The approach followed in this study consists of estimating the average effect of implementing SEZ programs to assess the impact of these policy instruments on the different export performance indicators presented above in Africa. For that purpose, we set up an econometric model that takes the following form:

$$Y\,it = \alpha i + \tau t + \beta \mathrm{SEZ}it + \phi Xi, + \varepsilon i, \quad (1)$$

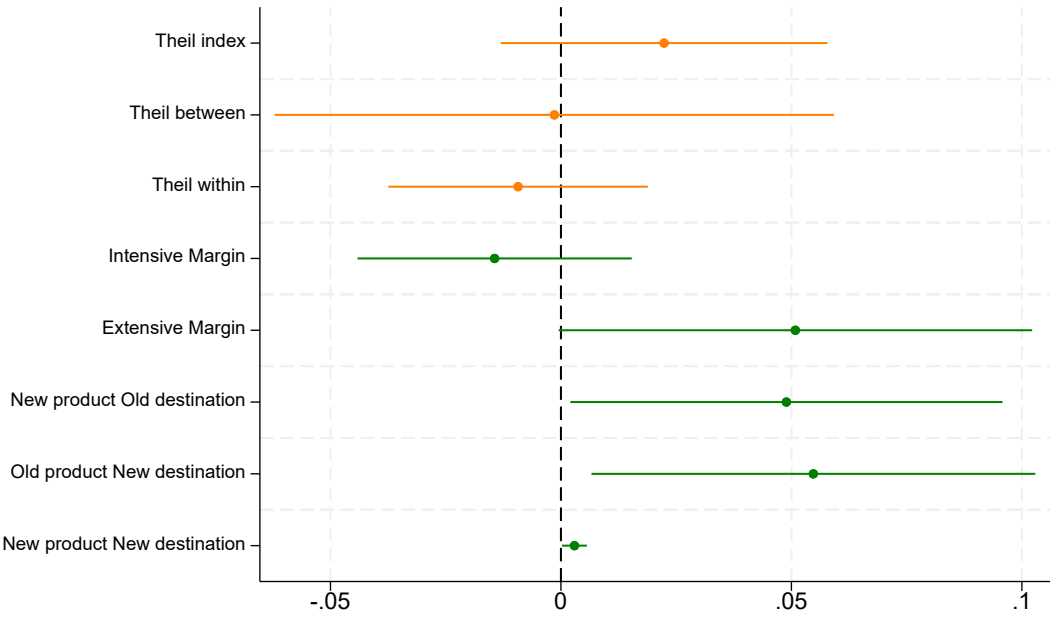
The dependent variable, is the level of export performance, successively diversification, sophistication, market penetration and GVC integration. $\alpha i$ and $\tau t$ are country and time fixed effects, respectively. SEZ, is a variable in log which count the number of SEZ as indicated in the SEZ database. '$X$' is a vector of control time-varying variables that falls from previous empirical studies on the determinants of export performance. It includes the logarithm of real GDP per capita (*GDPpc*), grossed fixed capital formation (in % of GDP, *GFCF*), trade openness (*Trade*, the sum of exports and imports as % of GDP), real effective exchange rate (*REER*) and domestic credit to the private sector (in % of GDP, *Credit*). Some descriptive statistics for the variables are provided in the annex.

### 1.3.1. Main results on SEZ impact

Figure 5 presents the coefficients obtained from the estimations for the different diversification indices. The analyses show non-significant effect of number of SEZ adoption on the overall export concentration measure (coefficient not significantly different from zero), while the impact associated with the intensive and extensive margins also appears to be non-significant. Consequently, the number of SEZs established does not appear to increase the diversification in sectors for exportation.

Now, turning to a more detailed measures that take into account product and destination diversification, we see that the SEZ variable is positively correlated with the value of exports to new destinations, for exports of new products or exports of existing products in the export basket. The benefit of SEZs would therefore be to enable access to new export markets rather than to simply exporting new products.

**Figure 5. Main results on Export diversification patterns**




*Note: Estimates with 95% confidence intervals obtained from cross-country regressions that include additional country-specific control variables, country and year fixed effect. (Orange for Theil approach and Green for other types of diversification)*

We now turn our attention to other dimensions of export performance, namely sophistication, market penetration, and integration into global value chains. We observe in Table 2 a significant and positive effect of the number of SEZs in a country on the sophistication of its export basket. This is consistent with the findings and assumptions of Farole and Moberg (2017), which argue that the creation of SEZs could contribute to the production of more sophisticated export products.

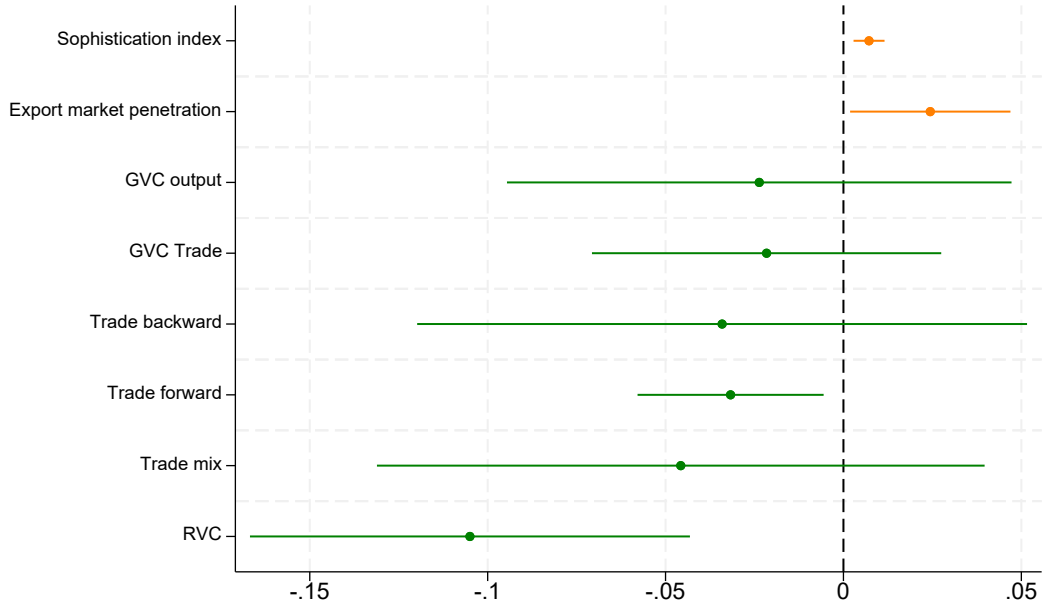
Similarly, we observe that the number of SEZs is positively correlated with export market penetration, confirming preliminary findings on the ability to export to new destinations, as it shows that countries are better able to exploit their comparative advantage.

However, we find no positive results regarding the impact of special economic zones on various indicators of integration into the value chains, whether using the production or trade dimension, or taking into account global or regional scope. The only significant results are even negative, particularly when it relates to the regional value chain, i.e. among African partners, which is consistent with the beliefs that those SEZ are more oriented toward extra continental market and did not play a positive role for the regional trade integration.

Overall, it appears that the positive and significant results of SEZ creation lie in the export of products to new destinations and improved export market penetration through more sophisticated products. The data set allows us to deepen our analysis and examine the heterogeneity of these preliminary findings across different types of SEZs. Results on control variables are generally consistent with the

literature; GDP per capita is found to have a positive effect on export performance related to export sophistication, export market penetration or GVC integration.

**Figure 6. Main results on Export sophistication, penetration and GVC integration**




*Note: Estimates with 95% confidence intervals obtained from cross-country regressions that include additional country-specific control variables, country and year fixed effect (Orange for export performance and Green for value chain integration)*

### 1.3.2. Heterogeneity across types of SEZ

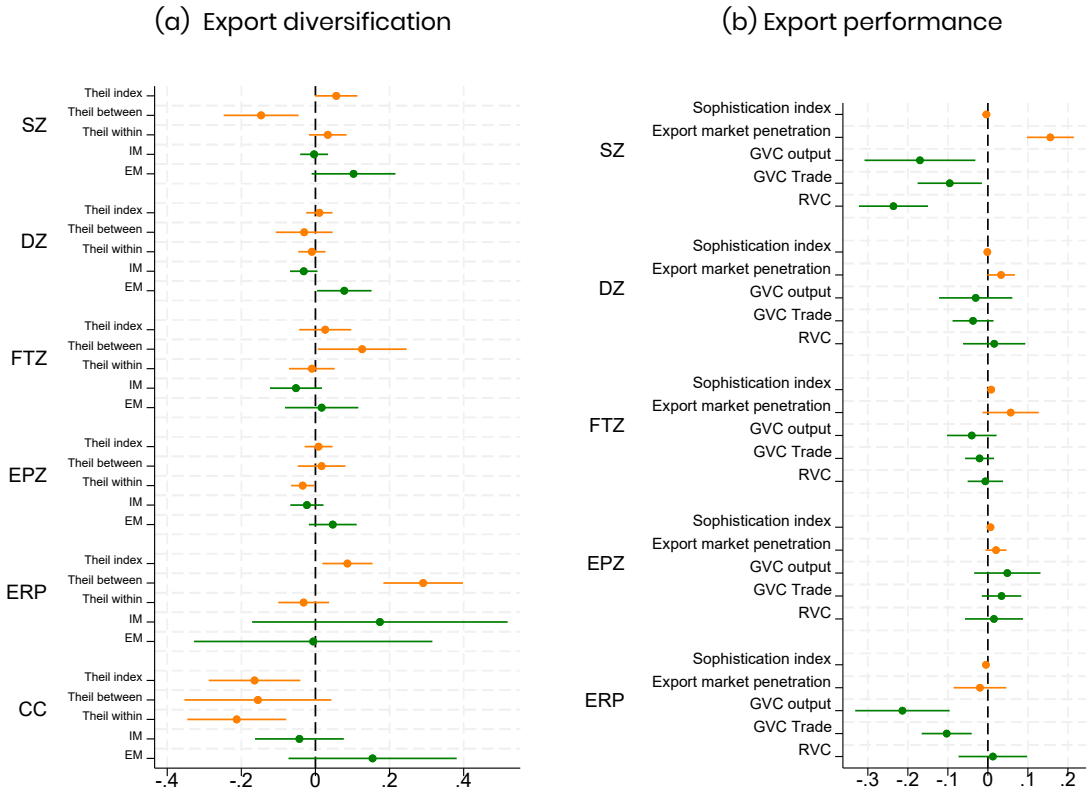
As described in section 1.3, the dataset proposes six different types of SEZ in Africa:

- Specialized Zone - A zone with deep incentives that focuses on a single industry;
- Diversified Zone - A zone with deep incentives that focuses on a wide variety of industries,
- Free Trade Zone - A large zone with shallow incentives that focuses on the import and re-export of goods;
- Export Processing Zone - A small zone that exclusively has customs and duties incentives;
- Economic Revitalization Project - A zone that exists to improve the economy of a distressed area, usually through tax incentives;
- Charter City - A large zone with deep incentives, both a commercial and residential district, and its own school.

Overall, what seems important for achieving positive results in terms of diversification is offering strong incentives. Indeed, our results in Figure 7a show that it is mainly diversified (DZ) and specialized zones (SZ) offering strong incentives that achieve solid and significant results in terms of extensive margins, while free trade zones (FTZ) with limited incentives do not achieve any significant results. While export processing zones (EPZ) achieve slightly positive results, export revitalization projects (ERP) do not improve export diversification and even increase export concentration, which is understandable given that their main objective is to revive export activity by focusing on existing flows. Finally, chartered cities (CC), which are the most elaborated SEZs, are the only type of SEZ to achieve solid and significant results in terms of product export diversification, relying less on destination diversification.

With regard to value chain integration, when we break down the results in Figure 7b by type of SEZ, the only significant results have negative coefficients, particularly for ERP, FTZ and SZ. Conversely, this breakdown yields only positive results for EXPY and EMPI, with a clear disparity between EPZ and FTZ, which achieve positive results in terms of product sophistication, and DZ and SZ that benefit from high incentives and achieve results in terms of export market penetration.

**Figure 7. Heterogeneity across types of SEZ**

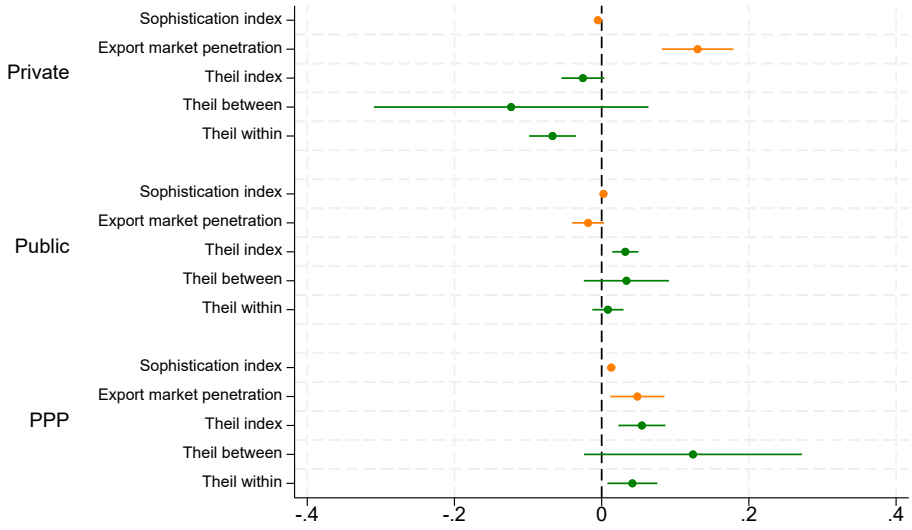



*Note: Estimates with 95% confidence intervals obtained from cross-country regressions that include additional country-specific control variables, country and year fixed effect*

### 1.3.3. Heterogeneity across types of Governance

The dataset also allows us to distinguish between in Table 5 three types of governance: public, private, and PPP. Private governance clearly outperforms public governance; with positive results in terms of export diversification and export market penetration, whereas these results are negative in the case of public governance. PPP governance is also an interesting system, as it is the only one that is positively linked to export sophistication.

**Figure 8. Heterogeneity across types of Governance**




*Note: Estimates with 95% confidence intervals obtained from cross-country regressions that include additional country-specific control variables, country and year fixed effect*

Special Economic Zones (SEZs) have emerged as a significant policy instrument in Africa's industrial and trade development agenda. This study, grounded in a newly constructed dataset encompassing more than 230 SEZs across 43 African nations, provides an in-depth analysis of the influence of SEZs on export diversification, product sophistication, market penetration, and integration into global value chains.

The evidence reveals that SEZs have positively contributed to Africa's export performance, particularly by enabling access to new markets and supporting the production of more technologically sophisticated goods. These zones have facilitated an expansion in export market penetration, indicating that countries with SEZs are increasingly capable of leveraging their comparative advantages and engaging more effectively in international trade.

Nonetheless, the impact of the number of SEZs on export diversification remains limited. While they have supported the export of existing products to new destinations, their effect on the development and export of new product lines is less pronounced. Similarly, SEZs have yet to significantly enhance integration into regional and global value chains. In certain cases, especially in the context of regional value chain participation, SEZs appear to be oriented primarily toward extra-continental markets, limiting their role in fostering regional economic integration.

A critical finding of the study is the importance of the type and governance of SEZs. Zones offering substantial and targeted incentives—particularly specialized and diversified zones—tend to perform better in terms of export outcomes. Moreover, zones governed through private or public-private partnership models are more correlated to export performance indicators compared to those managed solely by public institutions.. This underscores the necessity of governance frameworks that are efficient, responsive, and conducive to private sector participation.

In conclusion, while SEZs in Africa have demonstrated encouraging signs of enhancing export sophistication and expanding market access, their overall structural impact remains uneven. To maximize their potential, policymakers must focus on integrating SEZs more effectively into national economies, strengthening institutional and infrastructural frameworks, and adopting governance models that prioritize innovation, accountability, and strategic alignment with broader industrial development goals. The future success of SEZs will depend on their ability to transition from isolated policy tools into dynamic engines of inclusive and sustainable economic transformation.

# 2. Special Economic Zones and the Economic Well-being of African Households

Special Economic Zones (SEZs) have emerged as a widely adopted policy tool across the developing world in recent decades. Their popularity stems from the perceived success of SEZs in countries such as China, where they have functioned as catalysts for local economic development (e.g., Zheng, Sun, Wu and Kahn, 2017; Lu, Wang and Zhu, 2019). Although African countries were relatively late in embracing SEZs at scale, they are increasingly turning to this policy to spur economic growth. Currently, 47 of the 54 African countries have implemented SEZ programs, and the continent hosts over 220 such zones (AEZO, 2021, 2023).

In this section, the term SEZ is used broadly to encompass various types of zones – including export processing zones, free trade zones, or industrial parks – all defined as geographically demarcated areas offering fiscal and regulatory incentives that differ from national norms.

Despite the growing prevalence of SEZs, empirical evidence on their effectiveness and the conditions under which they succeed remains limited. Experience from countries like India suggests that the Chinese model cannot be easily replicated and that outcomes are highly context-dependent (Alkon, 2018; Görg and Mulyukova, 2024). Moreover, while SEZs can improve economic efficiency, they may also deepen existing inequalities within local populations (e.g., Picarelli, 2016). The broader literature on place-based policies, under which SEZs fall, further emphasizes the need to consider internal migration dynamics. In particular, an influx of skilled and affluent migrants can limit the extent to which benefits accrue to the native population (Reynolds and Rohlin, 2015; Abeberese, Chaurey and Menon, 2024). However, few papers on SEZs in developing countries explicitly address this dimension.

This section examines whether SEZs in Africa enhance the economic well-being of local populations. It begins with a review of existing evidence from developing countries, focusing on outcomes such as income, consumption, employment, and broader development indicators. The second part presents recent empirical findings from Africa – primarily based on Abagna, Hornok and Mulyukova ((2025) 2025) – with attention to distributional impacts and migration dynamics. The analysis covers ten African countries – Egypt, Ethiopia, Ghana, Kenya, Mali, Mozambique, Nigeria, Tanzania, Uganda, and Zambia – which together represent the continent well in terms of economic scale and the significance of SEZ policies. The section concludes with a discussion of policy implications.

## 2.1. Lessons from SEZ Policies

Existing evidence on SEZs in developing countries suggests that, overall, these policies tend to have a positive impact on the economic well-being of local populations in targeted areas. Studies have found that SEZs can lead to higher wage incomes and per capita consumption, increased employment opportunities, and improvements in developmental outcomes such as investment in local infrastructure and human capital. This section reviews the current literature on these effects and also considers the distributional consequences of SEZ policies, for which the evidence is more mixed.

### 2.1.1. Consumption and Income Patterns

SEZ policies have been linked to higher income and consumption levels in targeted areas in several developing countries, including Nicaragua (Picarelli, 2016), India (Aggarwal and Kokko, 2022), Cambodia (Brussevich, 2024), and Ghana (Ackah, Osei, Owusu and Acheampong, 2025). A recent study by Abagna, Hornok and Mulyukova (2025), discussed in Section 2.2, further confirms positive effects on household economic outcomes across ten African countries. However, evidence on distributional impacts is divergent: some studies find that SEZs may, at least initially, widen existing income gaps (e.g., Picarelli,

2016; Aggarwal and Kokko, 2022; Hornok and Raeskyesa, 2023), while others find gains for disadvantaged groups, particularly women (e.g., Brussevich, 2024).

Picarelli (2016) provides empirical evidence from Nicaragua on the impacts of Export Processing Zones (EPZs) on the levels of per capita expenditure. Utilizing municipality-level data from 1993 to 2009 and a difference-in-differences identification strategy, the study finds that the establishment of EPZs is associated with a 10-12% increase in per capita consumption in treated areas. However, the average effects conceal substantial heterogeneity across the expenditure distribution. The findings indicate that the benefits were disproportionately concentrated among higher-income households, with gains of up to 25% at the 90th percentile, while only modest improvements among the lowest decile. The evidence of rising inequality is supported by Hornok and Raeskyesa (2023), who analyze data of Indonesian provinces from 2001 to 2020 and find that intra-provincial income inequality, as measured by the Gini coefficient, tends to increase following the establishment of SEZs in the province. However, they also highlight the crucial role of local contextual factors in shaping these distributive outcomes. In contrast, Brussevich (2024), who studies the impact of Cambodian SEZs using household survey data at the district level, finds that the entry of SEZ contributes to a sizable decline in income inequality. Specifically, treated districts experienced a decline in the Gini coefficient of approximately 5%. This reduction is primarily attributed to employment gains among female workers – an otherwise disadvantaged group in the Cambodian labor market.

Evidence on poverty reduction from a rural-urban perspective is provided by Aggarwal and Kokko (2022), who evaluate the effects of SEZs on poverty in Andhra Pradesh, India, between 2001 and 2012. Using district-level household consumption data and a difference-in-differences methodology, they find that SEZs had uneven effects on poverty. In the short term, SEZs exacerbated rural poverty due to land acquisition and displacement, particularly affecting agricultural livelihoods. Over time, however, these negative effects subsided, and SEZs – especially in urban districts with multiple or larger zones – contributed to poverty reduction by increasing household consumption. The potential harms to rural communities are echoed in the African context by Adunbi (2019), who, through an analysis of two free trade zones in Nigeria, contends that although SEZs are framed as instruments of modernization and development, they often result in the dispossession and displacement of indigenous communities.

Among the few studies on Africa using micro-level data, Ackah, Osei, Owusu and Acheampong (2025) provide evidence of the positive impact of Ghanaian SEZs on local households, specifically in terms of per capita consumption expenditure and poverty reduction. Using data from the 2018 wave of the Ghana Socio-economic Survey, they find that households located within a 20-kilometer radius of an SEZ have significantly higher per capita expenditure and lower poverty rates compared to similar households situated farther away. From a gender perspective, their analysis finds that the estimated differential in per capita expenditure is greater for male-headed households than for female-headed households.

#### 2.1.2. Employment Generation

A direct channel through which SEZs contribute to improved economic well-being of local communities is the expansion of both the quantity and quality of employment opportunities. Several studies provide evidence of enhanced local labor market outcomes in areas surrounding newly established SEZs in developing countries. A significant portion of this research highlights that the benefits of SEZ policies predominantly accrue to female workers.

Focusing on China, Lu, Wang and Zhu (2019) use detailed firm and administrative data to analyze the effects of SEZs on employment and wages. They find that two years after the establishment of an SEZ, employment has increased by 34.5%. A decomposition of this effect indicates that the observed employment gains are primarily attributable to the entry of new firms into the zones, rather than to employment expansion among incumbent firms. The authors also document that firms in SEZs in China pay higher wages than firms outside. Wang (2013) shows that the average wage of workers in the treated municipalities in China increases by 8% more compared to the counterparts that carried

out the program later. Further, Zheng (2021) shows that the employment effects of SEZs on firm entry is strongest for the eastern coastal regions of China.

Employment created by SEZs in developing countries often disproportionately benefit female workers, thereby contributing to greater female economic empowerment. For China, Zhao and Qu (2024) study how SEZs affect intra-household dynamics in rural areas. They find that proximity to economic zones enhances women's bargaining power – especially in female-dominated industries – leading to greater resource shares for women, reduced within-household inequality, and improved educational outcomes for children, particularly girls, with a significant decline in school dropout rates. Further, on Cambodia, Brussevich (2024) finds that while the impact of SEZs on overall employment at the district level is negligible, potentially due to the reallocation of workers from non-SEZ firms to SEZ firms, female employment rises significantly with the establishment of SEZs. On average, SEZ entry is associated with a 5% increase in the female employment rate. This is consistent with the sectoral composition of the SEZs in Cambodia, most of which specialize in garment production and other types of light manufacturing activities that have a disproportionately higher demand for female labor. Obeng, Wrigley-Asante and Teye (2015) corroborate these findings by looking at EPZs in Ghana, and argue that the policy has enhanced the economic and psychological well-being of some women.

In several developing countries, SEZ policies have also been shown to improve job quality by facilitating a transition from informal to formal employment. Liberato and Fennell (2007) documents that those employed in the free trade zones in the Dominican Republic are more than twice as likely to be covered by social security. Similarly, Glick and Roubaud (2006) show that EPZs in Madagascar offer relatively well-paid jobs for women who would otherwise be found in the poorly remunerated informal sector. For Vietnam, Tafese, Lay and Tran (2025) find that the expansion of SEZs has facilitated a significant labor shift from informal agricultural work to formal employment in foreign manufacturing firms, accompanied by higher wages and higher likelihood of having a formal employment contract. These benefits also extend beyond SEZ firms, with positive spillovers to domestic enterprises and household businesses. Notably, the authors find that women account for the majority of these gains.

Furthermore, SEZs have been found to support sectoral shifts in surrounding areas, reallocating labor from agriculture to more productive industrial and service activities. Gallé, Overbeck, Riedel and Seidel (2024) show that the establishment of SEZs in India is associated with increased employment in manufacturing and services, with spillover effects extending up to 10 kilometers from the SEZ area. These employment gains were accompanied by a reduction in agricultural labor – particularly among women – indicating that SEZs played a role in facilitating local structural transformation.

However, not all SEZs have been successful in generating employment. In particular, the literature on the African experience highlights the limited capacity of SEZs on the continent to attract firms and create jobs, especially when compared to more successful SEZ models in other regions (Farole, 2011; Phiri and Manchishi, 2020; Rodríguez-Pose et al., 2022). Much of this earlier research relies on case studies and descriptive evidence, offering valuable insights into the underlying causes of underperformance. Phiri and Manchishi (2020) and Rodríguez-Pose et al. (2022) point to several key constraints, including inadequate infrastructure investment, weak integration with local suppliers, and unfavorable regulatory and institutional environments.

#### 2.1.3. Developmental Effects

Beyond employment generation, SEZs can deliver broader developmental benefits to surrounding communities through agglomeration economies, spillovers, and increased investment in local infrastructure, human capital, and environmental protection. Such developmental gains have been well documented in the context of Chinese SEZs (Zheng, Sun, Wu and Kahn, 2017; Lu, Sun and Wu, 2023; Hua, Partridge and Sun, 2023; Liu, Zhang, Liu and Zhang, 2022). However, evidence from other developing countries suggests that the realization of these benefits is highly dependent on local contextual factors and the specific nature of economic activities carried out within the zones.

Analyzing 110 industrial parks in eight major cities in China, Zheng, Sun, Wu and Kahn (2017) document that most parks catalyze localized agglomeration economies, leading to the emergence of dynamic, decentralized urban centers beyond traditional city centers. Using within-city geocoded microdata, they identify significant positive spillover effects on firm productivity, wages, and manufacturing employment growth in the vicinity of parks. These localized gains further stimulate nearby housing development and retail store opening, ultimately contributing to the formation of suburban "consumer cities". Spillover intensity increases with the park's human capital level, FDI share, and synergies with nearby firms.

Labor reallocation toward SEZs is a key driver of such agglomeration. In the Philippines, Sanders and Brown (2012) document that areas with SEZ-related job growth also experienced high rates of in-migration – often exceeding the number of new jobs created. Without adequate planning and infrastructure development, such inflows can strain infrastructure and raise living costs, potentially offsetting local benefits. However, empirical evidence on this remains limited. In Nicaragua, Picarelli (2016) finds no significant inter-municipal migration following the establishment of EPZs, and in China, Wang (2013) reports that wage growth near SEZs outpaced increases in the cost of living.

Two studies from India highlight how institutional and governance factors can constrain SEZ effectiveness. Using census data, Alkon (2018) finds no significant impact of SEZs on socio-economic outcomes such as access to basic infrastructure and government services. This lack of developmental impact is largely attributed to rent-seeking behavior by state-level politicians, who leverage development corporations for personal or political gain, thereby undermining SEZ effectiveness. Supporting this, Görg and Mulyukova (2024) provide empirical evidence of rent-seeking at the managerial level. Their study shows that directors of firms located in publicly owned SEZs experienced significantly higher salary growth – an effect not observed in privately owned SEZs.

SEZs also influence human capital development, though impacts vary by context. In China, Lu, Sun and Wu (2023) find that SEZs significantly increase the local high school enrollment rate, but the effect varies by zone type – technology-oriented zones promote education, while export-led zones tend to discourage it. The primary mechanism is the labor market: increased demand and wage premiums for high school graduates incentivize high school enrollment, whereas better opportunities for those with only middle school education reduce the incentive to continue schooling. Similarly, in Mexico, Atkin (2016) shows that the expansion of export manufacturing between 1986 and 2000 led to an increase in school dropouts, particularly at the end of lower secondary education, as low-skilled manufacturing jobs increased the opportunity cost of continuing education.

Regarding environmental outcomes, Hua, Partridge and Sun (2023) find that Chinese development zones reduce PM2.5 concentrations – a measure of fine particulate air pollution linked to adverse health effects – by 1.8%, with no evidence of pollution displacement. These gains are driven by government incentives, monitoring systems, and local planning. Liu, Zhang, Liu and Zhang (2022) further show that Chinese SEZs boost green innovation, increasing green patent applications by 17%, especially among enterprises in provincial development zones, state-owned enterprises, and those located in central and eastern regions. These findings suggest that, under the right conditions, SEZs can align economic growth with environmental sustainability..

## 2.2. Evidence on African Households

In what follows we focus on the African continent, investigating how SEZ policies affect the economic well-being of households residing in nearby communities. The empirical findings presented are drawn from the recent work of Abagna, Hornok and Mulyukova (2025), which employs a novel dataset that spatially links African SEZs to proximate households in ten African countries. The countries considered (Egypt, Ethiopia, Ghana, Kenya, Mali, Mozambique, Nigeria, Tanzania, Uganda, and Zambia) jointly host more than half of the continent's SEZs and represent nearly half of Africa's population and economic size.

### 2.2.1. Data and Methods

Household data are drawn from the Demographic and Health Surveys (DHS), taking all available surveys from 1990 to 2020 for the ten countries. The DHS program is a comprehensive and nationally representative survey program administered periodically – typically every five years – by the United States Agency for International Development (USAID) across numerous developing countries. The databases include a standardized measure of household wealth, the DHS Wealth Index, which summarizes households' responses to questions on the ownership of and access to key assets and services – such as a refrigerator, finished flooring, or improved sanitation – into a single composite indicator. In the presented empirical analysis, the Wealth Index serves as the primary outcome variable.

Information on 114 SEZs across the ten countries is obtained from the Open Zone Map and supplemented with establishment dates collected from various web-based sources. SEZ sites are then spatially matched with household data using GPS coordinates corresponding to both the SEZ locations and the households' places of residence. To assess spatial exposure, concentric distance bands of 10 kilometers in width are drawn around the geographic centers of SEZs, and households are categorized according to whether they reside within 10 km, 10-20 km, 20-30 km, and so on. The resulting dataset thus constitutes a repeated cross-section of households residing in the various distance bands of SEZs which become established at some point during the sample period.

The identification strategy employs a difference-in-differences (DiD) framework with staggered treatment timing, leveraging variation in the year SEZs became operational across locations. It compares the wealth trajectories of households near SEZs that became operational in a given year to those near SEZs established at different times. This approach is preferred over comparisons with households in non-SEZ areas, as SEZ locations are not randomly assigned and often differ systematically – typically being more urban in the African context – from non-SEZ areas.

The following regression equation is estimated at the household level, separately for each distance band:

$$Wealth\_hzct = \beta SEZ\_zt + \gamma X\_hzct + \alpha\_z + \alpha\_ct + \varepsilon\_hzct \quad (2)$$

where h indexes households, z SEZs, c countries, and t years. The variable SEZ is a binary indicator that switches from 0 to 1 in the year the SEZ is established and remains 1 thereafter. The coefficient β captures the average change in household wealth associated with SEZ establishment within the specified distance band. The estimation includes fixed effects for SEZ locations (α_z) and country trends (α_ct), and controls for household-level covariates (captured in X). The error term is denoted by ε. Estimation is conducted using Ordinary Least Squares (OLS) on 39,537 household-year observations within 10 km of an SEZ, and with 20,000 to 25,000 observations in each additional distance band up to 80 km..

To assess the validity of the identification strategy and to demonstrate the absence of significant pre-treatment differences or divergent trends across SEZ locations, Abagna, Hornok and Mulyukova (2025) conduct event study analyses based on both the Wealth Index and nightlight intensity, the latter serving as a proxy for local economic activity. These event studies test the parallel trends assumption – namely, that in the absence of SEZ establishment, locations near SEZs established in different years would have exhibited similar outcome trajectories. The absence of statistically significant effects in the pre-treatment periods supports this key identifying assumption. Moreover, a battery of robustness checks further reinforces the credibility of the paper's main findings.

Given the data requirements of the estimation strategy, the sample is restricted to 51 SEZs, with the number varying by country – from two in Zambia to eight in Uganda. Over half of the zones were established after 2010, and another 20% during the 2000s, reflecting the relatively recent adoption of SEZ policies in Africa. Most zones are small or medium-sized, covering less than 1,000 hectares, and are primarily specialized in industrial activities such as manufacturing, assembling, agro-processing, and

natural resource-based industries. SEZs focused solely on services are few and typically operate as logistics hubs, while some zones engage in both industrial and service activities.

### 2.2.2. Findings

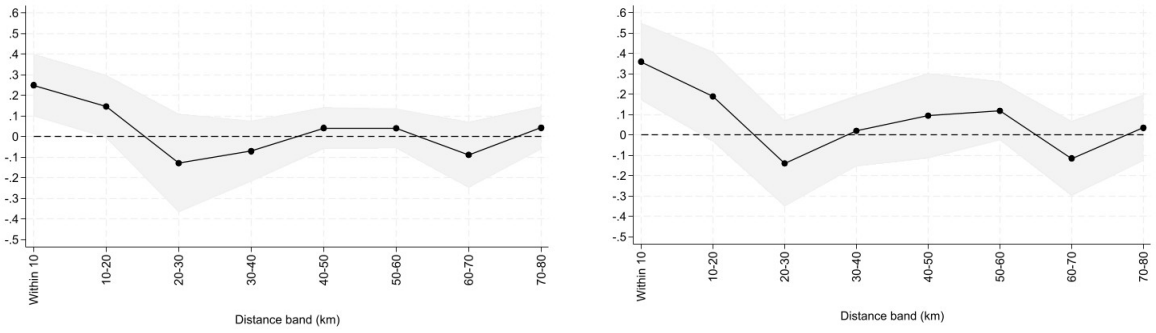
**Substantial wealth gains concentrated near SEZs**.

The main estimate indicates that households residing within 10 kilometers of an SEZ experience, on average, a wealth increase of 0.25 standard deviations of the Wealth Index. This effect is statistically highly significant and economically substantial. To provide a sense of magnitude, the estimated gain is roughly comparable to the relative wealth difference associated with owning a personal computer in Nigeria in 2008. At that time, the average price of a computer was nearly 700 US dollars – equivalent to about 60% of Nigeria's annual per capita gross national income.

Estimates for outer distance bands indicate that the wealth gains are concentrated among households residing within the closest proximity to SEZs. As shown in panel (a) of Figure 9, the effects beyond 10 kilometers are small in magnitude and not statistically significant at the conventional 5% level.

**Figure 9. Wealth Effect Estimates by Distance from SEZs.**

(a) All Households (b) Native Households




*Note: Wealth effect estimates with 95% confidence intervals, shown by distance band, for (a) all households residing within the respective band and (b) native households only. For each SEZ, distance bands exclude households located outside the SEZ's country.*

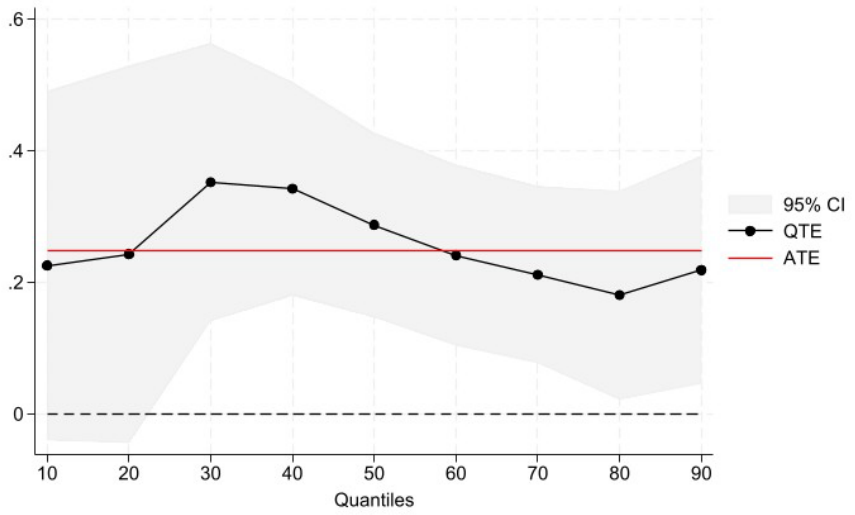
**Wealth gains are inclusive of natives and broadly dispersed.**

Abagna, Hornok and Mulyukova (2025) show that the establishment of SEZs is associated with increased in-migration to SEZ neighborhoods and no significant out-migration of natives. Newly arrived household heads also tend to be younger and more educated. Crucially, however, the observed wealth effect cannot be solely attributed to changes in the composition of the local population. Estimates based on the subsample of native households – defined as those where interviewed female members report having always lived at their current place of residence – reveal similar magnitudes and distance patterns to those found in the full sample, as shown in panel (b) of Figure 1.

An analysis of distributional patterns – based on estimated wealth effects by decile of the wealth distribution within the 10 km band – reveals no evidence that SEZ policies in Africa exacerbate local inequality. As shown in Figure 10, the Quantile Treatment Effect (QTE) estimates fluctuate closely around the average treatment effect, although accompanied by considerable estimation uncertainty. Notably, the largest estimates are observed in the lower-middle segment of the distribution,

specifically at the third and fourth deciles. Taken together, these findings suggest that the benefits of SEZs on household wealth are broadly shared across local wealth groups, and they raise the possibility that SEZ policies may have contributed to the strengthening of the local middle class.

**Figure 10. Wealth Effect Estimates at the Deciles of Wealth distribution.**




*Note: Wealth effect estimates by decile of the wealth distribution (Quantile Treatment Effects, QTE), with 95% confidence intervals, alongside the average treatment effect (ATE) for the within 10 km distance band.*

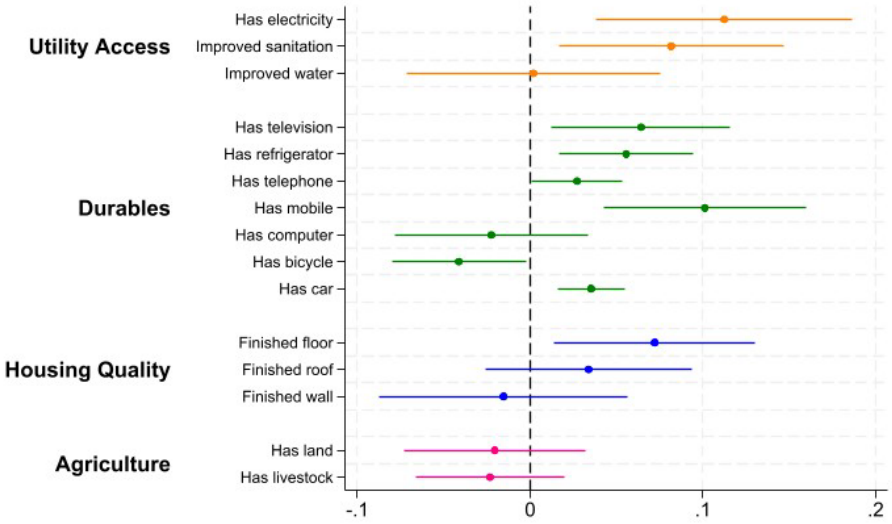
**Improved consumption of household durables, housing quality and utility access**

A closer examination of the Wealth Index reveals that rising economic well-being is reflected in several dimensions, including improved access to household utilities, increased ownership of certain durable goods, and enhanced housing conditions. Figure 11 presents regression estimates, on the sample of households within 10 km of SEZs, in which each outcome variable corresponds to a specific component of the Wealth Index.

The analysis shows that SEZ policies significantly increase the likelihood of households within 10 km having access to electricity and sanitation facilities. However, no significant effect is observed on access to drinking water. The establishment of SEZs is also associated with a higher probability of households having finished flooring, as well as ownership of televisions, refrigerators, and both landline and mobile phones. Additionally, a shift from bicycle ownership to car ownership is evident. In contrast, no significant increase is found in the likelihood of owning a personal computer, nor are there observable improvements in roofing or wall materials. Finally, SEZ policies do not appear to significantly reduce the likelihood of land or livestock ownership among households in close proximity.

Taken together, these findings point to rising household incomes and improved infrastructure – such as roads and utility networks – in the vicinity of SEZs and are consistent with prior evidence indicating that SEZs boost employment opportunities and are usually implemented alongside infrastructure development in adjacent areas. Moreover, the lack of significant change in land ownership suggests that SEZ developments in the ten countries studied have not involved widespread land dispossession of local communities.

**Figure 11. Components of Wealth Effect**




*Note: Treatment effect estimates and their 95% confidence intervals for the within 10 km distance band, based on separate regressions using individual components of the Wealth Index as outcome variables.*

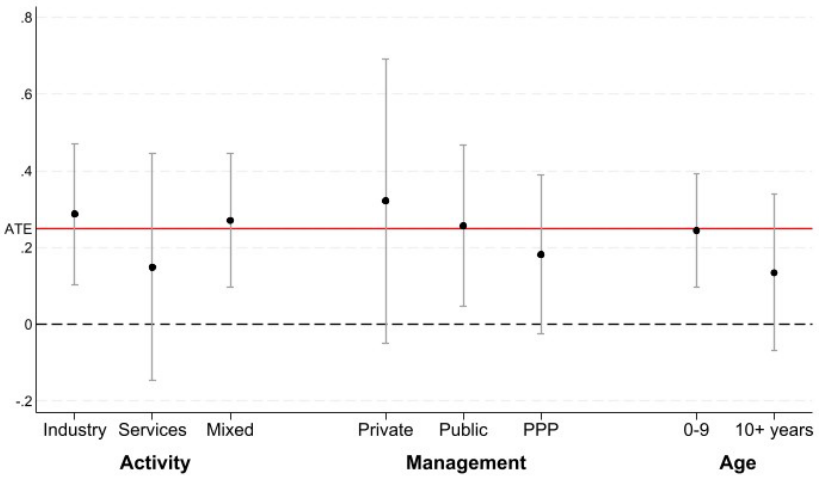
**The estimated wealth gains emerge in the first decade of SEZ operation, driven by industrial and mixed zones.**

An important policy question is which types of SEZs generate the greatest gains in household wealth. Figure 12 presents wealth effect estimates for households located within 10 km of SEZs, disaggregated by SEZ type. These estimates are based on regressions that interact SEZ exposure with categorical variables capturing variation in activity type, management structure, and the age of the SEZ. Activity is categorized into industrial (including manufacturing, natural resource-based and agro-processing activities), service-oriented, or mixed (combining industrial and service activities), while SEZs can be private, public, or operated under a public-private partnership (PPP) in terms of management. For age, we distinguish between SEZs that are 0-9 years old and those that are 10 years or older.

While differences across SEZ types – or between these and the average wealth effect, shown by the red horizontal line in Figure 12 – are not statistically significant, the individual estimates suggest notable patterns. The average wealth effect appears to be primarily driven by industrial and mixed-activity SEZs. In contrast, the contribution of purely service-oriented zones – which are relatively few in number and largely focused on logistics – are statistically indistinguishable from zero.

Similarly, disaggregation by age reveals that the estimated wealth gains are concentrated entirely within the first decade of SEZ operation, with no significant additional increases observed beyond the ten-year mark. This pattern may reflect a diminishing economic impact of SEZs over time (Rodríguez-Pose et al., 2022). Nonetheless, as Abagna, Hornok and Mulyukova (2025) caution, their long-term estimates are based on a limited sample of early-established SEZs (only 12 in total), since SEZ policy is a relatively recent development in Africa. This finding should therefore be interpreted with appropriate caution

**Figure 12. Wealth Effect estimates by SEZ types**




*Note: Wealth effect estimates with 95% confidence intervals from three interacted regressions on the sample of households within 10 km. The interaction variables are categorical variables for SEZ activity type, management type, and SEZ age. The sample includes 26 industrial, 6 service-oriented, and 13 mixed-activity SEZs. In terms of management structure, it comprises 11 privately managed, 26 publicly managed, and 14 SEZs operated under a public-private partnership.*

**Occupational shifts and improved education among females**.

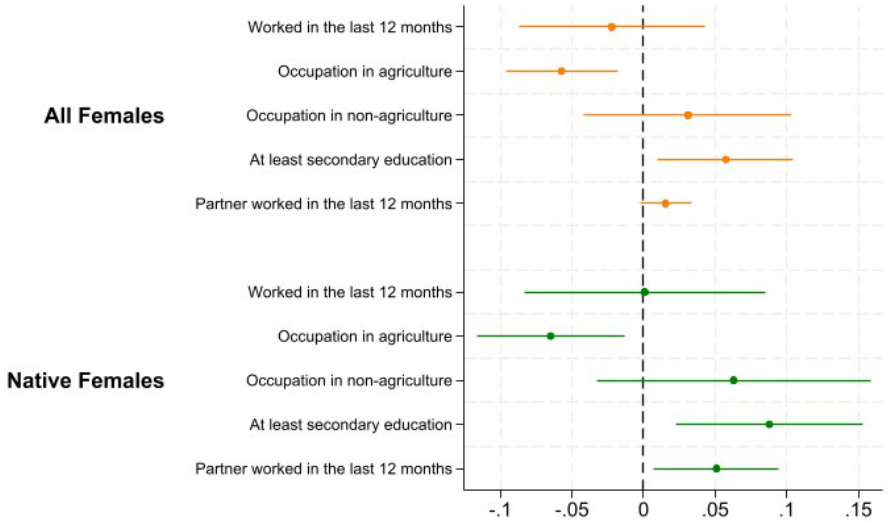
Building on the literature linking SEZs to female empowerment in labor market and household contexts, we examine the impact of SEZ policies on female outcomes in Africa. DHS data provide a representative sample of reproductive-age women (15–49) with at least one child, thereby focusing the analysis on relatively young mothers. Figure 5 presents individual-level regression estimates for women residing within 10 km of SEZs, capturing effects on employment and education-related outcomes. Results are reported for all women and a sub-sample of native women, the latter unaffected by migration-related compositional shifts.

We find that SEZ policy significantly reduces the likelihood of local women working in agriculture by about 6 percentage points, consistent with prior evidence that SEZs facilitate a sectoral shift toward manufacturing and services (Gallé, Overbeck, Riedel and Seidel, 2024). SEZ establishment also increases the probability of completing secondary education, with comparable effects among native women, suggesting the impact is not driven by selective in-migration. Also, as shown by estimates decomposed by age in Abagna, Hornok and Mulyukova (2025), the educational gain among natives is significant only in younger cohorts, reinforcing that they reflect genuine improvements rather than sample composition changes.

By contrast, we find no evidence that SEZs increase overall female employment probabilities – neither among natives nor in the full sample. This result is somewhat unexpected, given the extensive literature documenting SEZ-induced job creation for women in other developing regions. However, the African context may differ in this regard. A recent survey of 39 African SEZs by UNCTAD & AEZO (2021) finds that the average female employment share is well below levels observed outside Africa, proposing that the sectoral composition of African SEZs – primarily agro-processing and resource-based activities – may generate relatively low demand for female labor. An additional explanation may lie in labor supply constraints and the composition of our sample, which focuses on mothers – nearly 90% of whom have a male partner. Significant employment gains among male partners (Figure 13) combined with the

persistence of traditional gender roles may constrain female labor force participation within these households.

**Figure 13. Female Employment, Occupation and Education**




*Note: Estimates with 95% confidence intervals obtained from individual-level regressions that include additional individual-specific control variables. The sample consists of female household members aged 15-49 with at least one child, residing within 10 km of SEZs.*

### 2.2.3. Conclusion

Over the past two decades, numerous African countries have established SEZs to foster export diversification, integration into global value chains, and local economic development. Despite their proliferation, empirical evidence on SEZs' economic impacts in Africa – especially at the micro level – remains scarce due to limited data availability. Utilizing geocoded DHS data, our analysis reveals that households residing within 10 km of SEZs experience significant asset wealth gains. These gains are primarily realized by the lower middle class and go hand in hand with improved access to utilities, greater durable goods consumption, enhanced housing quality, higher educational attainment, and a shift away from agricultural employment. Notably, both native and migrant households benefit, alleviating concerns that SEZs fail to promote local population. . Collectively, these findings suggest that SEZs stimulate urbanization and raise living standards in the targeted area.

However, two key limitations must be acknowledged. First, the non-random SEZ placement—typically near urban centers—limits the generalizability of these results to rural or poorer areas. Second, employment effects may be underestimated, as DHS employment data are available only for mothers of reproductive age and their male partners, possibly missing broader labor market dynamics. Thus, while SEZs present promising policy tool to enhance household welfare and promote urbanization in Africa, further research is needed to understand their effects in rural contexts and across diverse population segments.

As for policy implications, our findings suggest that SEZs represent effective instruments for policymakers in developing countries to promote urbanization and enhance resident welfare in targeted regions. This is especially pertinent in Africa, where substantial regional disparities in economic opportunity exist. By mitigating these inequalities, SEZs can foster more inclusive economic growth across the continent.

# 3. Exploring the transformation of Special Economic Zones in Africa

The New Generation of SEZs and Emerging Business Models, explores the transformation of Special Economic Zones (SEZs) in Africa, focusing on how their evolving design and investment frameworks are aligning with sustainability imperatives, regional integration, emerging global trends and inclusive economic development.

Historically established as export-driven enclaves reliant on tax incentives, Africa's SEZs are now undergoing a strategic reorientation. Influenced by the African Continental Free Trade Area (AfCFTA), global Environmental, Social, and Governance (ESG) standards, and rising investor expectations, a new generation of SEZs is emerging—integrated, diversified, and socially inclusive.

Key highlights from this section based on case studies and interviews with SEZ manager conducted in different countries (Boubekeur, A., & Githinji, M. (2024)) include an overview of the historical context, the evolution of SEZs from their origin, identifying major shifts in design, sectoral focus, and governance over time. The section categorises SEZ investors into public, private, and hybrid models (Public-Private Partnerships), showing how their strategies are increasingly influenced by ESG compliance, alignment with infrastructure development, and proximity to transport corridors. ESG is presented as a core driver of sustainable investment, no longer optional but essential, shaping SEZ business models, attracting new sources of financing such as green bonds and SDG-linked instruments, and redefining competitive advantage. SEZs that embed ESG principles are better positioned to access international markets and attract institutional capital.

Drawing from case studies in Benin, Gabon, Egypt, Kenya, Mauritius, Morocco, Nigeria, and Rwanda, the section illustrates innovations in green financing, MSME integration, vocational training, circular economy practices, and the development of local supply chains. Despite these advances, the section also highlights ongoing challenges, including inadequate infrastructure, limited access to finance for SMEs, inconsistent regulatory frameworks, and a lack of ESG certification capacity, particularly among local enterprises.

To scale the success of next-generation SEZs, the section recommends adopting tiered SEZ structures to support MSMEs, strengthening ESG support systems, leveraging AfCFTA for cross-border collaboration, improving governance and transparency, and investing in digital infrastructure

## 3.1. Transformation of the SEZ Model

### 3.1.1. Evolution of SEZ Business Models

SEZs are distinct geographical entities governed by special rules and are, in most cases, government initiatives. Their design, development, ownership, and management can be public, private, or a public-private partnership (PPP). Historically, they are designated geographic areas with more lenient business regulations and governance compared to the rest of the country. Their purpose is to attract investments, stimulate economic growth and create employment and most recently function as a "sandbox of policy experimentation" before broader national or regional roll out[3].

[3] https://moderndiplomacy.eu/2025/04/19/special-charter-zones-a-smarter-blueprint-for-economic-development/

The modern concept of SEZs emerged with the Shannon Free Zone in Ireland (1959), designed to stimulate economic activity around Shannon Airport by offering tax incentives and relaxed regulations[4][5]. EPZs, a subset of SEZs, focused on export-oriented manufacturing, offering duty-free imports and tax exemptions to attract foreign direct investment (FDI). The first EPZ in Asia was established in Kandla, India, in 1965, setting a model for export-led growth[6]. The first generation EPZs were typically fenced areas specializing in manufacturing for export, with liberal regulatory environments to attract foreign investors[7].

Africa adopted SEZs later than Asia and Latin America, with the first EPZ established in Mauritius, followed by Liberia and Ghana (1970s) and Senegal (1974). These first-generation EPZs, like their predecessors primarily focused on export-oriented manufacturing[8], leveraging low-cost labour[9] and tax incentives[10]. Mauritius became a success story, with its EPZ contributing to economic diversification from sugar-based agriculture to textiles and manufacturing, attracting FDI and creating jobs, while by 2019, Ghana's four economic zones contributed over $1.25 billion in exports[11].

These zones often operated as enclaves, with limited integration into local economies, focusing on industries like textiles, apparel, and basic assembly. They faced challenges such as poor infrastructure, political instability, and weak governance, limiting their success in countries like Nigeria, Senegal, and Mali[12]. The 1990s saw a proliferation of SEZs in Africa, driven by globalization and the need to integrate into global value chains. By 2006, over 3,500 SEZs (including EPZs) operated globally, with Africa hosting a growing share[13]. Countries like Kenya, Madagascar, and Ghana, Nigeria, Zambia, Djibouti, Egypt, Algeria expanded or developed the zones often with Chinese investment[14].

The terminology shift from EPZs to SEZs was due to World Trade Organization (WTO) rules that discouraged export subsidies[15], prompting countries like India to convert EPZs to SEZs in 2000. The new SEZs encompassed broader activities, including services, logistics, and technology[16]. In Africa, SEZs began to diversify, with examples like South Africa's Coega Industrial Development Zone (2001)[17] focusing on automotive and agro-processing, and Ethiopia's Oriental SEZ in Dukem[18], owned by China, targeted electrical machinery and construction materials. By 2020, Africa had 237 SEZs across 38 countries, with over 200 single-enterprise zones (free points), reflecting significant growth[19].

### 3.1.2. Emerging SEZ Investment Model

A business model is a high-level strategic plan implemented to operate a competitive industrial or service activity that stands out from the competition. It reflects both the core business as well as the brand of the company. A primary component of the business model is the value proposition. It defines the goods or services offered and why they are desirable to customers or clients. It differentiates the product or service offering within the operational ecosystem from other actors.

[4] https://www.sciencedirect.com/science/article/abs/pii/S0197397524001565
[5] https://en.wikipedia.org/wiki/Free-trade_zone
[6] https://sezindia.gov.in/introduction
[7] https://en.wikipedia.org/wiki/Free-trade_zone
[8] https://www.ariseiip.com/special-economic-zones-in-africa-upcoming-challenges
[9] https://african.business/2022/11/trade-investment/do-special-economic-zones-work-in-africa
[10] https://www.eu-logos.org/2020/02/19/special-economic-zones-as-factors-of-socio-economic-development-in-africa/
[11] https://www.ariseiip.com/special-economic-zones-in-africa-upcoming-challenges/
[12] https://www.eu-logos.org/2020/02/19/special-economic-zones-as-factors-of-socio-economic-development-in-africa
[13] https://spureconomics.com/export-processing-zones-meaning-and-importance/
[14] https://en.wikipedia.org/wiki/List_of_special_economic_zones
[15] https://openknowledge.worldbank.org/server/api/core/bitstreams/a7e5aa35-5c64-5a1b-bdfb-289b403a82dd/content
[16] https://sezindia.gov.in/introduction
[17] https://www.thedtic.gov.za/sectors-and-services-2/industrial-development/special-economic-zones
[18] https://www.ifri.org/sites/default/files/migrated_files/documents/atoms/files/nicolas_chinese_investors_ethiopia_2017.pdf
[19] https://unctad.org/news/special-economic-zones-drive-economic-diversification-africa

In our case, we define the business model as an enterprise strategy that sets up governance organisational structures for identifying investment opportunities and launching businesses that create value for well-targeted markets (national, regional, continental, international).

The organisational governance structure put in place by SEZs is the backbone of their business models. Whether private, public-private or public, the governance structure shapes the investment decisions related to SEZ development and expansion. It defines the strategy of collaboration and partnerships as well as the alliances that they can weave with other investors on operations or well-targeted markets.

The organisational governance structure led by the private sector allows SEZ investors to maintain complete control over the development, management, and operations of the zones. However, these investments are high-risk due to the significant infrastructure costs involved. Additionally, in many cases, SEZ private investors do not benefit from the incentives typically offered by the host country. In some instances, investors may seek to partner with the government to share the investment risks associated with developing and operating SEZs. In this case, PPP offers a good combination of resources from both public and private stakeholders, with interest from the public authorities to develop the infrastructure and diversify the economy to support job creation. The private investors in the SEZ already have a well-defined market, which facilitates the partnership with the public sector.

From our review across Africa, the decision by a country to develop a public SEZ governance structure is driven by its goal to align SEZ sectors, industries, and technological development with its industrial and growth policies, as well as to oversee and monitor SEZ activities. However, for all types of governance, the role of government is essential, especially in enabling the ease of doing business, reducing administrative and regulatory burdens, and developing a skilled workforce that meets the needs of the SEZs.

The SEZ stakeholders are generally clustered into four groups: Regulator, Owner, Developer, and Operator/ Manager[20]. The division of responsibilities may vary, but the core functions of each stakeholder should remain unchanged. It is relevant to underline that the private investor can play all roles except the role of the regulator. The business models vary based on ownership structure, sector focus, and integration with logistics corridors. Emerging SEZ business models in Africa can be broadly categorised based on investor types. The investor strategies vary by sector and geography, with logistics, resource value addition, and digital infrastructure being key value propositions. Strategic location—particularly near ports, major trade corridors, or resource hubs—remains a critical factor for investors.

ESG factors have become central to SEZ viability and investor attractiveness. The new generation of SEZs is under increasing pressure to adopt responsible business practices due to global regulatory shifts—such as the EU's Carbon Border Adjustment Mechanism (CBAM) which imposes certain tariffs on exported goods[21], and rising consumer awareness. ESG considerations are increasingly central to SEZ viability. This chapter explores how sustainability, social inclusion, and governance are becoming integral to SEZ investor operations and what mechanisms support this transition in the context of modern SEZ business models.

Key ESG trends in SEZs include growing environmental compliance through the adoption of renewable energy, waste recycling, and pollution control measures—as seen in Gabon's zero-waste wood processing model, Tatu City in Kenya, and South Africa's Coega IDZ and Atlantis SEZ; increasing focus on social inclusion with initiatives promoting gender equity, youth employment, and local hiring, exemplified by Rwanda's TVET-linked industrial parks and the Tanger Med Zones (TMZ); and enhanced

[20] UNCTAD Handbook on Special Economic Zones in Africa, 2021
[21] https://unfccc.int/sites/default/files/resource/Egypt%20BTR1%20Final%20Master%20Report_v3_30DEC24%20AMR.pdf

governance and transparency through the use of blockchain and traceability systems for sourcing and production, supported by robust impact monitoring and reporting frameworks.

Modern African SEZs are moving beyond first-generation EPZs' focus on low-value manufacturing (e.g., textiles) to diverse sectors like agro-processing, renewable energy, ICT, and green fuels. For example, Egypt's Suez Canal Economic Zone signed agreements in 2022 for green hydrogen production, while Rwanda's Kigali Innovation City targets digital innovation[22]. Sustainability is a growing priority, with SEZs like the Gabon Special Economic Zone adopting low-carbon practices and addressing environmental concerns like pollution and waste management, which were often overlooked in early EPZs[23]. Innovative ESG financing mechanisms such as Benin's SDG bonds and Mauritius' green bond framework are supporting this transition, particularly for SMEs that require support in meeting ESG standards.

As global investors increasingly prioritize sustainability and accountability, ESG standards are reshaping the landscape of SEZ investment in Africa. ESG is no longer a peripheral concern; it has become a core criterion for attracting financing, international partnerships, and long-term industrial commitment. Private investors and development finance institutions (DFIs) are demanding that SEZs demonstrate environmental responsibility, social inclusion, and robust governance practices. This shift has elevated ESG from a compliance issue to a business opportunity, where adherence to sustainability standards becomes a value proposition. SEZs that integrate ESG effectively are now better positioned to attract green bonds, SDG-linked finance, and institutional capital. ESG compliance is now a core component of SEZ business models, driven by global demand for sustainable industrialization where SEZs are positioned to reduce carbon footprints and promote inclusive development.

Based on this, ESG is increasingly shaping the architecture of SEZ business models, prompting investors to redesign their operational frameworks to achieve lower carbon footprints through the use of renewable energy and efficient infrastructure, promote social equity by implementing inclusive hiring practices, vocational training, and targeted support for women and youth, and enhance governance transparency through digital monitoring systems, certification processes, and regular stakeholder reporting.

However, SMEs face barriers where ESG compliance costs are prohibitive, and can exclude upto 60% of local firms[24]. Egypt's SCZone addresses this by partnering with the IFC to provide low-cost ESG audits, reducing costs thus integrating SMEs since 2023, through shared ESG training and testing hubs. On the other hand, SMEs in Africa struggle with non-compliance and are thus unable to engage ESG-focused tenants. To mitigate this challenge, innovative financing, like Benin's SDG bonds and Mauritius Freeport's risk-sharing guarantees, helps SMEs meet these standards, aligning tenant and investor priorities thus supporting local development goals (Boubekeur & Githinji, 2024)[25].

The cases of Benin and Gabon (discussed below) exemplify how ESG is not only shaping investor perceptions but is also becoming central to competitive differentiation among SEZs. The different models showcase successful SEZ implementations across Africa, drawing practical lessons on governance, SME integration, and ESG alignment. The diversity of models provides comparative insights into how the new generation of SEZs is evolving.

Benin's Glo-Djigbé Industrial Zone (GDIZ), a partnership between the government and ARISE IIP, represents a next-generation SEZ that integrates ESG principles throughout its design and operation. GDIZ focuses on value addition to local raw materials, particularly in textiles and agro-processing, while embedding sustainability into its infrastructure and industrial services. It provides reliable electricity, sustainable water use, and organized waste management systems to reduce

[22] https://www.globalafricanetwork.com/featured/are-special-economic-zones-the-key-to-african-growth

[23] https://www.ariseiip.com/special-economic-zones-in-africa-upcoming-challenges

[24] https://esgthereport.com/the-barriers-to-esg-reports-for-midsize-small-cap-companies/

[25] https://www.africaeconomiczones.com/wp-content/uploads/2024/12/Policy-for-establishing-a-viable-SME-business-ecosystem-into-SEZs-across-Africa.pdf

environmental impact. To complement industrial sustainability, Benin also launched the Illoulofin Solar Power Station (50 MW), commissioned in 2022 with support from the EU and French Development Agency. This solar facility supports SEZ energy demands, reduces reliance on fossil fuels, and exemplifies the government's commitment to green infrastructure.

Gabon has emerged as a continental leader in ESG-compliant industrialization through its network of SEZs developed in partnership with ARISE IIP. The Gabon Special Economic Zone (GSEZ) in Nkok is Africa's first industrial park to receive carbon-neutral certification under ISO 14064-1, showcasing a rigorous commitment to environmental sustainability. The zone's power mix includes renewable energy, and its operations are structured to reduce emissions and maximize resource efficiency. A cornerstone of ESG integration at GSEZ is the Tracer-Nkok agency[26], which ensures legal and traceable timber sourcing, enabling Gabon to maintain high sustainability standards across its timber value chain. The zone also supports a circular economy through waste-to-product innovations, including a furniture cluster, wood residue transformation, and training programs for local artisans.

Expanding on this model, Gabon has developed GSEZ Ikolo in Lambaréné[27], focused on timber processing under strict ESG protocols. Additionally, national efforts to green SEZ operations are supported by upcoming infrastructure such as the 120 MW Ayémé Solar Power Station and the 82 MW Ngoulmendjim Hydropower Project[28]—both aimed at reducing the carbon footprint of industrial activities across SEZs. Innovative financing supports this transition. Benin's SDG bonds have raised $80 million, funding renewable energy projects like the 50 MW Illoulofin Solar Power Station, benefiting 100 SMEs in Glo-Djigbé Industrial Zone[29]. These efforts align investor strategies with local development, ensuring SEZs contribute to sustainable growth (African Union, 2023). These projects exemplify Gabon's integrated approach to sustainable SEZ development, setting a regional benchmark for climate-conscious industrial zones.

## 3.2. AfCFTA and keys challenges

### 3.2.1. AfCFTA: transforming SEZs into continental growth engines

The AfCFTA has the potential to turn SEZs from isolated enclaves into interconnected nodes of pan-African trade—but only if implementation bridges policy and practice. *It presents a paradigm* shift for SEZs, creating a unified market of 1.3 billion people with reduced trade barriers. This unlocks two transformative opportunities: first, market expansion, as SEZs benefit from preferential access to intra-African trade, positioning them as hubs for regional value chains by processing raw materials into export-ready goods and enhancing competitiveness through economies of scale; and second, investment attraction, as SEZs promote industrialization by leveraging local content to reduce import dependency while integrating SMEs into supply chains through outsourcing and skills transfer.

AfCFTA's regulatory framework for SEZs strategically balances trade liberalization with economic safeguards. By linking tariff benefits to local value addition (Rules of Origin), mandating zone registration (Regulation 1/2023), and providing domestic industry protections (Trade Remedies Protocol), the agreement creates a structured pathway for SEZs to drive industrialization while preventing trade distortions. This three-pillar approach assists in transforming SEZs from isolated export hubs into accountable drivers of pan-African economic integration (Dr. Nick Charalambides).

The integrated African market has solidified Africa's status as a coveted destination for industries seeking to participate in the region's growth and transformation. It comes at a critical time when the

[26] https://naturepanels.com/sustainability/
[27] https://gsez.com/en/gsez-ikolo/
[28] https://www.enerdata.net/publications/daily-energy-news/gabon-signs-agreement-120-mw-solar-project-near-libreville.html
[29] https://odd.finances.bj/wp-content/uploads/2025/03/Impact-report-2024-Eurobond_EN.pdf

regulations that govern and provide guidance on goods produced in SEZs, including the Guided Trade Initiative (GTI)[30] have been published opening the opportunities for investors to deepen their role and be part of the continental market growth.

| Framework | Key Requirement | Impact |
|---|---|---|
| Rules of Origin (Annex 2) | SEZ goods qualify for tariff preferences only if meeting origin criteria. | Prevents trade deflection while incentivizing local value addition. |
| Ministerial Regulation 1/2023 | SEZs must register with AfCFTA Secretariat to access benefits. | Ensures transparency and compliance. |
| Trade Remedies Protocol | Allows countries to protect domestic industries from unfair SEZ competition. | Balances liberalization with safeguards for local economies. |

SEZs in Africa are transitioning into integrated economic hubs under the AfCFTA, in turn capitalising the regional value chains. This shift has attracted new investors, with foreign direct investment (FDI) in African SEZs rising by 15% since 2020 (UNCTAD, 2021). This surge in investment interest suggests that the development of SEZs in Africa is poised for acceleration, driven by shifting global dynamics and the increasingly evident economic prospects presented by the AfCFTA which is contributing to the accelerated connectivity between African regions and is at the heart of the economic and industrial transformation. On the positive side, the emerging models are emphasing on inclusivity through tiered structures, for example South Africa's Coega IDZ uses modular units to support SMEs, while Nigeria's Lekki SEZ mandates 25% local SME inputs, boosting local economies.

AfCFTA and the global sustainability demands are reshaping the economic landscape for SEZs in Africa. This is through the balance between global competitiveness with local priorities (Boubekeur & Githinji, 2024; UNCTAD, 2021). However, realizing its full potential requires addressing key challenges: inconsistent regulations, complex rules of origin, and weak customs systems. To succeed, SEZs must champion harmonized incentives to prevent a 'race to the bottom' in tax competition, accelerate digital customs adoption, and foster transparent SME partnerships. These steps will enable SEZs to effectively boost both regional trade and local employment under AfCFTA's industrialization agenda.

### 3.2.2. Key Challenges facing SEZs business model growth and acceleration

African SEZs face systemic challenges, including infrastructural deficits, regulatory bottlenecks, and shifting global trade dynamics that continue to hinder their effectiveness as drivers of industrialization; yet these barriers also draw attention to innovative approaches adopted by some zones to support SME integration and promote sustainable development. Unreliable power supply and inadequate transport infrastructure, as seen in Nigeria's Lekki SEZ where port delays have increased logistics costs by 30%, disproportionately burden SMEs (Boubekeur & Githinji, 2024). Regulatory inconsistencies further deter investment, with Benin's delayed implementation of SME support mechanisms excluding 40% of eligible firms from SEZ benefits. Meanwhile, fiscal sustainability is under pressure, as illustrated by Kenya, where generous tax incentives for FDI result in an annual revenue loss of $200 million, raising concerns about long-term fiscal balance. On the global front, diminishing AGOA benefits since 2021 have reduced SME export incentives by 25%, while the rise of friend-shoring practices sidelines SEZs

[30] https://www.uneca.org/the-guided-trade-initiative-documenting-and-assessing-the-early-experiences-of-trading-under-the

lacking robust traceability systems. Finally, technological gaps persist, with high costs and limited digital skills restricting adoption of advanced solutions—only 20% of SEZs currently provide cloud-based systems to support SMEs.

This shows that SEZs adapt to both local realities and global trends through identifying the operational and structural constraints and redesigning their business models for resilience. However, key structural challenges hindering the effective transition to new SEZ business models to support SME growth persist as outlined in the following chapter.

The potential for SEZs in Africa is increasingly constrained by a combination of infrastructural deficits, regulatory inefficiencies, and shifting global trade dynamics. These structural challenges not only undermine the competitiveness of SEZs but also disproportionately affect SMEs, which struggle with high operational costs and limited access to critical resources. From unreliable power and unsophisticated logistics and transportation networks as exemplified by Nigeria's Lekki SEZ—to bureaucratic delays that stifle SME growth in Benin and to a lesser extent Gabon, these obstacles can be costly. At the same time, fiscal policies that favour foreign investors risk eroding public revenues, as seen in the case of Kenya, while technological gaps and global protectionist trends further complicate the emerging landscape.

Addressing these challenges requires a balanced approach: strategic infrastructure investments, streamlined regulations under frameworks like AfCFTA, and incentives that prioritize both FDI and local SME growth. By adopting scalable solutions—such as Rwanda's one-stop shops for permits or shared digital infrastructure, African SEZs can enhance their resilience and remain viable engines of inclusive economic transformation.

***Infrastructure and Connectivity Issues***: African SEZs often suffer from unreliable power, poor transportation, and limited digital connectivity, increasing costs for tenants. In Nigeria's Lekki SEZ, delays in road and port infrastructure have hindered operations, particularly for SMEs with limited capital. Targeted investments in multi-modal transport and renewable energy are essential to make SEZs accessible and cost-effective.

***Regulatory Frameworks and Business Environment***: Inconsistent regulations deter investment, as seen in Benin, where bureaucratic inefficiencies delay SME support (see Gebreyesus and Demile 2017 on Ethiopia). Harmonizing regulations under AfCFTA and implementing one-stop shops for permits, like in Rwanda's Kigali SEZ, can streamline processes and create a predictable business environment for all firms.

***Balancing Tax Incentives and Economic Interests /Fiscal Sustainability***: Generous tax breaks for FDI often erode national revenues, as seen in Kenya, sparking debates over fiscal sustainability. Governments must balance incentives with mechanisms like local hiring mandates or reinvesting SEZ revenues into public services, while offering smaller benefits to SMEs to promote inclusivity.

**Technological Adoption**: High costs and skill gaps hinder digitalization. Shared infrastructure and training can bridge this gap.

***Global Trade Trends***: Protectionism and declining trade preferences challenge SEZs. AfCFTA alignment and green tech adoption are vital for competitiveness.

SEZs have played a pivotal role in Africa's industrialization, offering a structured environment for economic growth, job creation, and export diversification. There are emerging strategies and lessons from select African countries—Benin, Egypt, Gabon, Ghana, Kenya, Mauritius, Morocco, Nigeria, Rwanda, and South Africa. SEZs across Africa are increasingly being leveraged as strategic tools to drive industrialization, enhance SME competitiveness, and promote sustainable development. By aligning SEZ policies with high-growth sectors, integrating local businesses into value chains, and prioritizing skills development and ESG compliance, African nations are fostering economic transformation. This section highlights key approaches—from Benin's sector-focused SEZs and Morocco's local content

enforcement to Rwanda's skills-linked industrial policy and South Africa's green financing—while addressing persistent challenges in governance, SME financing, and sustainability standards.

## 3.3. Best practices and recommendations

### 3.3.1. Best practices from the new generation of SEZs

Each country has identified pathways for enhancing SEZ effectiveness and sustainability across selected African countries. Each country case highlights unique strategies, challenges, and best practices, offering insights into how SEZs can drive inclusive economic growth and regional development. For example SEZ investors' ESG initiatives include the adoption of green technologies, recycling, and circular economy practices, as well as a strong focus on social inclusion and job creation—particularly for women and youth. Additionally, they emphasize transparent governance, anti-corruption measures, and fair labour practices, reinforcing their commitment to responsible and sustainable development thus developed noteworthy ESG best practices that should be expanded and shared with other SEZs across Africa. These initiatives include holistic approach to SEZs development, and integrating them within the broader framework of regional spatial initiatives strategically aligned with transport corridors.

**Benin** has emerged as a model for financing ESG projects by successfully issuing an SDG bond dedicated to funding SDG related initiatives. This bond is directed toward key sectors such as renewable energy, agriculture, and infrastructure. Its success was driven by strong collaboration between the government, financial institutions, pension funds, impact investors, and development partners, highlighting the role of partnerships in mobilizing responsible financing. Regular reporting on the bond's impact fosters transparency and investor confidence, attracting both international and local investors committed to sustainable development.

**Egypt** has introduced tax incentives for SEZs partnering with SMEs, promoting training and development. Additionally, a dedicated fund provides loans and grants to help SMEs enhance skills, expand businesses, and access new markets through buyer and supplier networks. In addition, the "Intilaq" program provides funding and training for entrepreneurs in Upper Egypt, while the Sawiris Foundation for Social Development supports the Egyptian Network of Integrated Development (ENID) program. STREAMS assists SMEs in improving water efficiency, waste management, feed quality, and fish health. The Robbiki Eco-Leather Park SEZ focuses on green technologies, including solar power, wastewater treatment, and solid waste recycling. To support SMEs, the SMEs Guidebook, launched by the Commercial International Bank (CIB) in February 2021, provides guidance on accessing capital markets, corporate governance, financial management, and ESG compliance. Additionally, the Corporate Governance Code helps businesses integrate ESG principles into strategy, operations, reporting, and communication to enhance the investment climate. The SCZone has partnered with universities and technical institutes to develop specialized training programs that equip local workers with essential industry skills. To support this initiative, a Technical Training Centre offers comprehensive programs in manufacturing, logistics, and construction. Similarly, the 10th of Ramadan Industrial City (Tenth City), in collaboration with the Ministry of Education, has established a TVET centre focusing on engineering, manufacturing, and textiles. These programs are closely aligned with industry needs, providing students with hands-on experience through internships and practical training. As a result, a highly skilled workforce is emerging, with graduates in high demand both within the SCZone and Tenth City, as well as across the country. This integrated approach to workforce development has significantly contributed to SEZ growth and serves as a model for other regions.

The **Gabon** Special Economic Zone (GSEZ), in partnership with the Ministry of Employment, Vocational Training, and Insertion, has established a vocational training centre within the SEZ. This centre provides training in key sectors such as construction, logistics, and hospitality to meet both SEZ and local labor market demands. Additionally, GSEZ collaborates with local universities to offer training and internship programs in fields like engineering and business, ensuring students gain practical industry experience. To foster innovation, GSEZ has also launched a business incubator program to accelerate the adoption of new technologies and entrepreneurial ventures. In its three locations (Nkok, Mandji Island, and Boumango), GSEZ upholds high environmental and social standards, including biodiversity protection, carbon emission reduction, and local job creation. The wood industry is a flagship ESG sector within the SEZ, ensuring sustainable sourcing and production of high-quality wood products. A local observatory monitors ESG compliance, while waste wood upcycling facilities transform residues into high-quality boards for domestic and international markets. Additionally, plastic waste is upcycled into straps for stacking wood and pallets, reinforcing a circular economy approach. SMEs are encouraged to adopt ESG principles, ensuring legally sourced timber and responsible processing. To combat illegal logging, Gabon has implemented chain of custody certifications (FSC, PEFC) and electronic tracking systems with satellite imagery for real-time monitoring. Through government, SEZ authorities, industry, and community collaboration, Gabon fosters accountability and transparency. SMEs receive training on traceability standards, while SEZs promote innovative waste-to-product solutions, converting wood waste into engineered boards and biofuels for expanded eco-friendly markets. By integrating sustainability, traceability, and circular economy practices, Gabon's wood industry serves as a model for responsible industrialization, demonstrating a strong commitment to ESG principles.

In **Kenya**, Tatu City is a model for urban planning and development. Located near Nairobi, the SEZ designed for 250,000 residents attracted over 60 businesses, including local SMEs. The city integrates residential, commercial, industrial, and green spaces, reducing congestion and enhancing economic activity. Its SEZ status, offering tax incentives and reliable infrastructure, has drawn major investors, including Unity Homes, Nova Pioneer Schools, CKL, Twiga Foods, and Africa Logistics Properties. With a focus on logistics and light industry, Tatu City provides opportunities for local SMEs while also promoting sustainability through green initiatives, well-connected road networks, and environmental conservation. In the same country, the Industrial Development Research Institute (KIRDI) plays a key role in supporting start-ups and SMEs, offering a comprehensive ecosystem for innovation, entrepreneurship, and product development. Its shared production facilities, research labs, and R&D capabilities enable businesses to develop market-ready products cost-effectively. KIRDI collaborates with local and international institutions, including Kenya Industrial Property Institute (KIPI), Kenya Industrial Estates (KIE), and the Medium and Small Enterprises Authority (MSEA), to expand SME markets, improve product quality, and enhance intellectual property protection. Additionally, KIRDI is central to the County Aggregation Industrial Parks (CAIP) program, promoting inclusive industrialization across Kenya. These strategic partnerships strengthen innovation, entrepreneurship, and economic growth, making KIRDI a model for SME support across Africa.

**Mauritius**' Local Content Policy requires SEZ investors to prioritize local procurement and employment, thereby boosting local economic development. Bagatelle-Phoenix Smart City attracts investment in ICT and knowledge-based industries, with multinational corporations like Accenture and IBM integrating local suppliers into their supply chains. The Ecole Hôtelière Sir Gaëtan Duval TVET in Ebene Cybercity SEZ specializes in hospitality and tourism education, while the Mauritius Institute of Training and Development provides entrepreneurship and innovation training. The National SME Incubator Scheme supports SME growth through incubation services, mentorship, and financial aid, strengthening the innovation ecosystem. The financial services sector in Mauritius is a key growth driver, supported by the Mauritius International Financial Centre (IFC). The IFC provides investment banking, private equity, asset management, and insurance services to facilitate investment. Additionally, the Mauritius Africa Fund, established in 2013, offers financial support to SMEs and start-ups with significant impact on Africa's economic development. Mauritius is committed to reducing greenhouse gas emissions by 40% by 2030, requiring an estimated $6.5 billion in funding. To achieve this, the government introduced a green finance framework, including sustainable and green bond regulations. Key initiatives include the Bank of Mauritius' and Financial Services Commission's which developed guidelines for issuing sustainable Bonds. Transparency is ensured through robust

monitoring and reporting mechanisms, tracking the environmental impact of green bond-funded projects. By educating investors, promoting awareness, and partnering with private and international organizations, Mauritius has attracted both domestic and international investors to support sustainable development. This structured approach to green bonds provides a blueprint for other countries seeking to mobilize ESG financing, combining regulatory frameworks, stakeholder collaboration, and transparent reporting.

In **Morocco**, Tangier-Med SEZs have become a model for economic transformation, fostering SME growth through business-centred governance and strong local economic integration. These SEZs have established robust supply chains with local suppliers, contractors, and subcontractors, creating a multiplier effect that benefits surrounding communities. Strategically aligning key sectors such as automotive, electronics, textiles, agribusiness, and logistics, the SEZs provide SMEs with access to world-class infrastructure, industry knowledge, and market networks. This ecosystem enhances knowledge transfer, skills development, and competitiveness, allowing SMEs to scale and thrive. The Tanger Med Port Authority, Tanger Med Zones, Engineering, and Tanger Med Special Agency (TMSA) provide state-of-the-art industrial parks, logistics hubs, and transport networks, attracting multinational corporations and fostering SME growth. TMSA collaborates with vocational training institutes, private-sector actors, universities, and international organizations to develop tailored training programs. This ensures a steady supply of skilled professionals, boosts employment, and supports industrial expansion. Moreover, Tanger-Med SEZs prioritizes sustainability by incorporating resource efficiency, waste management, decarbonization, and renewable energy adoption into their industrial operations. They also promote social and economic inclusivity through targeted programs for youth, women, and people with disabilities, encouraging responsible business conduct. At a corporate level, Tanger-Med SEZs operates under clear governance structures, strategic vision, and policy alignment, contributing to their success as a model for economic integration and industrial growth. Finally, Tanger-Med SEZs have built strategic financing partnerships with government-affiliated financial institutions, ensuring SMEs receive sector-specific support.

Casablanca Nearshore Park SEZ, specializing in the offshoring industry, collaborates with International University of Rabat (UIR) and Hassan II University of Casablanca to offer training in software engineering and data analysis, alongside internships and job opportunities. Similarly, Midparc Free Zone in Casablanca has partnered with local training centers to enhance technical skills in mechanics, electronics, and quality control, ensuring SME integration into larger supply chains. To strengthen SME engagement in Quality Infrastructure (QI), the government established the Quality Infrastructure Steering Committee, bringing together government departments, SEZ operators, and industry associations. Located within SEZs, centres of Excellence provide SMEs with technical expertise, testing and calibration services, and quality assurance training to help them comply with international standards.

**Nigeria** is leveraging SEZs to drive export-led growth. The "Made in Nigeria for Exports" (MINE) initiative aims to drive economic growth by increasing annual export earnings to $30 billion and creating 1.5 million jobs by 2025. MINE has garnered interest from major financial institutions, including Afreximbank, Africa Finance Corporation (AFC), Bank of Industry (BOI), Nigerian Sovereign Investment Authority (NSIA), African Development Bank (AfDB). The initiative prioritizes SEZs as key enablers, targeting an increase in the manufacturing sector's GDP contribution to 20%. MINE is spearheaded by the Ministry of Industry, Trade, and Investment, demonstrating Nigeria's commitment to expanding local manufacturing and boosting export competitiveness. Key pilot projects include Lekki Model Industrial Park, Enyimba Economic City, Funtua Cotton Cluster. To accelerate implementation, the government is upgrading Calabar and Kano Free Trade Zones in partnership with NEPZA and experienced SEZ developers. Additionally, incentives are being reviewed to attract export-oriented global manufacturers.

In **Rwanda**, the Rwanda Development Board (RDB) plays a central role in coordinating industrial policies and economic diversification. By integrating SMEs with SEZs, the RDB provides access to world-class infrastructure, technology, and global value chains, strengthening Rwanda's export capacity. RDB collaborates with government agencies, private sector players, and international organizations to

align industrial policies with national development objectives. Its strategy promotes value chain integration across key sectors, such as agriculture**,** tourism, manufacturing, services**.** For example, agro-tourism initiatives link Rwanda's natural attractions with agriculture, promoting local products and experiences to enhance visitor engagement. the Kigali Special Economic Zone (KSEZ) has established a TVET centre offering sector-specific training in manufacturing, construction, and logistics. In collaboration with local businesses, the centre ensures its programs align with industry needs, integrating practical experience. Additionally, Carnegie Mellon University Africa partners with KSEZ to enhance engineering capabilities. By integrating TVET institutions and Carnegie Mellon University within KSEZ, the RDB is creating a holistic industrial ecosystem that fosters innovation, job creation, skills development, and investment attraction. KSEZ also runs a business incubator program, accelerating the adoption of new technologies and business models.

To reinforce best practices in next-generation Special Economic Zones (SEZs), significant efforts must be dedicated to integrating them into a broader ecosystem of Spatial Development Initiatives (SDIs). This integration will not only facilitate their expansion, spur the growth of cross-boundary SEZs, but also generate positive impacts on the economies of the regions and accelerate the leveraging of the emerging opportunities under the AfCTA unified market

**Strategic alignment**

**Benin** aligns its SEZs with high-growth sectors such as agro-industry and textiles, while supporting SMEs through business incubators and the issuance of SDG bonds to finance renewable energy and infrastructure. Egypt integrates SEZs into its broader industrialization strategy, focusing on sectors like ICT, automotive, and textiles, and complements this with tax incentives and targeted skills development programmes such as Intilaq, aimed at empowering entrepreneurs in Upper Egypt. In Rwanda, the Kigali SEZ (KSEZ) connects industrial policy with technical and vocational education and training (TVET) and innovation hubs, driving the growth of "Made in Rwanda" exports.

**Morocco** Tangier-Med SEZ enforces local content requirements by linking SMEs to automotive and logistics supply chains through partnerships with vocational training institutes. In South Africa, the Coega and Dube TradePort SEZs implement supplier development programmes that mentor SMEs in manufacturing and agro-processing sectors. Nigeria's "Made in Nigeria for Export" (MINE) initiative aims to generate $30 billion in non-oil exports by 2025, using SEZs such as the Lekki Free Trade Zone as key platforms to drive this export-led strategy.

**Gabon** Nkok SEZ partners with training centers to equip SMEs with skills specific to the timber industry, with a strong emphasis on sustainable practices. In Kenya, Tatu City SEZ collaborates with the Kenya Industrial Research and Development Institute (KIRDI) to provide research and development support for SMEs operating in manufacturing and logistics. Mauritius ensures that the workforce needs of its SEZs are aligned with national skills development programs, particularly in the ICT and financial services sectors.

**Benin** SDG bond mobilizes impact capital to finance renewable energy and agriculture projects, underpinned by transparent reporting mechanisms. Gabon enforces ESG standards in its SEZs through FSC-certified timber processing and circular economy initiatives such as upcycling wood waste. South Africa's Atlantis SEZ is dedicated to green manufacturing and receives support from the Industrial Development Corporation (IDC) to advance its sustainability objectives.

**Egypt and Morocco** have established Centers of Excellence within their SEZs to support SMEs in obtaining international certifications such as ISO and CE marking, while Ghana's National Quality Policy enhances the global competitiveness of SMEs, particularly in cocoa and shea butter exports.

Key challenges and lessons learned reveal persistent issues such as fragmented governance in countries like Kenya and Nigeria, where coordination between SEZ authorities and SME agencies remains weak; limited SME access to finance, as seen in Ghana's SEZs, which face funding disparities, contrasted by Rwanda's Business Development Fund (BDF) that presents a replicable model; and

uneven ESG implementation, with Morocco and South Africa emerging as leaders in green SEZ development, while many other countries still require stronger enforcement of sustainability standards.

### 3.3.2. Key recommendations for accelerating the transformation

To unlock the full potential of SEZs as engines of inclusive growth and industrialization, African nations must prioritize strategic reforms that empower SMEs, enhance sustainability, and leverage regional integration. By 2027, targeted investments in multi-modal transport, transparent governance, and cross-border SEZ corridors can reduce SME operational costs by 20-25%, while boosting intra-African trade and green industrialization. Drawing on proven models like Gabon's Tracer-Nkok certification system and South Africa's Coega logistics hubs, this blueprint provides a roadmap to transform SEZs into catalysts for equitable and sustainable development.

To strengthen the impact of SEZs on SME development and sustainability, six strategic actions are recommended.

1- Tiered SEZ structures should be adopted to include SME-specific zones with affordable infrastructure, with a target for 50% of SEZs to establish subsidized plots by 2026 under the oversight of SEZ authorities, thereby integrating 30% more SMEs.

2-ESG support should be enhanced through the creation of shared certification laboratories by 2025, funded by development finance institutions such as the IFC, aiming to reduce SME compliance costs by 25%, with Gabon's Tracer-Nkok model serving as a scalable example.

3-The African Continental Free Trade Area (AfCFTA) should be leveraged by adopting Rules of Origin protocols by 2025, under the leadership of AU trade committees, to increase intra-African SME trade by 15%.

4 Infrastructure investment must be prioritized by deploying public-private partnerships to fund multi-modal transport systems by 2027, drawing on replicable models like Coega IDZ's logistics hubs to reduce logistics costs by 20%.

5-Governance should be improved through the establishment of independent SEZ authorities that publish regular reports on SME participation to ensure transparency and accountability.

6-Lastly, regional cooperation should be fostered by developing cross-border SEZ corridors under AfCFTA to pool resources and expand access to larger markets.

Traditional SEZ models have typically prioritized large investors, often sidelining SMEs due to high entry costs and complex compliance requirements. These challenges are further compounded by shifting global trade dynamics, including rising tariffs, declining benefits under AGOA, and the emergence of friend-shoring, which demand stricter governance and robust traceability systems. In response, several strategies have been implemented to bridge this gap: Rwanda's Kigali SEZ integrates over 150 MSMEs through subsidized plots and targeted export assistance. Ghana's Tema Free Zone mandates local procurement to reinforce domestic supply chains and Morocco's Tanger Med SEZ leverages digital platforms to improve SME access to global markets.

To accelerate industrialization, boost trade, and create jobs across Africa, there is a need for tailored strategies that align with the continent's unique economic, social, and institutional contexts. This set of strategic recommendations provides a roadmap for policymakers, investors, and development partners to optimize SEZs as engines of inclusive growth. Adapting models that are attuned to local realities, the strengthening of infrastructure and governance, and the fostering of regional

collaboration, SEZs can transform into hubs of innovation, SME competitiveness, and sustainable development.

Key priorities include contextualizing SEZ designs to support SMEs and high-potential sectors such as agro-processing, drawing lessons from Rwanda's Kigali SEZ; scaling infrastructure investments through public-private partnerships, as seen in South Africa's Coega IDZ, while enhancing regulatory efficiency and curbing corruption; improving transparency through independent SEZ authorities and public reporting on SME participation, following Morocco's Tangier Med model; and leveraging regional integration under the AfCFTA to develop cross-border SEZ corridors that pool resources, expand market access, and foster a more integrated African economy.

These strategies seek to balance competitiveness with inclusivity, ensuring SEZs drive not only export growth but also local value addition, job creation, and environmental sustainability.

In this era of rapid technological change, shifting trade dynamics, and increasing sustainability demands, SEZs must evolve beyond their traditional role as investment enclaves to become catalysts for digital innovation, local industrial upgrading, and resilient participation in global value chains, with a strategic focus on enhancing their business model's value proposition. This evolution should be guided by deliberate principles: leveraging digitalization to improve efficiency and market access while addressing high costs and skills gaps through shared infrastructure and targeted training; deepening local industrial transformation by integrating SMEs into high-value sectors, enforcing local content policies, and providing essential testing and certification support; and adapting to global trade trends, from the decline of preferential trade agreements to growing ESG requirements—by seizing regional opportunities under the AfCFTA and embracing sustainable practices. Together, these efforts will foster dynamic ecosystems that drive innovation, sustainability, and long-term competitiveness.

Recommendations for policymakers include strengthening local content policies by mandating SEZ investors to subcontract SMEs, as implemented in Mauritius and Morocco; enhancing skills-industry linkages by scaling Rwanda's TVET-SEZ model to bridge workforce gaps; mobilizing green finance through instruments such as Benin's SDG bond and South Africa's IDC-backed renewable energy initiatives; and improving inter-agency coordination by adopting Egypt's integrated model, where institutions like GAFI and MSMEDA collaborate to support SME-SEZ synergies.

In conclusion, SEZs hold immense potential to drive economic transformation, but their success hinges on aligning policies with global economic trends while fostering inclusive growth through SME and MSME integration. Looking forward, the future of SEZs in Africa depends on their ability to balance global competitiveness with local economic priorities. By embedding ESG support, leveraging green finance, and fostering regional cooperation, SEZs can create resilient ecosystems that empower SMEs and MSMEs to thrive in both local and international markets. The path to sustainable development lies in SEZs that are tiered and adaptable, inclusive, and aligned with Africa's unique economic context, ensuring they contribute to job creation, industrial transformation, and regional integration as envisioned by the African Union's SME ecosystem policies.

African SEZs are at a crossroads. There is the potential to unlock $10 billion in annual economic value by 2030 through SME integration and ESG compliance (UNCTAD, 2021). However, this must be through workable business models with tiered structures and PPPs that offer pathways to inclusivity. At the same time challenges as infrastructure gaps and regulatory barriers do require urgent and adaptive reform. Leveraging along the proposed strategies—backed by clear timelines and stakeholder collaboration, SEZs are poised to become engines of sustainable industrialization, creating millions of jobs and boosting intra-African trade by 20% by 2030 while the digital Trade Protocol aims to increase intra-African trade to 50 percent by 2030[31]. Policymakers, investors, and development partners must act swiftly to ensure SEZs drive resilient growth across the continent.

[31] https://www.linkedin.com/pulse/afcfta-increase-intra-african-trade-50-2030-vp-shettima-zfhuf/

# Conclusion

This paper underscores that Special Economic Zones are playing an increasingly vital role in Africa's pursuit of industrial development, export growth, and socio-economic transformation. Evidence drawn from across the continent shows that SEZs can significantly improve export sophistication, expand market reach, and enhance household welfare, particularly when implemented under robust governance models and aligned with broader development goals.

However, their potential remains unevenly realized. Many SEZs are yet to fully integrate with domestic economies or serve as catalysts for regional value chain participation. Challenges such as weak infrastructure, policy fragmentation, and limited local linkages continue to constrain outcomes.

The future trajectory of SEZs in Africa depends on the ability of governments and stakeholders to evolve zone models toward deeper economic integration, stronger environmental and social accountability, and inclusive industrial strategies. By fostering public-private partnerships, embedding ESG principles, and aligning SEZs with AfCFTA priorities, policymakers can ensure that these zones contribute not only to export performance but also to inclusive and sustainable economic growth.

SEZs, when strategically governed and contextually adapted, hold transformative promise. With the right investments, regulatory frameworks, and institutional support, they can evolve into dynamic nodes of innovation, employment, and resilience across the African continent.

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**Annex 1: Description of the Database on Special Economic Zones in Africa**

The dataset used in this study provides a comprehensive overview of Special Economic Zones (SEZs) across the African continent. It comprises a total of 232 SEZs located in 43 countries, and was compiled using official national sources, data from the Africa Economic Zones Organization (AEZO), and the Open Zone Map developed by the Adrianople Group. Each entry corresponds to a georeferenced zone and includes detailed information on its location, year of establishment, type of zone, management model, economic specialization, and proximity to key infrastructure such as ports, airports, and capital cities.

In terms of typology, the majority of SEZs in the dataset are classified as Export Processing Zones (EPZs), which account for nearly 50 percent of all zones. These zones typically offer fiscal and customs incentives to attract export-oriented manufacturing activities. Free Trade Zones (FTZs) represent approximately 20 percent of the dataset and are designed to facilitate the import, storage, and re-export of goods under simplified regulatory regimes. Diversified zones, which support a range of industries, and specialized zones, focused on a single sector such as agribusiness or technology, account for 13.4 percent and 12.5 percent of zones, respectively. A smaller share consists of Economic Revitalization Projects (3.9 percent) aimed at regenerating distressed areas, and Charter Cities (0.9 percent), which are experimental urban enclaves operating under autonomous regulatory frameworks.

The governance structure of SEZs in the dataset reveals a relatively balanced distribution. Approximately 38.4 percent of zones are publicly managed by national or local authorities, while 32.8 percent operate under public-private partnerships (PPP), and 28.9 percent are fully managed by private entities. This variety reflects the institutional diversity and experimentation in SEZ governance across the continent.

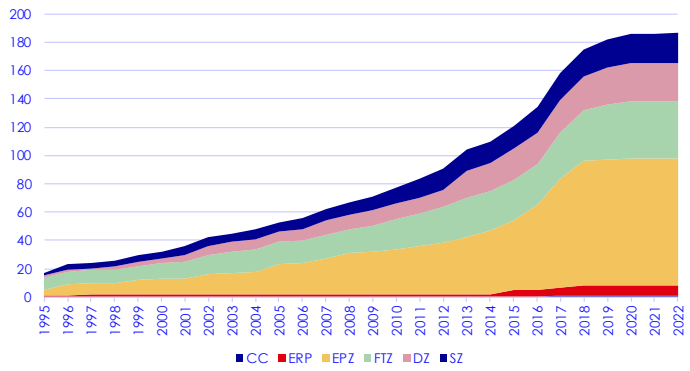
Geographically, the dataset highlights a concentration of SEZs in a handful of countries. The most represented are Nigeria, with 24 zones, followed by Ethiopia (20), South Africa (17), Morocco (16), and Uganda (14). These countries have adopted proactive industrial policies and often integrate SEZ development into broader national strategies for export promotion, job creation, and infrastructure upgrading.

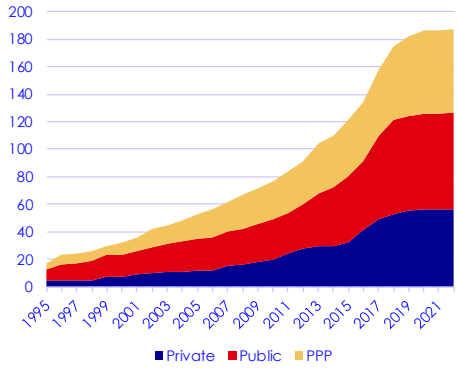
Table A1 - Summary Statistics of the SEZ Dataset

| | | |
|---|---|---|
| Number of countries covered | Countries represented in the dataset | 43 |
| Most common zone type | Export Processing Zone (EPZ) | 49.6% |
| Most common governance type | Public | 38.4% |
| Most represented country | Nigeria | 24 SEZs |
| Least represented category | Charter City | 0.9% |

This dataset serves as the empirical foundation for the analyses conducted in this study and offers valuable insights into the spatial, institutional, and economic dimensions of SEZ deployment in Africa

(a) *Number of SEZ by types over 1995-2022* (b) *Types of governance*




*CC: charter cities/ ERP: economic recovery project / EPZ: export processing zone/ FTZ: free trade zone/DZ: diversifies zone/ SZ specialized zone*

**Annex 2: Descriptive statistics for estimation in section 1**

We rely on a sample covering 42 countries in Africa over 28 years (1995-2022) with minimum of 32 observations per year (in 1997) to 42 observation in 2015, on average there are 24 years by African countries

*Table A2: Summary statistics in our sample over 1995-2022*

| Variable | Obs | Mean | Min |
|---|---|---|---|
| Trade (%GDP) | 1030 | 65 | 3 |
| GDP per capita (US$) | 1030 | 2277 | 254 |
| Domestic Credit to private sector (%GDP) | 1030 | 21 | 0,00 |
| Investment (GFCF %GDP) | 1030 | 21 | 0,29 |
| REER (%) | 1030 | 104 | 66,45 |
| Export Sophistication (EXPY) | 1030 | 9,3 | 7,9 |
| Export Market Penetration (EMPI) | 1030 | 1,8 | 0,5 |
| Global value chain (GVC) Trade (share of total Trade) | 725 | 45% | 25% |
| GVC Trade backward (share of total Trade) | 725 | 17% | 2% |
| GVC Trade forward (share of total Trade) | 725 | 22% | -387% |
| GVC Trade mix (share of total Trade) | 725 | 6% | -1% |
| GVC Output (share of total Output) | 725 | 15% | 2% |
| GVC Output backward (share of total Output) | 725 | 0% | -377% |
| GVC Output forward (share of total Output) | 725 | 4% | 0% |
| Regional value chain (RVC) (share of regional Trade) | 725 | 37% | -66% |
| RVC forward (share of regional Trade) | 725 | 11% | -308% |
| RVC backward (share of regional Trade) | 725 | 21% | -77% |
| Old Product to Old Destination (Intensive margin) (share Export) | 1030 | 90,2% | 0,0% |
| New Product to Old Destination (share Export) | 1030 | 7,6% | 0,0% |
| Old Product to New Destination (share Export) | 1030 | 2,3% | 0,0% |
| New Product to New Destination (share Export) | 1030 | 0,2% | 0,0% |
| Extensive margin (sum NPOD OPND NPND (share of Exports) | 1030 | 9,8% | 0% |
| Theil between | 1030 | 2,8 | 0,1 |
| Theil within | 1030 | 3,7 | 0,2 |
| Theil index | 1030 | 6,5 | 1,6 |

## Annex 3: Description of the Database on Special Economic Zones in Africa for 10 countries of section 2

Table A.3: Special Economic Zones in Ten African Countries.

| | All SEZs | | Estimation sample | |
|---|---|---|---|---|
| | Freq. | Percent | Freq. | Percent |
| *Country* | | | | |
| Egypt | 12 | 10.5 | 3 | 5.9 |
| Ethiopia | 17 | 14.9 | 7 | 13.7 |
| Ghana | 4 | 3.5 | 4 | 7.8 |
| Kenya | 12 | 10.5 | 3 | 5.9 |
| Mali | 11 | 9.7 | 7 | 13.7 |
| Mozambique | 9 | 7.9 | 4 | 7.8 |
| Nigeria | 12 | 10.5 | 6 | 11.8 |
| Tanzania | 15 | 13.2 | 7 | 13.7 |
| Uganda | 14 | 12.3 | 8 | 15.7 |
| Zambia | 8 | 7.0 | 2 | 3.9 |
| *Year of establishment* | | | | |
| 1966-1990 | 7 | 6.1 | 0 | 0.0 |
| 1991-2000 | 11 | 9.6 | 5 | 9.8 |
| 2001-2010 | 26 | 22.8 | 11 | 21.6 |
| 2011-2020 | 51 | 44.7 | 28 | 54.9 |
| Not operational end-2020 | 13 | 11.4 | 7 | 13.7 |
| No information found | 6 | 5.3 | 0 | 0.0 |
| *Management type* | | | | |
| Private | 22 | 19.3 | 11 | 21.6 |
| Public | 52 | 45.6 | 26 | 51.0 |
| Public-private partnership | 40 | 35.1 | 14 | 27.5 |
| *Activity type* | | | | |
| Industry | 49 | 43.0 | 25 | 49.0 |
| Services | 15 | 13.2 | 6 | 11.8 |
| Mixed activities | 28 | 24.6 | 13 | 25.5 |
| Not identified | 22 | 19.3 | 7 | 13.7 |
| *Area size* | | | | |
| Small (≤100 ha) | 41 | 36.0 | 18 | 35.3 |
| Medium-sized | 47 | 41.2 | 24 | 47.1 |
| Large (>1000 ha) | 26 | 22.8 | 9 | 17.7 |
| Total | 114 | 100.0 | 51 | 100.0 |

Table A4: Descriptive Statistics of Household- and Female-specific Variables

| | Within 10 km | | | 10-20 km | | | 20-30 km | | |
|---|---|---|---|---|---|---|---|---|---|
| | N | Mean | Std. Dev | N | Mean | Std. Dev | N | Mean | Std. Dev |
| *Household Wealth Index and its components* | | | | | | | | | |
| Wealth Index | 39537 | 0.98 | 1.04 | 24452 | 0.48 | 1.09 | 24764 | 0.10 | 0.92 |
| Has electricity | 39329 | 0.69 | 0.46 | 24317 | 0.50 | 0.50 | 24350 | 0.42 | 0.49 |
| Improved sanitation | 39310 | 0.66 | 0.47 | 24304 | 0.53 | 0.50 | 24358 | 0.43 | 0.50 |
| Improved water | 39335 | 0.85 | 0.35 | 24329 | 0.77 | 0.42 | 24359 | 0.66 | 0.47 |
| Has television | 39310 | 0.58 | 0.49 | 24305 | 0.42 | 0.49 | 24350 | 0.33 | 0.47 |
| Has refrigerator | 38538 | 0.33 | 0.47 | 23928 | 0.20 | 0.40 | 24085 | 0.19 | 0.39 |
| Has telephone | 37677 | 0.12 | 0.32 | 23566 | 0.04 | 0.20 | 22765 | 0.03 | 0.16 |
| Has mobile | 23337 | 0.77 | 0.42 | 18723 | 0.70 | 0.46 | 18484 | 0.66 | 0.47 |
| Has computer | 18219 | 0.17 | 0.38 | 11687 | 0.11 | 0.31 | 13598 | 0.08 | 0.27 |
| Has bicycle | 39298 | 0.19 | 0.40 | 24309 | 0.21 | 0.41 | 24349 | 0.25 | 0.43 |
| Has car | 38582 | 0.11 | 0.32 | 23970 | 0.08 | 0.28 | 24153 | 0.05 | 0.22 |
| Finished floor | 37636 | 0.73 | 0.45 | 24044 | 0.58 | 0.49 | 23888 | 0.49 | 0.50 |
| Finished roof | 27363 | 0.90 | 0.31 | 20565 | 0.85 | 0.36 | 19787 | 0.77 | 0.42 |
| Finished wall | 27236 | 0.80 | 0.40 | 20340 | 0.71 | 0.46 | 19516 | 0.61 | 0.49 |
| Has land | 30759 | 0.24 | 0.43 | 20968 | 0.49 | 0.50 | 20005 | 0.59 | 0.49 |
| Has livestock | 28256 | 0.24 | 0.43 | 18604 | 0.43 | 0.49 | 18500 | 0.51 | 0.50 |
| *Household-specific variables* | | | | | | | | | |
| Household size (persons) | 39537 | 4.83 | 3.26 | 24452 | 4.68 | 2.94 | 24764 | 4.63 | 2.91 |
| Age of head (years) | 39427 | 43.61 | 14.81 | 24383 | 43.19 | 15.41 | 24716 | 44.52 | 15.90 |
| Female head | 39537 | 0.23 | 0.42 | 24452 | 0.26 | 0.44 | 24764 | 0.27 | 0.44 |
| Native household | 15290 | 0.39 | 0.49 | 7788 | 0.39 | 0.49 | 8334 | 0.38 | 0.49 |
| *Female-specific variables* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Worked in the last 12 months | 24515 | 0.60 | 0.49 | 12930 | 0.65 | 0.48 | 12901 | 0.69 | 0.46 |
| Occupation in agriculture | 23750 | 0.07 | 0.25 | 12575 | 0.22 | 0.42 | 12668 | 0.30 | 0.46 |
| Occupation in non-agriculture | 23750 | 0.53 | 0.50 | 12575 | 0.43 | 0.50 | 12668 | 0.40 | 0.49 |
| At least secondary education | 27786 | 0.37 | 0.48 | 15461 | 0.32 | 0.47 | 15410 | 0.27 | 0.44 |
| Partner worked in the last 12 months | 19977 | 0.87 | 0.34 | 10786 | 0.84 | 0.37 | 11202 | 0.91 | 0.28 |

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